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Cairo University International Publications Awards

Vol. 11 (2)

Nov. - 2017

International Publications Awards
Cairo University

Vol. 11 Issue 2

Nov. 2017

Dear colleagues,

We are pleased to introduce vol. 11(1) issue of the international publications of Cairo University. It is a further step and distinct contribution, reflecting the scientific ability of staff members, which conforms to international quality standards.

The purpose of issuing these publications is mainly to introduce this work to the academic community, demonstrate the different research abilities of CairoUniversity researchers, and encourage them to increase the quality and quantity of their research.

We would like to assure you that the administration will spare no effort to support and reinforce these goals.

We congratulate all colleagues who were granted the awards for their international publications of the year 2016 and wish them all the best for their future endeavors.

We are also pleased to inform you that this policy will continue to be in effect for the years to come.

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Prof. Amr adly

Vice - President for post-graduate studies and research
Cairo university

Prof.

President
Cairo university

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Dept. of Astronomy and Meteorology

B-1. Recent Changes in Continentality and Aridity Conditions Over The Middle East and North Africa Region, and Their Association With Circulation Patterns

Ahmed M. El Kenawy, Matthew F. McCabe, Sergio M. Vicente-Serrano, Sayed M. Robaa and Juan I. Lopez-Moreno

Climate Research, 69: 25-43 (2016) IF: 1.6

A long-term (1960-2013) assessment of the variability of continentality and aridity conditions over the Middle East and North Africa (MENA) region was undertaken. Monthly gridded temperature and precipitation data from the Climate Research Unit (CRU) (TS3.22 version) were used to compute the Johansson Continentality Index (JCI) and the Marsz Oceanity Index (MOI). in addition, the De Martonne index and the Pinna index were employed to assess recent changes in aridity conditions. All indices revealed a statistically significant increase in continental influences over the region, particularly in the Nile Bas in and the Fertile Crescent. For aridity, the results suggested a generally statistically insignificant increase, with the most rapid changes occurring over the most humid regions (i.e. the Ethiopian Highlands and the Fertile Crescent). in order to expla in the observed changes in the continentality and aridity conditions, we assessed the relationship between aridity and continentality indices and a wide range of large-scale circulation patterns. Results indicate that the spatial variability of continentality (as well as aridity) was closely coupled with the Atlantic modes of variability, e.g. the Eastern Atlantic pattern and the Atlantic Meridional Mode, compared to those of the Mediterranean Sea and the Indian Ocean. The results of this work highlight change processes in 2 important climate features in one of the hottest regions on Earth. Improving our understanding of the spatio-temporal characteristics of climate continentality and aridity has implications for a diversity of socio-political, economic, hydrological, and ecological activities in the MENA region.

Keywords: Aridity · Precipitation · Temperature · Circulation Patterns · Middle East and North Africa · Mena

B-2. Changes in The Frequency and Severity of Hydrological Droughts Over Ethiopia From 1960 To 2013

A. M. El Kenawy, M. F. McCabe, S. M. Vicente-Serrano, J. I. López-Moreno and S. M. Robaa

Cuadernos De Investigación Geográfica, 42 (1): 145-166 (2016)

Here we present an analysis of drought occurrence and variability in Ethiopia, based on the monthly precipitation data from the Climate Research Unit (CRU-v3.22) over the period from 1960 to 2013. The drought events were characterized by means of the Standardized Precipitation Index (SPI) applied to precipitation data at a temporal scale of 12 months. At the national scale, the results reveal a statistically significant decrease in the severity of droughts over the 54-year period, a pattern that is mostly attributed to a statistically significant decrease in the frequency of high intensity drought episodes (i.e., extreme and very extreme droughts), compared to moderate droughts. To assess the general patterns of drought evolution, a principal component analysis (PCA) was applied to the SPI series. PCA results indicate a high spatial heterogeneity in the SPI variations over the investigated period, with ten different spatially well-defined regions identified. These PCA components accounted for 72.9% of the total variance of drought in the region. These regions also showed considerable differences in the temporal variability of drought, as most of the regions exhibited an increase in wetness conditions in recent decades. in contrast, the regions that receive less than 400 mm of annual precipitation showed a declining trend, with the largest changes occurring over Afar region. Generally, the highly elevated regions over the central Ethiopian Highlands showed the weakest changes, compared to the lowlands. This study confirms the local character of drought evolution over Ethiopia, providing evidence for policy makers to adopt appropriate local policies to cope with the risks of drought. Over Ethiopia, the detailed spatial assessment of drought evolution is required for a better understanding of the possible impacts of recurrent drought on agriculture, food production, soil degradation, human settlements and migrations, as well as energy production and water resources management across Ethiopia.

Keywords: Drought; Standardized Precipitation Index; Precipitation; Variability; Trends; Principal Component Analysis; Ethiopia

Dept. of Biophysics

B-3. Unfolding of A Temperature-Sensitive Doma in Controls Voltage-Gated Channel Activation.

Cristina Arrigoni*, Ahmed Rohaim*, David Shaya, Felix Findeisen, Richard A. Stein, Shailika Reddy Nurva, Smriti Mishra, Hassane S. Mchaourab, and Daniel L. Minor, Jr.

Cell, 164: 922-936 (2016) IF: 28.71

Voltage-gated ion channels (VGICs) are outfitted with diverse cytoplasmic domains that impact function. To examine how such elements may affect VGIC behavior, we addressed how the bacterial voltage-gated sodium channel (BacNa(V)) C-terminal cytoplasmic doma in (CTD) affects function. Our studies show that the BacNa(V) CTD exerts a profound influence on gating through a temperature-dependent unfolding transition in a discrete cytoplasmic domain, the neck domain, proximal to the pore. Structural and functional studies establish that the BacNa(V) CTD comprises a bi-partite four-helix bundle that bears an unusual hydrophilic core whose integrity is central to the unfolding mechanism and that couples directly to the channel activation gate. Together, our findings define a general principle for how the widespread four-helix bundle cytoplasmic doma in architecture can control VGIC responses, uncover a mechanism underlying the diverse BacNa(V) voltage dependencies, and demonstrate that a discrete doma in can encode the temperature-dependent response of a channel.

B-4. Structural and Functional Characterization of A Calcium-Activated Cation Channel From Tsukamurella Paurometabola

Balasundaresan Dhakshnamoorthy, Ahmed Rohaim, Huan Rui, Lydia Blachowicz1 and Benoit Roux

Nature Communications, 7:12753: 1-11 (2016) IF: 11.329

The selectivity filter is an essential functional element of K+ channels that is highly conserved both in terms of its primary sequence and its three-dimensional structure. Here, we investigate the properties of an ion channel from the Gram-positive bacterium Tsukamurella paurometabola with a selectivity filter formed by an uncommon proline-rich sequence. Electrophysiological recordings show that it is a non-selective cation channel and that its activity depends on Ca2+ concentration. in the crystal structure, the selectivity filter adopts a novel conformation with Ca2+ ions bound with in the filter near the pore helix where they are coordinated by backbone oxygen atoms, a recurrent motif found in multiple proteins. The binding of Ca2+ ion in the selectivity filter controls the widening of the pore as shown in crystal structures and in molecular dynamics simulations. The structural, functional and computational data provide a characterization of this calcium-gated cationic channel.

Dept. of Botany

B-5. Chaetomium-Like Fungi Causing Opportunistic Infections in Humans: A Possible Role For Extremotolerance

Sarah A. Ahmed, Ziaudd in Khan, Xue-wei Wang, Tarek A. A. Moussa, Hassan S. Al-Zahrani, Omar A. Almaghrabi, Deanna A. Sutton, S. Ahmad, Johannes Z. Groenewald, A. Alastruey-Izquierdo, Anne van Diepeningen, S. B. J. Menken, M. J. Najafzadeh, Pedro W. Crous, Oliver Cornely, Axel Hamprecht, Maria J. G. T. Vehreschild, A. J. Kindo and G. Sybren de Hoog

Fungal Diversity, 76: 11-26 (2016) IF: 6.991

Members of the family Chaetomiaceae are ubiquitous ascosporulating fungi commonly, which reside in soil enriched with manure or cellulosic materials. Their role as human pathogens is largely ignored. However, the ability of some species to grow at high temperature enables them to play an important role as opportunistic pathogens. The family contains several genera and species that have never been reported to cause human infection. Hereby, three new species are described; two belong to the genus Subramaniula and one represents a Chaetomium species. Subramaniula asteroides was isolated from various sources including eye and sk in infections as well as from the natural environment, and S. obscura was isolated from a toe infection. Chaetomium anamorphosum was isolated from a kidney transplant patient suffering from fungal peritonitis. All species described were previously misidentified as Papulaspora spp. due to the formation of cellular clumps or bulbil-like structures, which are characteristic of Papulaspora. The isolates failed to form sexual fruit bodies and ascospores remained absent, which is an unusual feature for the generally ascosporulating genera Chaetomium and Subramaniula; minute conidia from phialides were sometimes observed.

Keywords: Chaetomium, Desert Fungi, Keratitis, Papulaspora, Peritonitis, Sterile Fungi, Subramaniula

B-6. Phytoremediation of The Organic Xenobiotic Simazine By P450-1A2 Transgenic Arabidopsis Thaliana Plants

Ehab Azab, Ahmad K. Hegazy, Mohamed E. El-Sharnouby & Hassan E. Abd Elsalam

International Journal of Phytoremediation, 18: 738-746 (2016) IF: 2.085

The potential use of human P450-transgenic plants for phytoremediation of pesticide contaminated soils was tested in laboratory and greenhouse experiments. The transgenic P450 CYP1A2 gene Arabidopsis thaliana plants metabolize number of herbicides, insecticides and industrial chemicals. The P450 isozymes CYP1A2 expressed in A. thaliana were examined regarding the herbicide simazine (SIM). Transgenic A. thaliana plants expressing CYP1A2 gene showed significant resistance to SIM supplemented either in plant growth medium or sprayed on foliar parts. The results showed that SIM produces harmful effect on both rosette diameter and primary root length of the wild type (WT) plants. in transgenic A. thaliana lines, the rosette diameter and primary root length were not affected by SIM concentrations used in this experiment. The results indicate that CYP1A2 can be used as a selectable marker for plant transformation, allowing efficient selection of transgenic lines in growth medium and/or in soil-grown plants. The transgenic A. thaliana plants exhibited a healthy growth using doses of up to 250 mmol SIM treatments, while the non-transgenic A. thaliana plants were severely damaged with doses above 50 mmol SIM treatments. The transgenic A. thaliana plants can be used as phytoremediator of environmental SIM contaminants.

Keywords: Phytoremediation; Western Blot Analysis; Human Cyp1a2; Plant Growth

B-7. Composition and Pattern of Alien Species in The Egyptian Flora

Kamal H. Shaltout , Hasnaa A. Hosni , Hasan F. El-Kady, Mohamed A. El-Beheiry and Salma K. Shaltout

Flora, 222: 104-110 (2016) IF: 1.59

The present study aims to determine the alien and invasive species in the Egyptian flora, their orig in andlags between the time of the first record and that of rapid growth. A list of alien species was prepared fromliterature, field trips and herbaria. The national distribution was gathered from the literature, while theglobal distribution was assessed according to the system of Good who divided the globe into six kingdoms,three subkingdoms and thirty nine floristic regions. The year of the first record was detected by searching in the references, and sometimes by checking herbarium sheets deposited in national herbaria. The finallist included 136 species classified into three categories: 49 casuals, 81 naturalized and 6 invasive species.Most of these species occur in the Nile region (108 species = 79%) mainly due to the increasing humanactivities. Four natural and eight anthropogenic habitats were supporting the distribution of these species.Many of these species belong to the Boreal and Palaeotropical Kingdoms. Forty nine species matched witheach of the periods of 1850–1900 and 1950–2000. Time lags of the invasive species ranged between 15(Azolla filiculoides) and 181 years (Dalbergia sissoo). The dynamic patterns of alien species over a longperiod (≥ 500 years) as well

as the role of hybridization in their spreading will be assessed in a futurestudy.
Keywords: Urban Habitats Deserts Invasive Species Nile Region Time Lags

B-8. Characteristics of Desert Vegetation Along Four Transects in The Aridenvironment of Southern Egypt

Fawzy Salama, Monier Abd El-Ghani, Mohamed Gadallah, Salah El Naggar and Ahmed Amro

Turkish Journal of Botany, 40: 59-73 (2016) IF: 1.178

The floristic diversity and vegetation-environment relations in the southern part of the Eastern Desert, between 26°45'N and 24°1'N and between 32°45'E and 35°00'E and covering a total area of about 54,500 km2, were investigated. For this purpose, 142 georeferenced stands distributed in four transects were selected: 22 from Qena-Safaga road (T1), 28 from Idfu-Marsa Alam road (T2), 46 from Aswan-Kharit-Gimal (T3), and 46 from Red Sea Coastal Pla in (T4). Altogether, 94 species belonging to 33 families were recorded, and the species richness (SR) varied from one transect to another: 46, 35, 52, and 46 in T1, T2, T3, and T4, respectively. Soil samples were collected from each stand, and the soil texture, soil moisture content, organic matter (OM), electric conductivity (EC), total soluble salts (TSS), pH, and major ions (Na+, K+, Ca+2, Mg+2, Cl-, SO4-2, and HCO3-) were determined. The soil-vegetation relationships were assessed by both detrended correspondence analysis and canonical correspondence analysis. Both species diversity measurements (SR and H') exhibited significant differences among the separated vegetation groups with in each transect. Classification of the vegetation resulted in 6, 7, 4, and 6 vegetation groups for T1, T2, T3, and T4, respectively. Canonical correspondence analysis showed well the relative positions of species and sites along the most important ecological gradients. The segregation of these groups along the first two axes of the biplot demonstrated that soil texture, moisture content, salinity, sulfates, and organic matter contents were highly correlated with the distribution of species.
Keywords: Species Diversity, Detrended Correspondence Analysis, Canonical Correspondence Analysis, Egypt, Plant Communities, Vegetation-Environment Relationships

B-9. Soil Erosion Estimation Using Remote Sensing Techniques in Wadi Yalamlam Basin, Saudi Arabia

Bahrawi, J. A., Elhag, M., Aldhebiani, A. Y., Galal, H. K., Hegazy, A. K. and Alghailani, E

Advances in Materials Science and Engineering, 2016: 0-0 (2016) IF: 1.01

Soil erosion is one of themajor environmental problems in terms of soil degradation in Saudi Arabia. Soil erosion leads to significant on- and off-site impacts such as significant decrease in the productive capacity of the land and sedimentation. The key aspects influencing the quantity of soil erosionmainly rely on the vegetation cover, topography, soil type, and climate.This research studies the quantification of soil erosion under different levels of data availability inWadi Yalamlam. Remote Sensing (RS) and Geographic Information Systems (GIS) techniques have been implemented for the assessment of the data, applying the Revised Universal Soil Loss Equation (RUSLE) for the calculation of the risk of erosion.Thirty-four soil samples were randomly selected for the calculation of the erodibility factor, based on calculating the□-factor values derived fromsoil property surfaces after interpolating soil sampling points. Soil erosion risk map was reclassified into five erosion risk classes and 19.3% of theWadi Yalamlam is under very severe risk (37,740 ha). GIS and RS proved to be powerful instruments formapping soil erosion risk, providing sufficient tools for the analytical part of this research.The mapping results certified the role of RUSLE as a decision support tool.
Keywords: Soil, Aridlands, Wadi System, Middle East

B-10. Ecological Assessment of Populations of Juniperus Phoenicea L. in The Al-Akhdar Mountainous Landscape of Libya

Hanan F. Kabiel, Ahmad K. Hegazy, Lesley Lovett-Doust, Saud L. Al-Rowaily & Abd El-Nasser S. Al Borki

Arid Land Research and Management, 30: 269-289 (2016).746

The Phoenician juniper (Juniperus phoenicea L.) has long been common in the Al-Akhdar mounta in range in NE Libya. Juniper trees in the region are showing signs of dieback, and minimal successful seedling recruitment has occurred. We investigate this effect at the level of individual trees, tree size classes, and populations. At ten sites, population size, growth and reproductive traits, and percentage dieback in different size classes were evaluated. Elevation, distance from the sea, and the interaction between these factors had a significant effect on tree volume, and number of branches, number of female cones per branch and number of female cones per tree. Two groups of populations were recognized: the first (Sites 2, 3, and 4) were near the coast. They appeared to be more recently established, with no individuals in the largest size class, and, at this point, less severe dieback. in contrast, in the rest of the sites there were no individuals (Sites 1, 5, 6, and 9) or very few individuals (Sites 7, 8, and 10) in the smallest size class, indicating widespread failure of recruitment in recent years. Mature female cones containing seeds were abundant at these sites (except for Site 8); therefore, this was not attributable to failure of sexual reproduction, but rather was associated with higher levels of intra- and inter-specific competition, combined with more variable rainfall in recent years. Smaller trees are particularly susceptible to dieback throughout the region. Conservation initiatives should include restrictions on clearing these natural forests for conversion to agriculture and, where harvesting is necessary, preferential harvesting of larger individuals.
Keywords: Dieback; Failed Seedling Recruitment; Juniperus Phoenicea; Landscape; Resistance; Unstable Size Structure; Variable Rainfall

B-11. in Vitro Antifungal Efficacy of Aspergillus Niger Atcc 9642 Chitosan-Agnps Composite Against Post-Harvest Disease of Citrus Fruits

H. Al-Sheikha, and R.S. Yehia,

Applied Biochemistry and Microbiology, 52: 413-420 (2016).671

Green and blue mold postharvest diseases are the most vital negative components influencing the local market of citrus fruits. Citrus fruits were collected, and fungi were isolated. Among the fungal isolates identified, Penicillium digitatum and

Penicillium italicum recorded the highest occurrence of 39.5 and 25.6%, respectively. in this work, we extracted chitosan from Aspergillum niger ATCC 9642. Fourier transform infrared spectroscopy was utilized to confirm the functional groups of the obtained compound, which exhibited the ma in characteristic bands of O–H stretching at 3302 cm-1, and C–O–C band at 1125 cm-1. A. niger ATCC 9642 chitosan had the degree of deacetylation of 88.5%, a molecular weight of 1.8 × 105 Da, and viscosity of 7.3 centipoises; these values were comparable to those for standard shrimp chitosan. Ultraviolet-visible light spectra revealed the presence of A. niger ATCC 9642 chitosan-AgNPs composite. Using antifungal and spore germination assays, it was found that this composite exhibited effective antifungal action against P. digitatum and P. italicum compared with a chitosan standard. in a comet assay, the percentage of tail DNA was considered as a parameter that indicated DNA damage. The comet parameter increased significantly ($P < 0.05$) with A. niger ATCC 9642 chitosan–AgNPs composite, and the increase was dose-dependent. The increase in the DNA damage positively correlated with the inhibition performance of the A. niger ATCC 9642 chitosan–AgNPs composite.

Keywords: Aspergillus Niger, Chitosan Silver Nanoparticles, Antifungal Activity, Post-Harvest Desease of Citrus Fruits

B-12. Demography of The Threatened Endemic Shrub, Arbutus Pavarii, in The Al-Akhdar Mountainous Landscape of Libya

Hanan F. Kabiel1, Ahmad K. Hegazy1, Lesley Lovett-Doust2, Saud L. Al-rowaily3 and Abd El-Nasser El Bork4

Journal of Forestry Research, 27: 1295-1303 (2016).658

We sampled twenty populations of the vulnerable endemic shrub or tree, Arbutus pavarii Pampan., at different elevations and aspects with in the Al-Akhdar mountainous region of Libya. Our sampling sites were at elevations ranging from 285 to 738 m above sea level, and several different habitats: vallies (locally known as wadis), north- and south-facing slopes, and mountaintops. All individuals with in each quadrat were studied. Population size and structure, and plant functional traits were assessed. None of the populations had a stable distribution of size classes. Some consisted mostly of small plants, with little or no fruit production; others consisted only of mid-sized and large plants, with high fruit production, but no juvenile recruitment. There was a significant increase in percent cover with increasing elevation; reproductive output (the number of fruits per branch and total number of fruits per individual) also generally increased with elevation. in some of these populations the lack of recruitment, and in others the failure to produce fruit, together constituted serious demographic threats. in light of these results, recommendations are made for conservation of this vulnerable endemic species.

Keywords: Al-Akhdar Mountains; Conservation; Demography; Elevation; Functional Traits; Vulnerable Species

B-13. Leaf Micromorphological Features of The Genus Cordia L. (Boraginaceae) From Egypt

Wafaa Amer and Rim Hamdy

Bangladesh Journal of Plant Taxonomy, 23(2): 119-131 (2016).293

Foliar epidermal characters of nine Cordia L. species found in Egypt are investigated. Glandular trichomes are observed in C. boissieri A. DC. and C. cylindristachya (Ruiz & Pav.) Roem. & Schult., while eglandular trichomes are predominant in all studied species. Different stomatal characters were examined including: shape, size, rims, stomatal level, aperture, cuticular deposition and wax ornamentation. The retrieved results showed a great variation among the studied species. The observed trichomes and stomata were used to construct two different taxonomic keys.

Keywords: Cordia; Trichomes; Stomata; Sem; Egypt.

B-14. Flavonoid Constituents of Dipcadi Erythraeum Webb. & Berthel.

Mona Osama El-Shabrawy , Mona Mohamed Marzouk , Salwa Ali Kawashty , Hassnaa Ahmed Hosni , Ibrahim Ahmed El Garf and Nabiel Abdel Megied Saleh

Asian Pacific Journal of Tropical Disease, 6(5): 404-405 (2016)

Seven flavonoids were isolated for the first time from the defatted aqueous methanol extract of Dipcadi erythraeum Webb. & Berthel. They were identified as kaempferol (1), quercet in (2), quercet in 3-O-(6″-α-rhamnopyranosyl)-β-glucopyranoside-7-O-α-rhamnopyranoside (3), vitex in (4), isovitex in (5), orient in (6) and isoorient in (7). Their structures were established on the basis of chemical and spectroscopic analysis and also by comparison with authentic samples. The chemosystematic significance of these compounds was also summarized.

Keywords: Dipcadi Erythraeum - Flavonols -Flavone C-Glycosides –Chemosystematics

Dept. of Chemistry

B-15. Studies on Adsorption Behavior of Cu (Ii) and Cd (Ii) Onto Aminothiophene Derivatives of Styrene Maleic Anhydride Copolymer

Eman A.Ali, Said S.Elkholy, Rania E.Morsi and Maher Z.Elsabee

Journal of The Taiwan Institute of Chemical Engineers, 64: 325-335 (2016) IF: 2.848

in this research Poly (styrene-maleic anhydride) (SMA) copolymer was chemically modified with two amino thiophene derivatives; ethyl 2-amino 4, 5, 6, 7-tetrahydrobenzo thiophene-3 carboxylate (EATTC) and of 2-amino 4, 5, 6, 7-tetrahydrobenzo thiophene- 3 cabonitrile (ATTCN). The obtained products SMA-N- thioph- COOEth (E1) and SMA-N-thioph- CN (E2) were investigated by means of IR, NMR, X-ray diffraction (XRD), thermogravimetric and elemental analysis. The adsorption properties of the products toward Cu (II) and Cd (II) ions were evaluated. Various factors affecting the uptake behavior such as pH, concentration and adsorption time on the extent of Cu (II) and Cd (II) absorption were studied. It was found that Cu absorption is higher than that of Cd which may be

attributed to the larger size of Cd ions. The equilibrium removal performance of the SMA modified copolymer is analyzed according to the Langmuir and Freundlich adsorption isotherm models that show result fitted to both models. The experimental results showed that copper absorption by the SMA modified copolymer was achieved in 60 m in and that the loading capacity reached 453 and 110 mg g−1for Cu (II) and Cd (II) respectively, at pH 5-6 which was found to be an optimum condition.

Keywords: Styrene Maleic Anhydride Copolymer Amino Thiophene Derivatives Adsorption Isotherms Copper (Ii) and Cadmium (Ii) Uptake

B-16. Optimisation and Validation of A New Analytical Method For The Determination of Four Natural and Synthetic Hormones Using Lc-Esi-Ms/Ms

Emad Attalah , Yasm in S. Nasr , Hassan A. El-Gammal and F. A. Nour El-Dien

Food Additives & Contaminants: Part A, 33: 1545-1556 (2016) IF: 1.878

A rapid liquid chromatographic-tandem mass spectrometric method was developed for the simultaneous determination of four natural and synthetic hormone residues (progesterone, testosterone, trenbolone acetate and zeranol) in animal tissue samples. Sample preparation was optimised to minimise time and solvent consumption. Meat samples were mechanically homogenised and digested in a procedure that gave similar recoveries to those enzymatically hydrolysed by Helix pomatia. Efficient extraction was achieved using acidified acetonitrile (1% acetic acid). Chromatographic conditions were optimised to minimise matrix effects. Analytes were separated using a C18 column with gradient elution using ammonium formate solution in methanol (MeOH)/water (1:9) and MeOH mobile phases. Finally, residues were qualitatively and quantitatively determined by electrospray ionisation tandem mass spectrometry in multiple reaction monitoring mode. Different parameters for LC-MS/MS (e.g., declustering potential and collision energy) were optimised using API 6500QT; all analytes were measured using positivemode electrospray ionisation (ESI+) except zeranol which was measured in negative mode (ESI–). Due to LC-MS/MS signal enhancement/suppression, the determination of hormones was based on matrix-matched standard calculations. The method was validated for the four hormones on meat samples at different fortification levels and showed accepted performance criteria according to European Commission Decision 2002/657/EC. Decision limits and detection capabilities were estimated for all analytes.

Keywords: Liquid Chromatographymass Spectrometry; Homogenisation; Mechanical Digestion; Method Validation; Hormone Residues; Meat

B-17. Analytical Characterization of Hematite / Magnetite Ferrofluid Nanocomposites For Hyperthermia Purposes

M. A. Zayed · M. A. Ahmed · N. G. Imam and Doaa H. El Sherbiny

Journal of Superconductivity and Novel Magnetism, 29: 2899-2916 (2016) IF: 1.1

xFe2O3/(1 −x)Fe3O4 with different ratios of x ($0.0 \leq x \leq 1.0$) from magnetite and hematite nanoparticles (NPs) were prepared via a sonochemical method, for hyperthermia purposes. Various analytical and characterization techniques have been used to analyze and characterize the prepared ferrofluid nanocomposites. XRD confirms the formation of two separate phases of nanocomposite components with average crystallite size ranging from 12 to 30 nm. The crystallitesize was tuned via the hematite weight fraction of x (wt %) showing the lowest size at x = 0.2. FTIR shows thatthe band at 627 cm−1 could be referred to the Fe–O stretching vibrations and the band at 535 cm−1 could be assigned to Fe–O in Fe2O3. HRTEM and FESEM show the spherical and rod-like shape of magnetite and hematite, respectively, with an average particle size of 12 nm for Fe3O4 NPs and 11 nm for Fe2O3 NPs. XRF confirms that the nominal and chemical compositions are close. VSM shows that the prepared ferrofluid nanocomposites exhibit almost superparamagnetic behavior at which the magnetic parameterssuperior magnetic responsively with the saturation magnetization value arising from 0.74 to 67.86 emu/g. Analytical thermal analysis techniques exhibit that the ferrofluid nanocomposites show a high degree of thermal stability. It is observed that the composition 0.2 shows different behavior and superior properties rather than others. Therefore, this composition is considered as the optimum ratio for different applications particularly for hyperthermia purposes. The hyperthermia behavior of 0.2Fe2O3/0.8Fe3O4 nanocomposite was checked primary by using a home-made induction coil at a tested frequency of 50 Hz. It was found that, 50 Hz frequency induced hyperthermia temperature of about 43 ◦C at very low magnetic field with in 20 min. Finally, we recommend this nanocomposite due to its high magnetization, thermal stability, and acceptable biocompatibility for cancer treatment by localized hyperthermia technique.

Keywords: Keywords Ferrofluid Nanocomposites · Magnetite · Hematite · Xrd · Hrsem · Fesem · Vsm · Thermal Analysis · Hyperthermia

B-18. Microwave-Assisted Synthesis of Arylated Pyrrolo[2,1-A]Isoquinoline Derivatives Via Sequential [3+2] Cycloadditions and Suzuki-Miyaura Cross-Couplings in Aqueous Medium

Kamal M. Dawood, Manahil B. Elamin, and Ahmad M. Farag

Journal of Heterocyclic Chemistry, 53: 1928-1934 (2016).685

Treatment of 5-bromo-2-(bromoacetyl)thiophene (1) with isoquinoline gave the isoquinolinium bromide 2. Reaction of 2 with acrylic acid derivatives, in the presence of MnO2, afforded the3-[(5-bromothiophen-2-ylcarbonyl]pyrrolo[2,1-a]isoquinolines 3a,b. Suzuki–Miyaura cross-coupling reactions of the bromides 3a,b in aqueous solvent with several activated and deactivated aryl(hetaryl)boronic acids 4a–f using a Pd(II)-complex under thermal heating as well as microwave-irradiating

conditions afforded the corresponding new arylated pyrrolo[2,1-a]isoquinoline derivatives 6–17 in high to excellent isolated yields.

Keywords: Suzuki–Miyaura Cross-Coupling, Pyrrolo[2,1-A]-Isoquinoline, 5-Bromo-2-(Bromoacetyl)Thiophene, Boronic Acids.

B-19. Inhibitory Activity of Benzo[H]Quinoline and Benzo[H]Chromene in Human Glioblastoma Cells

Mogedda E. Haiba, Ebtehal S. Al-Abdullah, Hazem A. Ghabbour, Sayed M. Riyadh and Reham M. Abdel-Kader

Tropical Journal of Pharmaceutical Research, 15(11): 2337-2343 (2016).543

Purpose: To carry out a neat synthesis of 2-amino-5,6-dihydro-8-methoxy-4-phenylbenzo[h]quinoline-3- carbonitrile (compound 2) and 2-amino-5,6-dihydro-8-methoxy-4-phenyl-4H-benzo[h]chromene-3- carbonitrile (compound 3) and evaluate their cytotoxic activity in human glioblastoma cells. Methods: Benzo[H]quinoline and benzo[h]chromene were synthesized by treating 6-methoxy-1- tetralone with benzylidenemalononitrile under microwave irradiation. The structures of compounds 2 and 3 were confirmed by elemental, spectral, and x-ray crystallographic analyses. The cytotoxic activity of compounds 2 and 3 was evaluated using WST-1 assay in U373 human glioblastoma cell line. Results: The molecular structures of compounds 2 and 3 were demonstrated unambiguously from single crystal X-Ray measurements and they crystallized in triclinic form, P-1, for both compounds. in vitro cytotoxic activity data for compound 2 in human glioblastoma cell line (U373) indicate that no significant cytotoxicity was observed. on the other hand, compound 3 showed highly significant cytotoxic effects on U373 cells at concentrations starting from 0.1 µg/ mL. Conclusion: Compound 3 produces a decrease in cell viability with approximately 80 % cell death while compound 2 did not indicate significant cytotoxic activity. This suggests that the chromene moiety of compound 3 may be responsible for its high cytotoxicity.

Keywords: Hydronaphthaline, Benzo[H]Quinolone, Benzo[H]Chromene, X-Ray Crystallography, U373 Human Glioblastoma, Cytotoxicity, Chromene Moiety

B-20. Comparison of The Electroanalytical Oxidation of Ritodrine Hydrochloride At Carbon Paste, Zro2 Nano Particles Modified, Graphite Pencil and Glassy Carbon Electrodes

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Analytical and Bioanalytical Electrochemistry, 8(2): 234-255 (2016)

Electrochemical oxidation behavior of ritodrine hydrochloride (RT.HCl) was studied in Britton Robinson buffer at different pH range from 2 to 10 using carbon paste (CPE), modified zirconium oxide carbon paste (ZrO2-MCPE), graphite pencil (GPE) and glassy carbon electrodes (GCE). Cyclic voltammetry (CV) was showed one well-defined, irreversible, diffusion-controlled anodic peak at pH 9 by using CPE and GPE electrodes and pH 8 and 7 at ZrO2-MCPE and GCE electrodes, respectively. The linear response was obtained in the concentration range of 3.33×10-6-4.33×10-5, 6.67×10-8-7.33×10-7, 4.0×10-66×10-5 and 5.0×10-6-4×10-5 M with detection limit (LOD) of 1.57×10-6, 6.18×10-8, 1.71×10-6 and 3.32×10-6 mol L-1 by using differential pulse voltammetric method (DPV) at CPE, ZrO2MCPE, GPE and GCE, respectively. The linear concentration response was obtained in the concentration range of 1.33×10-6-1.47×10-5, 3.33×10-8-3.67×10-7, 4.0×10-6-5.5×10-5 and 5.00×10-6-4.5×10-5 M with detection limit (LOD) 5.78×10-7, 1.11×10-8, 1.74×10-6 and 1.84×10-6 mol L-1 by using square wave voltammetric method (SWV) at CPE, ZrO2-MCPE, GPE and GCE, respectively. The repeatability and reproducibility of the method were 0.411.27, 0.25-1.11, 0.49-1.86 and 0.73-2.13% relative standard deviations (RSD) for anodic peak current by using square wave voltammetric method (SWV) at CPE, ZrO2-MCPE, GPE and GCE electrodes. The mechanism successfully confirmed by molecular orbital calculation (MOC). These calculations give the bond order, bond length and charge distribution. This helps the successful choice of the weakest bond which changed during oxidation or reduction. Therefore, the best pathway for the oxidation of this drug is correctly selected for proposed mechanism.

Keywords: Carbon Paste Electrode, Zirconium Oxide Nanoparticles, Graphite Pencil Electrode, Glassy Carbon Electrode, Differential Pulse, Square Wave Voltammetry, Ritodrine Hydrochloride

B-21. An Assessment For The Recovery of Lanthanides and P2o5 From Phosphate Rocks

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Advances in Environmental Biology, 10(9): 49-53 (2016)

Journal h in this paper, selective leaching of lanthanides from phosphate rock was carried out using nitric acid (0.5 M) in two stages, followed by their recovery as oxalate. Uranium was leached from the residue using 3 M nitric acid concentration then extracted from nitrate medium by the synergistic mixture of HDEHP/TOPO in kerosene. Finally, P2O5 was recovered as NPK fertilizer after adjusting the potassium content.

Keywords: Leaching, Phosphate Rock, Ree, Uranium, Npk Fertilizer

Dept. of Entomology

B-22. Molecular and Phenotypic Characterization of Two Bacteria, Photorhabdus Luminescens Subsp. Akhurstii Hrm1 and Hs1 Isolated From Two Entomopathogenic Nematodes, Heterorhabditis Indica Rm1 and Heterorhabditis Sp. S1

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Pakistani Journal of Zoology, 48(1): 51-58 (2016).478

The present study was aimed at molecular and phenotypic characterization of two new bacterial strains isolated from entomopathogenic nematodes, Heterorhabditis indica RM1 from Alexandria, northern Egypt and Heterorhabditis sp. S1 from RasSidr, South Sinai, eastern Egypt. These entomopathogenic bacteria secrete lethal toxins that rapidly kill the insect host with in 48h. They also produce various antibiotics that suppress infection by other microorganisms. Three complementary

approaches including16S rRNA gene sequencing, phenotypic and phylogenetic analysis by maximum likelihood method and chemical characterization, were used to identify these new isolates. Current investigations revealed that these two isolates had noteworthy differences, particularly in their antibiotic production spectrum from P. luminescens subsp. akhurstii 1S5; however, they mainta in the major characters that define them from other species. A minor difference from regular P. luminescens subsp. akhurstii was obtained by 16S rRNA gene sequencing, which resulted in two new type strains: Photorhabdus luminescens subsp. akhurstii HRM1KC237382 and Photorhabdus luminescens subsp. akhurstii HS1KC237383.

Keywords: Photorhabdus, Molecular Characterization, Phenotypic Characterization, Antibiotic Sensitivity Test, Entomopathogenic Nematodes, Heterorhabditis Spp.

B-23. A Transferr in Fragment Isolated From The Egyptian Cotton Leaf Worm, Spodoptera Littoralis (Boisduval) (Lepidoptera: Noctuidae) in Response To Two Commercial Bioinsecticides

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Egyptian Journal of Biological Pest Control, 26-1: 59-64 (2016).152

Bioinsecticides are needed to diminishenvironmental biohazards and host resistance to conventional insecticidesagainst insect pests. Immune defense against biopesticides is a critical factor in their application. Transferr in is a prote in involved in immune response,iron metabolism, and may act as antioxidant in insects. in this study, theinsect immune response upon treating 4th instar larvae of S.littoralis with bioinsecticides Viruset (SpliNPV only) and Profect (Bt+SpliNPV)was studied in terms of detecting and monitoring transferr in gene expression.Polymerase cha in reaction (PCR) permitted the isolation of 215 bp fragmentscorresponding to putative S. littoralis transferr in gene (SpliTsf)from both control and treated insects. The deduced amino acid sequence showedhigh homology to other insect transferrins. The Gene expression of SpliTsfpost-immunechallenge with bioinsecticides was determined using qRT-PCR. It was found thatProfect caused up-regulation in SpliTsf expression, while Viruset causedits down-regulation. The role of transferrin in immune response was discussed.

Keywords: Transferrin, Immune Response, Npv, B.Thuringiensis, S. Littoralis.

Dept. of Geology

B-24. Exploration of Gold Occurrences in Alteration Zones At Dungash District, Southeastern Desert of Egypt Using Aster Data and Geochemical Analyses

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Journal of African Earth Sciences, 117: 389-400 (2016) IF: 1.326

The present study aims at exploration of new gold occurrences in the alteration zones at Dungash district. Processed ASTER images band ratios 7/6 × 4/6 and (7 + 9/8), field geology and mineralogical and geochemical data help characterize three types of alterations in three areas 1 to 3 that may be targeted for Au exploration. Area1 confined to the metavolcanics located in the SE of Dungash gold mine and revealed silicified and sericitized type alterations, composed of quartz, epidote, chlorite, biotite and opaque minerals mainly pyrite and chalcopyrite. Area2 occurs in the gabbro-diorite rocks at Abu Meraiwa area NE of Dungash gold mine, which are rich in kaolinite, illite, sericite, pyrite, arsenopyrite and chalcopyrite that record kaolinitized alteration. Area3 is hosted in carbonaceous listwaenized serpentinite thus indicating the role of listwaenitization type alteration in ore genesis. It is composed of calcite, chromite, pyrite, arsenopyrite, chalcopyrite and Ni-bearing sulphides. Au contents in area 1 range between 0.12 and 14.91 ppm, and between 6.1 and 16.3 ppm in area 2, while gold values in area 3 vary from <0.01 to 0.03 ppm. Dungash district is comprised of Pan-African assemblages of ophiolitic ultramafics thrusted over the island arc metavolcanics of dacitic- andesite composition. Gabbro-diorite rocks are intruded in the ultramafics and the acidic metavolcanics as well as diorite-quartz diorite suite intruded in the intermediate metavolcanics. Several acidic dykes, granitic dykes and quartz veins cut through the different rocks types.

Keywords: Dungash District Aster Data Alteration Gold Mineralization

Dept. of Mathematics

B-25. Multi-Soliton Rational Solutions For Some Nonlinear Evolution Equations

M. S. Osman

Open Physics, 14: 26-36 (2016)

The Korteweg-de Vries equation (KdV) and the (2+ 1)-dimensional Nizhnik-Novikov-Veselov system (NNV) are presented. Multi-soliton rational solutions of these equations are obtained via the generalized unified method. The analysis emphasizes the power of this method and its capability of handling completely (or partially) integrable equations. Compared with Hirota's method and the inverse scattering method, the proposed method gives more general exact multi-wave solutions without much additional effort. The results show that, by virtue of symbolic computation, the generalized unified method may provide us with a straightforward and effective mathematical tool for seeking multi-soliton rational solutions for solving many nonlinear evolution equations arising in different branches of sciences.

Keywords: Multi-Soliton Rational Solution; Generalized Unified Method; Korteweg-De Vries Equation; (2+1)-Dimensional Nizhnik-Novikov-Veselov Equation

B-26. Analytical and Numerical Validation For Solving The Fractional Klein-Gordon Equation Using The Fractional Complex Transform and Variational Iteration Methods

M. M. Khader and M. Adel

Nonlinear Engineering, 5: 1-5 (2016)

in this paper, we implement the fractional complex transform method to convert the nonlinear fractional Klein-Gordon equation (FKGE) to an ordinary differential equation. We use the variational iteration method (VIM) to solve the resulting ODE. The fractional derivatives are presented in terms of the

Caputo sense. Some numerical examples are presented to validate the proposed techniques. Finally, a comparison with the numerical solution using Runge-Kutta of order four is given.
Keywords: Nonlinear Fractional Klein-Gordon Equation; Caputo Derivative; Fractional Complex Transform Method; Variational Iteration Method.

Dept. of Physics

B-27. Search For W′ → Tb in Proton-Proton Collisions At √S=8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 2: 122-0 (2016) IF: 6.023

A search is performed for the production of a massive W0 boson decaying to a top and a bottom quark. The data analysed correspond to an integrated luminosity of 19.7 fb□1 collected with the CMS detector at the LHC in proton-proton collisions at p s = 8TeV. The hadronic decay products of the top quark with high Lorentz boost from the W0 boson decay are detected as a single top avoured jet. The use of jet substructure algorithms allows the top quark jet to be distinguished from standard model QCD background. Limits on the production cross section of a right-handed W0 boson are obtained, together with constraints on the left-handed and right-handed couplings of the W0 boson to quarks. The production of a right-handed W0 boson with a mass below 2.02TeV decaying to a hadronic nal state is excluded at 95% con dence level. This mass limit increases to 2.15TeV when both hadronic and leptonic decays are considered, and is the most stringent lower mass limit to date in the tb decay mode.
Keywords: Pp Collision, Jet Substructure, Hadron-Hadron Scattering, Beyond Standard Model

B-28. Search For A Massive Resonance Decaying Into A Higgs Boson and A W or Z Boson in Hadronic Final States in Proton-Proton Collisions At \Sqrt{S}=8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 2: 145-0 (2016) IF: 6.023

A search for a massive resonance decaying into a standard-model-like Higgs boson (H) and a W or Z boson is reported. The analysis is performed on a data sample corresponding to an integrated luminosity of 19.7 fb−1, collected in proton-proton collisions at a centre-of-mass energy of 8 TeV with the CMS detector at the LHC. Signal events, in which the decay products of Higgs, W, or Z bosons at high Lorentz boost are contained with in single reconstructed jets, are identified using jet substructure techniques, including the tagging of b hadrons. This is the first search for heavy resonances decaying into HW or HZ resulting in an all-jet final state, as well as the first application of jet substructure techniques to identify H → WW* → 4q decays at high Lorentz boost. No significant signal is observed and limits are set at 95% confidence level on the production cross sections of W′ and Z′ in a model with mass-degenerate charged and neutral spin-1 resonances. Resonance masses are excluded for W′ in the interval [1.0, 1.6] TeV, for Z′ in the intervals [1.0, 1.1] and [1.3, 1.5] TeV, and for mass-degenerate W′ and Z′ in the interval [1.0, 1.7] TeV.
Keywords: Hadron-Hadron Scattering Beyond Standard Model Particle and Resonance Production Higgs Physics

B-29. Search For Excited Leptons in Proton-Proton Collisions At √S=8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 3: 125-0 (2016) IF: 6.023

A search for compositeness of electrons and muons is presented using a data sample of proton-proton collisions at a center-of-mass energy of s√=8s=8 TeV collected with the CMS detector at the LHC and corresponding to an integrated luminosity of 19.7 fb−1. Excited leptons (ℓ*) produced via contact interactions in conjunction with a standard model lepton are considered, and a search is made for their gauge decay modes. The decays considered are ℓ* → ℓγ and ℓ* → ℓZ, which give final states of two leptons and a photon or, depending on the Z-boson decay mode, four leptons or two leptons and two jets. The number of events observed in data is consistent with the standard model prediction. Exclusion limits are set on the excited lepton mass, and the compositeness scale Λ. For the case Mℓ* = Λ the existence of excited electrons (muons) is excluded up to masses of 2.45 (2.47) TeV at 95% confidence level. Neutral current decays of excited leptons are considered for the first time, and limits are extended to include the possibility that the weight factors f and f′, which determine the couplings between standard model leptons and excited leptons via gauge mediated interactions, have opposite sign.
Keywords: Beyond Standard Model, Exotics, Hadron-Hadron Scattering

B-30. Search For The Associated Production of A Higgs Boson With A Single Top Quark in Proton-Proton Collisions At √S=8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 6: 177-0 (2016) IF: 6.023

This paper presents the search for the production of a Higgs boson in association with a single top quark (tHq), using data collected in proton-proton collisions at a center-of-mass energy of 8 TeV corresponding to an integrated luminosity of 19.7 fb−1. The search exploits a variety of Higgs boson decay modes resulting in final states with photons, bottom quarks, and multiple charged leptons, including tau leptons, and employs a variety of multivariate techniques to maximize sensitivity to the signal. The analysis is optimized for the opposite sign of the Yukawa coupling to that in the standard model, corresponding to a large enhancement of the signal cross section. in the absence of an excess of candidate signal events over the background predictions, 95% confidence level observed (expected) upper limits on anomalous tHq production are set, ranging between 600 (450) fb and 1000 (700) fb depending on the assumed diphoton branching fraction of the Higgs boson. This is the first time that results on anomalous tHq production have been reported.

Keywords: Hadron-Hadron Scattering (Experiments), Higgs Physics, Top Physics

B-31. Search For New Physics in Final States With Two Opposite-Sign, Same-Flavor Leptons, Jets, and Missing Transverse Momentum in Pp Collisions At √S=13 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 12: 13-0 (2016) IF: 6.023

A search is presented for physics beyond the standard model in final states with two opposite-sign, same-flavor leptons, jets, and missing transverse momentum. The data sample corresponds to an integrated luminosity of 2.3 fb−1 of proton-proton collisions at s√=13s=13 TeV collected with the CMS detector at the LHC in 2015. The analysis uses the invariant mass of the lepton pair, searching for a kinematic edge or a resonant-like excess compatible with the Z boson mass. Both search modes use several event categories in order to increase the sensitivity to new physics. These categories are based on the rapidity of the leptons, the multiplicity of jets and b jets, the scalar sum of jet transverse momenta, and missing transverse momentum. The observations in all signal regions are consistent with the expectations from the standard model, and the results are interpreted in the context of simplified models of supersymmetry.

Keywords: Beyond Standard Model, Hadron-Hadron Scattering (Experiments), Supersymmetry

B-32. Decomposing Transverse Momentum Balance Contributions For Quenched Jets in Pbpb Collisions At √Snn=2.76 \) Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 11: 55-0 (2016) IF: 6.023

Interactions between jets and the quark-gluon plasma produced in heavy ion collisions are studied via the angular distributions of summed charged-particle transverse momenta (pT) with respect to both the leading and subleading jet axes in high-pT dijet events. The contributions of charged particles in different momentum ranges to the overall event pT balance are decomposed into short-range jet peaks and a long-range azimuthal asymmetry in charged-particle pT. The results for PbPb collisions are compared to those in pp collisions using data collected in 2011 and 2013, at collision energy sNN−−−−√=2.76sNN=2.76 TeV with integrated luminosities of 166 μb−1 and 5.3 pb−1, respectively, by the CMS experiment at the LHC. Measurements are presented as functions of PbPb collision centrality, charged-particle pT, relative azimuth, and radial distance from the jet axis for balanced and unbalanced dijets.

Keywords: Jet Substructure, Heavy Ion Experiments, Heavy-Ion Collision, Quark Gluon Plasma

B-33. Search For Higgs Boson of Shell Production in Proton-Proton Collisions At 7 and 8 Tev and Derivation of Constraints on its Total Decay Width

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 9: 51-0 (2016) IF: 6.023

A search is presented for the Higgs boson off-shell production in gluon fusion and vector boson fusion processes with the Higgs boson decaying into a W+W− pair and the W bosons decaying leptonically. The data observed in this analysis are used to constra in the Higgs boson total decay width. The analysis is based on the data collected by the CMS experiment at the LHC, corresponding to integrated luminosities of 4.9 fb−1 at a centre-of-mass energy of 7 TeV and 19.4 fb−1 at 8 TeV, respectively. An observed (expected) upper limit on the off-shell Higgs boson event yield normalised to the standard model prediction of 2.4 (6.2) is obtained at the 95% CL for the gluon fusion process and of 19.3 (34.4) for the vector boson fusion process. Observed and expected limits on the total width of 26 and 66 MeV are found, respectively, at the 95% confidence level (CL). These limits are combined with the previous result in the ZZ channel leading to observed and expected 95% CL upper limits on the width of 13 and 26 MeV, respectively.

Keywords: Hadron-Hadron Scattering (Experiments), Higgs Physics

B-34. Evidence For Exclusive Γγ → W+W− Production and Constraints on Anomalous Quartic Gauge Couplings in Pp Collisions At \Sqrt{S}=7 and 8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 8: 119-0 (2016) IF: 6.023

A search for exclusive or quasi-exclusive γγ → W+W− production, via pp → p(*)W+W−p(*) → p(*)μ±e∓p(*) at s√=8s=8 TeV, is reported using data corresponding to an integrated luminosity of 19.7 fb−1. Events are selected by requiring the presence of an electron-muon pair with large transverse momentum pT(μ±e∓) > 30 GeV, and no associated charged particles detected from the same vertex. The 8 TeV results are combined with the previous 7 TeV results (obtained for 5.05 fb−1 of data). in the signal region, 13 (2) events are observed over an expected background of 3.9 ± 0.6 (0.84 ± 0.15) events for 8 (7) TeV, resulting in a combined excess of 3.4σ over the background-only hypothesis. The observed yields and kinematic distributions are compatible with the standard model prediction for exclusive and quasi-exclusive γγ → W+W− production. Upper limits on the anomalous quartic gauge coupling operators a0,CW (dimension-6) and fM0,1,2,3 (dimension-8), the most stringent to date, are derived from the measured dilepton transverse momentum spectrum.

Keywords: Forward Physics, Hadron-Hadron Scattering (Experiments)

B-35. Search For Direct Pair Production of Scalar Top Quarks in The Single- and Dilepton Channels in Proton-Proton Collisions At \Sqrt{S}=8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

Journal of High Energy Physics, 7: 27-0 (2016) IF: 6.023

Results are reported from a search for the top squark t~1t~1, the lighter of the two supersymmetric partners of the top quark. The data sample corresponds to 19.7 fb−1 of proton-proton collisions at s√=8s=8 TeV collected with the CMS detector at the LHC. The search targets t~1→bχ~±1t~1→bχ~1± and t~1→t(∗)χ~01t~1→t(∗)χ~10 decay modes, where χ~±1χ~1± and χ~01χ~10 are the lightest chargino and neutralino, respectively. The reconstructed final state consists of jets, b jets, missing transverse energy, and either one or two leptons. Leading backgrounds are determined from data. No significant excess in data is observed above the expectation from standard model processes. The results exclude a region of the two-dimensional plane of possible t~1t~1 and χ~01χ~10 masses. The highest excluded t~1t~1 and χ~01χ~10 masses are about 700 GeV and 250 GeV, respectively.

Keywords: Hadron-Hadron Scattering (Experiments), Supersymmetry, Top Squark

B-36. Search For Heavy Resonances Decaying To Two Higgs Bosons in Final States Containing Four B Quarks

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

European Physics Journal C, 76: 371-0 (2016) IF: 4.912

A search is presented for narrow heavy resonances X decaying into pairs of Higgs bosons (HH) in proton-proton collisions collected by the CMS experiment at the LHC at s√=8TeVs=8TeV. The data correspond to an integrated luminosity of 19.7fb−1fb−1. The search considers HHHH resonances with masses between 1 and 3TeVTeV, having final states of two b quark pairs. Each Higgs boson is produced with large momentum, and the hadronization products of the pair of b quarks can usually be reconstructed as single large jets. The background from multijet and tt¯tt¯ events is significantly reduced by applying requirements related to the flavor of the jet, its mass, and its substructure. The signal would be identified as a peak on top of the dijet invariant mass spectrum of the remaining background events. No evidence is observed for such a signal. Upper limits obtained at 95 % confidence level for the product of the production cross section and branching fraction σ(gg→X)B(X→HH→bb¯¯¯¯bb¯¯¯¯)σ(gg→X)B(X→HH→bb¯bb¯) range from 10 to 1.5\,fb\,fb for the mass of X from 1.15 to 2.0TeVTeV, significantly extending previous searches. For a warped extra dimension theory with a mass scale ΛR=1ΛR=1TeVTeV, the data exclude radion scalar masses between 1.15 and 1.55TeVTeV.

Keywords: Pp Collision, Higgs Bosons, Heavy Resonance

B-37. Search For Direct Pair Production of Supersymmetric Top Quarks Decaying To All-Hadronic Final States in Pp Collisions At √S = 8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

European Physics Journal C, 76: 460-0 (2016) IF: 4.912

Results are reported from a search for the pair production of top squarks, the supersymmetric partners of top quarks, in final states with jets and missing transverse momentum. The data sample used in this search was collected by the CMS detector and corresponds to an integrated luminosity of 18.9 fb−1 of proton-proton collisions at a centreof-mass energy of 8 TeV produced by the LHC. The search features novel background suppression and prediction methods, including a dedicated top quark pair reconstruction algorithm. The data are found to be in agreement with the predicted backgrounds. Exclusion limits are set in simplified supersymmetry models with the top squark decaying to jets and an undetected neutralino, either through a top quark or through a bottom quark and chargino. Models with the top squark decaying via a top quark are excluded for top squark masses up to 755 GeV in the case of neutralino masses below 200 GeV. For decays via a chargino, top squark masses up to 620 GeV are excluded, depending on the masses of the chargino and neutralino.

Keywords: Pp Collision, Top Quarks

B-38. Forward–Backward Asymmetry of Drell–Yan Lepton Pairs in Pp Collisions At √ S = 8Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

European Physics Journal C, 76: 325-0 (2016) IF: 4.912

A measurement of the forward–backward asymmetry AFBAFB of oppositely charged lepton pairs (μμμμ and eeee) produced via Z/γ∗ Z/γ∗ boson exchange in pp collisions at s√=8s=8TeVTeV is presented. The data sample corresponds to an integrated luminosity of 19.7fb−1fb−1 collected with the CMS detector at the LHC. The measurement of AFBAFB is performed for dilepton masses between 40GeVGeV and 2TeVTeV and for dilepton rapidity up to 5. The AFBAFB measurements as a function of dilepton mass and rapidity are compared with the standard model predictions.

Keywords: Pp Collision, Drell-Yan Lepton Pairs

B-39. Search For Lepton Flavour Violating Decays of Heavy Resonances and Quantum Black Holes To An Eμ Pair in Proton–Proton Collisions At V S = 8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

European Physics Journal C, 76: 316-0 (2016) IF: 4.912

A search for narrow resonances decaying to an electron and a muon is presented. The eμ mass spectrum is also investigated for non-resonant contributions from the production of quantum black holes (QBHs). The analysis is performed using data corresponding to an integrated luminosity of 19.7 fb−1 collected

in proton-proton collisions at a centre-of-mass energy of 8 TeV with the CMS detector at the LHC. With no evidence for physics beyond the standard model in the invariant mass spectrum of selected eμ pairs, upper limits are set at 95 % confidence level on the product of cross section and branching fraction for signals arising in theories with charged lepton flavour violation. in the search for narrow resonances, the resonant production of a τ sneutrino in R-parity violating supersymmetry is considered. The τ sneutrino is excluded for masses below 1.28 TeV for couplings λ132 = λ231 = λ 311 = 0.01, and below 2.30 TeV for λ132 = λ231 = 0.07 and λ 311 = 0.11. These are the most stringent limits to date from direct searches at high-energy colliders. in addition, the resonance searches are interpreted in terms of a model with heavy partners of the Z boson and the photon. in a framework of TeV-scale quantum gravity based on a renormalization of Newton's constant, the search for non-resonant contributions to the eμmass spectrum excludes QBH production below a threshold mass Mth of 1.99 TeV. in models that invoke extra dimensions, the bounds range from 2.36 TeV for one extra dimension to 3.63 TeV for six extra dimensions. This is the first search for QBHs decaying into the eμ final state.

Keywords: Pp Collision, Heavy Resonances, Black Holes

B-40. Search For Massive Wh Resonances Decaying Into The Nbb Final State At √ S = 8 Tev

V. Khachatryan, A.M. Sirunyan, A. Tumasyan, (et. al.)

CMS Collaboration

European Physics Journal C, 76: 237-0 (2016) IF: 4.912

A search for a massive resonance W decaying into a W and a Higgs boson in the νbb (= e, μ) final state is presented. Results are based on data corresponding to an integrated luminosity of 19.7 fb−1 of proton–proton collisions at √ s = 8 TeV, collected using the CMS detector at the LHC. For a high-mass (1 TeV) resonance, the two bottom quarks coming from the Higgs boson decay are reconstructed as a single jet, which can be tagged by placing requirements on its substructure and flavour. Exclusion limits at 95 % confidence level are set on the production cross section of a narrow resonance decaying into WH, as a function of its mass. in the context of a little Higgs model, a lower limit on the W mass of 1.4 TeV is set. in a heavy vector triplet model that mimics the properties of composite Higgs models, a lower limit on theW mass of 1.5 TeV is set. in the context of this model, the results are combined with related searches to obta in a lower limit on the W mass of 1.8 TeV, the most restrictive to date for decays to a pair of standard model bosons.

Keywords: Pp Collision, Massive Wh Resonances

B-41. Shapiro Step At Nonequilibrium Conditions

Yu. M. Shukrinov, M. Nashaat, K. V. Kulikov, R. Dawood, H. El Samman and Th. M. El Sherbini

Epl (Europhysics Letters), 115: 0-0 (2016) IF: 1.963

Detailed numerical simulations of intrinsic Josephson junctions of high-temperature superconductors under external electromagnetic radiation are performed taking into account a charge imbalance effect. We demonstrate that the charge imbalance is responsible for a slope in the Shapiro step in the IV-characteristic. The value of slope increases with a nonequilibrium parameter. Coupling between junctions leads to the distribution of the slope's values along the stack. The nonperiodic boundary conditions shift the Shapiro step from the canonical position determined by Vss=h f /(2e) , where f is a frequency of external radiation. This fact makes the interpretation of the experimentally found Shapiro step shift by the charge imbalance effect ambiguous.

Keywords: Josephson Junctions, Charge Imbalance and High Temperaturesuperconductors

B-42. Synthesis and Physical Characterization of Amorphous Silicates in The System Sio2-Na2o– Ro (R = Zn, Pb or Cd)

Reham M. M. Morsi, Mohammad A. F. Basha and Morsi M. Morsi

Journal of Non-Crystalline Solids, 439: 57-66 (2016) IF: 1.825

Glasses of the composition (mol%) 65 SiO2, 20 RO, 15 Na2O, where R is Zn, Pb or Cd, were prepared by the melting quenching technique. It is aimed to investigate the structural, optical and, for the first time, their electrical and dielectric properties of these glasses. FTIR revealed that modifier oxide tetrahedral structural units and chemical resistivity increase, while non-bridging oxygens (NBOs) decrease as ZnO is replaced by CdO or PbO. The absorption edge shows a red shift in the same direction of replacement, which was ascribed to the decrease of the strength of oxygen bonding and increase of polarizable NBOs. Refractive index, density, molar volume and optical band gap energy (Eopt) were determined. The dielectric constant attained higher values for glass containing ZnO than those containing CdO or PbO. The ac conductivity behavior is interpreted in terms of overlapping-large polaron tunneling model and the correlated barrier hopping model. The electronic-type conductivity dominates in the studied glasses containing CdO or PbO. The ac conductivity values of the studied glasses increase with increasing frequency, indicating their semiconducting nature. The obtained values of electrical conductivity and capacitance may allow considering the investigated glasses for use in electronic devices.

Keywords: Dielectric Constant; Electrical Conductivity; Glass Semiconductor; Glassy Materials; Optical Band Gap Energy

B-43. A Precise Method For Determining The Principal Angle of Incidence and The Optical Constants of Metals

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Measurement Science and Technology, 27: 15009-0 (2016) IF: 1.492

PAPER A precise method for determining the principal angle of incidence and the optical constants of metals N N Nagib1, M S Bahrawi1, H Osman2, N A Mahmoud1, M H Osman2 and A W Abdallah1 Published 2 December 2015 • © 2016 IOP Publishing Ltd Measurement Science and Technology, Volume 27, Number 1 104 Total downloads Turn on MathJax Get permission to re-use this article Share this article Article information Abstract It is shown that, in the principal angle method for determining the optical constants of copper, an inflection point occurs in the relation between the angle of incidence, ${{\phi}_{\text{i}}}$, and the orientation of the major axis of the elliptical state reflected from the metallic surface. This inflection point defines the principal angle of incidence, ${{\bar{\phi}}_{\text{i}}}$. in our treatment, the optical system for determining ${{\bar{\phi}}_{\text{i}}}$ excludes the presence of a quarterwave plate. This has the advantage of avoiding errors in the value of ${{\bar{\phi}}_{\text{i}}}$ arising from the possible deviation of the plate retardance from $90{}^\circ $ at the working wavelength. The principal azimuthal angle is then determined and the optical constants of a copper film at $~632.8~\,\text{nm}$ are presented. The effect of using an inexact quarterwave plate on the optical constants is discussed.
Keywords: Principle Incidence Angle, Optical Constants of Metal

Dept. of Zoology

B-44. Genetic and Histopathological Responses To Cadmium Toxicity in Rabbit'S Kidney and Liver: Protection By Ginger (Zingiber Officinale)

Ahmed A. Baiomy & Ahmed A. Mansour

Biol Trace Elem Res, 170: 320-329 (2016) IF: 1.798

This study aimed to examine the protective effects of ginger (G) on the genetic response induced by cadmium (Cd) and immunohistochemical expression of Caspase3 and MKI67 in the kidney and liver of rabbits. Male rabbits were divided into three groups; each group contains 10 animals: group (C) received basic diet and tap water for 12 weeks, the second group (Cd) received 20 mg/kg b.w CdCl2 in water for 12 weeks, group (Cd+G) was given 20 mg/kg b.w CdCl2 in water and 400 mg ginger/kg b.w in food for 12 weeks. Cd administration increased the activity of mRNA expression of the examined apoptotic (Caspase3), proliferation (MKI67), proto-oncogene (C-fos), and antioxi-dant (GST), while decreased the expression of anti-apoptotic (Bcl2). Ginger counteracted the effects of Cd in (Cd+G) group and downregulated the previously upregulated genes under Cd administration appeared in (Cd) group. The immu-nohistochemical expression of Caspase3 and MKI67 in the liver and kidney cells of the (C) group was shown very faint to negative reactions, strong staining in hepatocytes and the tubular epithelium in cadmium-treated group, while slight staining in some hepatocytes and tubular epithelium in co-administration with ginger in (Cd+G) group. in conclusion, ginger administration showed a protective effect against cad-mium toxicity.
Keywords: Cadmium . Gene Expression . Immunohistochemistry . Ginger Protection . Caspase3 . Mki67

B-45. Interactions Between The Intestinal Cestode Polyonchobothrium Clarias (Pseudophyllidea: Ptychobothriidae) From The African Sharptooth Catfish Clarias Gariepinus and Heavy Metal Pollutants in An Aquatic Environment in Egypt

R. Abdel-Gaber*, F. Abdel-Ghaffar, A.-R. Bashtar, K. Morsy and R. Saleh

Journal of Helminthology, 61: 1-11 (2016) IF: 1.63

in an aquatic environment, there is a profound and inverse relationship between environmental quality and disease status of fish. Parasites are one of the most serious limiting factors in aquaculture. Therefore, the present investigation was carried out during the period of February–December 2014 to determine the parasitic infections in the African sharptooth catfish Clarias gariepinus, relative to the capability of internal parasites to accumulate heavy metals. Up to 100 catfish were examined for gastrointestinal helminths and 38% of fish were found to be infected with the cestode Polyonchobothrium clarias. The morphology of this parasite species, based on light and scanning electron microscopy, revealed that the adult worm was characterized by a rectangular scolex measuring 0.43–0.58 (0.49 ^ 0.1)mm long and 0.15–0.21 (0.19 ^ 0.1)mm wide, with a flat to slightly raised rostellum armed with a crown with two semicircles each bearing 13–15 hooks, followed by immature, mature and gravid proglottids which were about 29–55 (45), 16–30 (24) and 15–39 (28) in number, respectively. The mature proglottid contained a single set of genitalia in which medullary testes measured 0.09–0.13 (0.11 ^ 0.01)mm long and 0.05–0.08 (0.06 ^ 0.01)mm wide; a bi-lobed ovary was situated near the posterior marg in of the proglottid, extending laterally up to the longitudinal excretory canals; the tubular uterus arose from the ootype up to the anterior marg in of the proglottid; and vitelline follicles were cortical. The greater portion of the gravid proglottid was occupied by a uterus filled with unoperculate and embryonated eggs. Chemical analysis confirmed that the concentrations of heavy metals (Zn, Cu, Mn, Cd, Ni and Pb) accumulated in P. clarias were higher than in fish tissues and values recommended by FAO/WHO, with the exception of Zn, which was found to be higher in fish kidneys than in the cestode. This supports the hypothesis that cestodes of fish can be regarded as useful bioindicators when evaluating the environmental pollution of aquatic ecosystems by heavy metals.
Keywords: Polyonchobothrium Clarias, African Sharptooth Catfish Clarias Gariepinus, Pollution

B-46. Modulatory Effects of Levamisole and Garlic Oil on The Immune Response of Wistar Rats: Biochemical, Immunohistochemical, Molecular and Immunological Study

Essam Hassan Mohamed, Ahmed Abdel-Aziz Baiomy, Ze in Shaban Ibrahim and Mohamed Mohamed Soliman

Molecular Medicine Reports, 14: 2755-2763 (2016) IF: 1.559

Levamisole (LEVA) and garlic are prevalent immunomodulators in humans and animals. Therefore, the present study aimed to examine the immunomodulatory effects of LEVA and garlic oil (GO) alone or in combination on the immune response of Wistar rats. A total of 24 male Wistar rats were allocated into four equal groups: Control group, which was given ad libitum access to food and water; and groups 2-4, which were orally administered LEVA [2.5 mg/kg body weight (BW) every 2 days], GO, (5 ml/kg BW daily), or LEVA plus GO, respectively for 4 consecutive weeks. Serum immunoglobul in (Ig)G and IgM levels were measured using a radial immunodiffusion assay. Serum cytokine levels, including interferon (IFN)-γ, interleuk in (IL)-5 and tumor necrosis factor (TNF)-α, were measured using enzyme-linked immunosorbent assay kits. Total blood counts were measured automatically using a cell counter. Serum lysozyme enzymatic activity was determined by measuring the diameters of the zones of clearance relative to lysozyme. Immunohistochemical detection of CD4 and CD8 was carried out using the streptavidin-biotin-peroxidase method. Furthermore, the mRNA expression levels of IL-4, IL-5 and IL-12 were measured in the leukocytes and thymus gland by semi-quantitative polymerase cha in reaction. The results revealed that LEVA increased serum levels of IFN-γ, IL-5 and TNF-α cytokines, whereas co-administration of LEVA and GO decreased the stimulatory action of LEVA alone. LEVA and GO alone increased the serum levels of IgG,IgM and total blood cell counts, and co-administration of GO and LEVA inhibited the effects of LEVA. At the cellular level, in the spleen, LEVA increased immunoreactivity of CD4 and CD8, whereas co-administration of GO with LEVA decreased this strong expression. At the molecular level, in leukocytes, LEVA upregulated the mRNA expression levels of IL-2, IL-4 and IL-5, whereas GO alone downregulated mRNA expression. Co-administration of GO with LEVA inhibited the LEVA-induced upregulation of IL-2, IL-4 and IL-5 mRNA expression. in the thymus, both LEVA and GO upregulated the mRNA expression levels of IL-4 and IL-5, whereas LEVA alone did not affect IL-12 mRNA expression. Co-administration of GO with LEVA inhibited LEVA-induced upregulation of IL-4 and GO-induced upregulation of IL-12 expression, and had an additive upregulatory effect on IL-5 expression. in conclusion, LEVA stimulated T-helper (Th)1 cytokines, whereas GO stimulated a Th2 response, and co-administration of GO with LEVA inhibited the stimulatory effects of LEVA and balanced the Th1/Th2 response.

Keywords: Levamisole, Garlic Oil, Immune Effects, Wistar Rats

B-47. Antiseptic Effect of Sea Cucumber (Holothuria Atra) Against Multi-Organ Failure Induced By Sepsis: Molecular and Histopathological Study

Dalia Y. Saad, Ahmed A. Baiomy and Ahmed A. Mansour

Experimental and Therapeutic Medicine, 12: 222-230 (2016) IF: 1.28

Sepsis is a systemic inflammatory response to infection and severe sepsis patients can develop acute lung and liver injury. The aim of the present study was to evaluate the efficacy of Holothuria atra methanolic body wall extract (HaE), as an antioxidant and anti-inflammatory agent against induced sepsis in a cecal ligation and puncture (CLP) rat model. in total, 30 males albino rats were divided into three groups (n=10 each) as follows: Sham (Sh), which was used as negative control; sepsis (Se), which was used as a positive control and was subjected to CLP surgery; and Ho, which was subjected to CLP and fed with 200 mg/kg (body weight) of HaE, once daily for 7 days. Subsequently, the expression of various genes was detected by polymerase cha in reaction,while liver and lung tissues were examined by immunohistochemistry. The expression of Caspase-3 was significantly reduced in liver and lung tissues in the Ho group, while the expression levels of Gsta2, Cat and Sod1 genes were slightly reduced in the Ho group, when compared with the Se group. in addition, expression levels of tumor necrosis factor, interferon-γ, liver interleuk in (IL)1b and lung IL1a were reduced in the Ho group compared with the Se group. Furthermore, histopathological changes were observed in liver tissues of the Se group, including congestion of hepatoportal blood vessel and focal hepatic necrosis, while lung tissues showed marked edema, hemorrhage and alveolar septal thickening. The Ho group showed apparent normal hepatic parenchyma and slight interstitial pneumonia. Immunohistochemical staining of caspase-3 in liver and lung tissues showed no expression in the Sh group, strong expression in the Se group and moderate expression in the Ho group. in conclusion, HaE demonstrated beneficial effect against induced sepsis, which may be attributed to its antioxidant and antiapoptotic activities.

Keywords: Sepsis, Cecal Ligation and Puncture, Rats, Sea Cucumber, Gene Expression, Histopathology, Immunohistochemistry

B-48. Histopathological Biomarkers and Genotoxicity in Gill and Liver Tissues of Nile Tilapia Oreochromis Niloticus From A Polluted Part of The Nile River, Egypt

AA Baiomy

African Journal of Aquatic Science, 41(2): 181-191 (2016).806

Fish health is affected by water pollution. Oreochromis niloticus collected during summer 2014 from El-Serw, a polluted site on the Nile River, were compared with fish from a reference site, El-Zamalek. Histopathological changes were detected in gill and liver tissue samples using light and electron microscopy. in addition, the degree of DNA damage was measured using the comet assay. To indicate the severity of water pollution at the two sites, physico-chemical properties and heavy metal concentrations were investigated. Gill damage, including

lamellar cell hyperplasia and aneurysm, was observed in the fish samples from the polluted site. The livers of fish from the polluted area showed necrosis and an increase in melanomacrophage centres. Histochemical results confirmed a marked rise of gill mucopolysaccharides and a reduction of carbohydrate stored in hepatocytes. Electron microscopy revealed clear alterations in gill and liver tissue of fish from the polluted site. The comet assay showed highly significant DNA damage in tilapia collected from the polluted site, compared to those from the reference site. Histopathological biomarkers and the comet assay may therefore be sensitive indicators of exposure to mixtures of aquatic pollutants in Nile tilapia.
Keywords: Biomarkers, Comet Assay, Necrosis, Ultrastructure, Water Contamination

B-49. Diversity and Comparative Studies on Bulinus Snails Collected From Two Localities in Egypt

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Journal of Egyptian Society of Parasitology, 46 (3): 509-518 (2016)

A comparative study of the shell structure, seasonal temperature and Calcium content of Bulinus snails from two areas (Damietta and Giza) in Egypt was done and compared with laboratory snails from Schistosome Biological Supply Center (SBSC). The shells of collected snails identified as Bulinus truncatus, showed a wide variation in shape. The results showed a significant differences were detected between the populations from SBSC and Damietta ($p<0.05$) for mean of measured shell width, aperture length, length of spire and number of whorls. The populations from Giza and Damietta governorates showed significant differences ($P<0.05$) in mean of measured length of diagonal, length of body whorl above aperture, length of spire and number of whorls. There were no statically significant differences between the populations from SBSC and Giza. The seasonal temperature affected on susceptibility of snails to infection with Schistosoma haematobium. The mean prepatent period was short in summer and long in winter. The shells of S. haematobium – infected B. truncatus snails showed hypocalcification from all localities.
Keywords: Bulinus Truncatus, Schistosoma Haematobium, Shell Morphology, Seasonal Temperature, Susceptibility, Hypocalcification

B-50. Schistosoma-Specific 26 Kda Prote in For A Diagnosis of Acute and Chronic Schistosomiasis

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Journal of The Egyptian Society of Parasitology, 46: 309-318 (2016)

One of the world wide major public health problems is the schistosomiasis that is caused by Schistosoma (S.) heamatobium. It is also one of the ma in concerns for the public health community in Egypt. There are several immunodiagnostic methods used for that diagnosis of such disease, but some are more sensitive and specific than others. The purified 26 kDa Schistosoma-specific prote in (PSPA-26) detection in serum samples is found out to be more valuable in diagnosis; it also helps in the early diagnosis which will lead to the early treatment before the irreversible damage takes place. PSPA-26 was purified from whole worms by DEAE-Sephadex G-75 ion exchange chromatography and then was injected into rabbits to produce specific polyclonal antibodies (anti-PSPA-26 pAb) which were then used as a primary capture in the indirect ELISA technique to reveal its reactivity using infected human sera. The anti-PSPA-26 was then labeled with horse-radish peroxidase (HRP) and used as a secondary capture. Sandwich ELISA was done for serum samples of human and hamsters infected with S. heamatobium. The results revealed a sensitivity of 85% for human and 80% for hamster's samples, and a specificity of 95% for human and 91.1% for hamsters samples by comparing them with those infected with other parasites and control samples. Data obtained concluded that PSPA-26 antigen can be used as a diagnostic marker for S. haematobium infection using the sandwich ELISA which is cost effective and applicable technique.
Keywords: S. Haematobium, Pspa-26, Diagnosis, Elisa.

B-51. Sandwich-Elisa Development For The Diagnosis of Toxoplasma Gondii

Amal Mahfouz Abd Elreheim, Alyaa A. Farid, Noha A. Mahana, Ibrahium R. Bauiomy and Azza M. Elameer

Journal of The Egyptian Society of Parasitoleogy, 46: 429-440 (2016)

Toxoplasmosis is one of the most world-wide spread zoonosis representing a very serious clinical and veterinary problem. Although rare, congenital toxoplasmosis can cause severe neurological or ocular disease (leading to blindness) as well as cardiac and cerebral anomalies. Prenatal care must include education about prevention of toxoplasmosis. Thus, a standardized and approachable diagnostic tool for the serodiagnosis of toxoplasmosis is still needed. Serological tests are the most widely used biological tools for the diagnosis of toxoplasmosis worldwide. Sandwich-ELISA is a solid phase diagnostic method for detection of antigen or antibody that is used widely for diagnosis of protozoan and metazoan diseases of human and animals. in the present study, T. gondii SAG2 antigen was early detected in patient sera using Ssndwich-ELISA, PAb was prepared from anti-rabbit sera and used for coating and as conjugate in Sandwich-ELISA technique. 46 patients out of 50 were positive to Toxoplsama spp. with sensitivity and specificity 92% and 90%, respectively. The PPV was 90.2% and NPV was 83.3%. Finally, the result of our study showed that the Sandwich-ELISA designed in our study is easy to perform, not expensive, safe, and simple with good sensitivity and specificity.
Keywords: Egypt | Toxoplasma Gondii | Pab | Sandwich-Elisa | Sag2

B-52. Dot-Elisa As A Field Test For Hydatid Diagnosis

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Journal of The Egyptian Society of Parasitology, 46: 441-452 (2016)

Cystic hydatid disease (Hydatidosis) is one of the most important parasitic zoonoses and remains a public health and economic problem all over the world. Cyst fluid was obtained

from hepatic and pulmonary cysts for demonstration of protoscolices and hooklets. Therefore, a standardized and approachable diagnostic tool for the serodiagnosis of CE is still needed. Dot- ELISA is a solid phase diagnostic method for detection of antigen or antibody that is used widely for diagnosis of protozoan and metazoan diseases of human and animals. in the present study, E. granulosus protoscolex antigen was early detected in patient sera using Dot-ELISA, PAb was prepared from anti-rabbit sera and used for coating and as conjugate in Dot-ELISA technique.48 patients out of 50 were positive to E. spp. with sensitivity and specificity 96% and 94%, respectively. The PPV was 94% and NPV was 90%. Finally, the present results showed that the Dot-ELISA was easy to perform, not expensive, safe, and with good sensitivity and specificity.

Keywords: Egypt | Cystic Echinococcosis | Diagnosis | Dot-Elisa | Pab

Faculty of Agriculture

Dept. of Agricultural Botany

B-53. Influence of Selenium and Boron on Oil Production and Fatty Acids Composition of Canola (Brassica Napus L.) Plant Irrigated With Saline Water

E.M. Badawy, Eman E. Aziz, A.H. Hanafy Ahmed and Hend Fouad

International Journal of Pharmtech Research, 9: 420-431 (2016)

Abstract : Salinity is a major factor that influences rapeseed production. Canola is now the third most important source of edible oil in the world and has many uses in modern medicine. Selenium and boron are required by plants in small quantities that involve several physiological and biochemical processes in plants. The aim of this investigation was to evaluate the effect of selenium (0, 2 and 4 mg l-1 as sodium selenate) and boron (0, 2, and 4 mg l-1 as boric acid) on oil production and fatty acids composition of Brassica napus plants irrigated with saline water (0, 2.5, 5 and 7.5 dS m-1). Data revealed that salinity significantly decreased oil content of canola and the highest values (0.43 and 1.00 g plant- 1 in the 1st and 2nd seasons, respectively) were obtained from the lowest level of salinity (2.5 dS m-1) while increasing salinity up to 7.5 dS m-1 resulted in the minimum values of oil content (0.25). Plants irrigated with the lowest level of salinity (2.5 dS m-1) and sprayed with selenium at 4 mg l-1 and boron at 2 mg l-1 gave the highest oil content in the 2nd season (1.94 g plant-1). Gas Chromatography / Mass Spectrometry analysis pointed out that canola oil was characterized by containing a high relative concentration of unsaturated fatty acids. The major monounsaturated fatty acids was Oleic acid (46.2 - 75.6 %), followed by cis-11-Eicosenoic acid (1.4 - 11.5 %) and Erucic acid (0.8 - 10.8 %). Linoleic acid (11.2 - 24.8 %) was the ma in component of polyunsaturated fatty acids. Whereas the ma in saturated fatty acids were Palmitic acid (1.0 - 5.0 %) and Stearic acid (1.4 - 3.0 %). The highest relative concentrations of Oleic acid (63.3 and 64.4 %) were recorded with salinity at 2.5 and 5 dS m-1, respectively. While increasing salinity level up to 7.5 dS m-1 decreased Oleic acid (60.5%) and increased Linoleic acid (20.1%). Moreover, applying selenium at 2 mg l-1 and boron at 4 mg l-1 with plants irrigated with the lowest level of salinity 2.5 dS m-1 recorded the highest value of Oleic acid (75.6 %) and the lowest value of Linoleic acid (11.2 %), while increasing salinity up to 7.5 dS m-1 resulted in the maximum values of Linoleic acid (24.4%) and Palmitic acid (5.0%). The application of selenium at 4 mg l-1 and boron at 4 mg l-1 to plants irrigated with the lowest level of salinity (2.5 dS m-1) increased refractive index, specific gravity, saponification number, ester number and iodine number and decreased acid number. Canola oil has high antioxidant activity which gave the greatest value (82.5 %) with plants irrigated with the lowest level of salinity (2.5 dS m-1) and sprayed with selenium at 4 mg l-1 and boron at 2 mg l-1.

Keywords: Canola, Salinity, Selenium, Boron, Oil Production, Fatty Acids, Antioxidant Activity.

Dept. of Agricultural Microbiology

B-54. A New Isolation and Evaluation Method For Marine-Derived Yeast Spp. With Potential Applications in Industrial Biotechnology

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Journal of Microbiology and Biotechnology, 26: 1891-1907 (2016) IF: 1.685

Yeasts that are present in marine environments have evolved to survive hostile environments that are characterized by high exogenous salt content, high concentrations of inhibitory compounds, and low soluble carbon and nitrogen levels. Therefore, yeasts isolated from marine environments could have interesting characteristics for industrial applications. However, the application of marine yeast in research or industry is currently very limited owing to the lack of a suitable isolation method. Current methods for isolation suffer from fungal interference and/or low number of yeast isolates. in this paper, an efficient and nonlaborious isolation method has been developed and successfully isolated large numbers of yeasts without bacterial or fungal growth. The new method includes a three-cycle enrichment step followed by an isolation step and a confirmation step. Using this method, 116 marine yeast strains were isolated from 14 marine samples collected in the UK, Egypt, and the USA. These strains were further evaluated for the utilization of fermentable sugars (glucose, xylose, mannitol, and galactose) using a phenotypic microarray assay. Seventeen strains with higher sugar utilization capacity than the reference terrestrial yeast Saccharomyces cerevisiae NCYC 2592 were selected for identification by sequencing of the ITS and D1/D2 domains. These strains belonged to six species: S. cerevisiae, Candida tropicalis, Candida viswanathii, Wickerhamomyces anomalus, Candida glabrata, and Pichia kudriavzevii. The ability of these strains for improved sugar utilization using seawater-based media was confirmed and, therefore, they could potentially be utilized in fermentations using marine biomass in seawater media, particularly for the production of bioethanol and other biochemical products.

Keywords: Marine Yeast, Phenotypic Microarray, Identification, Screening, Fermentation, Seawater

Dept. of Animal Production

Dept. of Economic Entomology and Insecticides

B-55. Effect of Corn Pollens, As Supplemental Food, on Development and Reproduction of The Predatory Species, Hippodamia Variegata (Goeze) (Coleoptera: Coccinellidae)

Sayed Ashraf Gamal El d in El arnaouty and Samy Mahmoud Sayed Hamed

Egyptian Journal of Biological Pest Control, 26(3): 457-461 (2016).152

The variegated lady beetle, Hippodamia variegata predates different insect pests specially aphid species. The present study aimed to assess the effects of three various food sources on the biological and demographic parameters of H. variegata under controlled laboratory conditions. The tested food sources consisted of Aphis fabae as a natural prey, Ephestia kuehniella eggs and mixture of Ephestia eggs with corn pollen as a supplementary food. The results showed that both

supplementary food diets achieved a significant short preimaginal development times, long adult longevity and high fecundity of H. variegate than fed on A, fabae. in contrast, egg hatch, egg duration, survival rate, sex ratio, and postoviposition period were not significantly affected by different food sources. Moreover, adding of corn pollen with Ephestia eggs achieved the highest fecundity, highest intrinsic rate of increase (rm) and highest net reproductive rate (R0) of H. variegata. It could be concluded that the diet of Ephestia eggs plus corn pollen as a supplemental food improved the population growth of H. variegata, yielding higher reproductive rate and it could be improve the mass rearing of H. variegata under controlled laboratory conditions.

Keywords: Hippodamia Variegata, Corn Pollens, Development, Reproduction, Demographic Parameters

Dept. of Plant Pathology

B-56. Fungicidal and Fungistatic Activity of Some Plant Essential Oils Against Alternaria Solani The Causal of Tomato Early Blight

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Research Journal of Pharmaceutical, Biological and Chemical Sciences, 7: 998-1004 (2016)

The effects of essential oils from different plants were studied in vitro for fungicidal and fungistatic activity towards Alternaria solani the causal fungus of early blight disease of tomato. Complete inhibition of fungal growth caused by pepper mint, lemongrass, thyme and sweet basiloils at concentration of 2% followed by caraway, geranium and eucalyptus oils at concentration of 4%. Neem oil had a lesser effect in this concern that it could inhibit completely the fungal growth only at the highest concentration used of 6%.At concentrations of 4 and 6%,pepper mint, lemongrass and neem oils showed fungicidal effect. in contrast, caraway, thyme and eucalyptus oils showed fungistatic effect. Both geranium and sweet basil have fungistatic effect at concentration of 4% and turned to be fungicidal with increasing their concentration up to 6%.

Keywords: Alternaria Solani, Essential Oils, Early Blight, Tomato, Fungicide, Fungistatic.

Dept. of Soil Sciences

B-57. Occurrence and Abundance of Carbohydrates and Amino Compounds in Sequentially Extracted Labile Soil Organic Matter Fractions

Hamada M. Abdelrahman, *Dan* C. Olk, Dana Dinnes, Domenico Ventrella, Teodoro Miano and Claudio Cocozza

Journal of Soils and Sediments, 16: 2375-2384 (2016) IF: 2.208

Purpose The study aimed to describe the carbohydrates and amino compounds content in soil, the light fraction (LF), the >53 µm particulate organic matter (POM), and the mobile humic acid (MHA) fraction and to find out whether the carbohydrates and amino compounds can be used to expla in the orig in of SOM fractions. Materials and methods Soil samples were collected from two agricultural fields managed under organic farming in southern Italy. The LF, the POM, and the MHA were sequentially extracted from each soil sample then characterized. Seven neutral sugars and 19 amino compounds (amino acids and amino sugars) were determined in each soil sample and its correspondent fractions. Results and discussion The MHA contained less carbohydrate than the LF or the POM but its carbohydrates, although dominated by arabinose, were relatively with larger microbial contribution as revealed by the mannose/xylose ratio. The amino compounds were generally less in the LF or the POM than in the MHA, while the fungal (aspartic and serine) and bacterial (alanine and glycine) amino acids were larger in the MHA than in the LF or the POM, underlining the microbial contribution to the MHA. Results from both sites indicated that total carbohydrates content decreased moving from the LF (younger fraction) to the MHA (older fraction), which seems to follow a decomposition continuum of organic matter in the soil-plant system. Conclusions The study showed that the MHA is a labile humified fraction of soil C due to its content of carbohydrates and concluded that the content of carbohydrates and amino compounds in the LF, the POM and the MHA can depict the nature of these fractions and their cycling pattern and response to land management.

Keywords: Light Fraction; Mobile Humic Acid; Organic Farming; Particulate Organic Matter; Som Sequential Extraction

Faculty of Veterinary Medicine

Dept. of Fish Diseases and Management

B-58. Future Prospects of Biosecurity Strategies in Egyptian Fish Farms

Alaa Eld in Eissa, Mohamed Moustafa, Abdulsalam Abumhara and Mohamed Hosni

Journal of Fisheries and Aquatic Science, 11: 100-107 (2016)

Earthen pond rearing system is the most prevalent type of aquaculture facilities in Egypt due to low construction costs. Such facilities are characterized by open nature which allows large numbers of imposing factors to interact with cultured fishes during the production cycle. Aquatic invasive species (i.e., red swamp cray fish: Procambrus clarkii), migratory birds, wild amphibians and reptiles are staggering examples for such interacting factors, which impose severe deleterious impacts on the fish production cycle. The active nature and vast distribution of these species will ultimately violate the rearing regime of the fish farming facility through the establishment, proliferation and spread of pathogens by mechanical, biological and direct infectious routes. Further, the wet nature of aquaculture operations, frequent introduction of new broodstocks, fish meal, reuse of agricultural drainage water and faulty use of animal manure as well as movement of fish from different localities offers a multitude of opportunities for pathogen entry to fish farming operations. Once introduced, pathogens can easily proliferate with in the systems leading to potent disease issues, sometimes leading to a complete collapse in production, or more intermittent outbreaks affecting output reliability. Therefore, this study is designated to examine the key role played by invasive species, vectors and reservoirs responsible for pathogen introduction into fish farms. Moreover, the essential needs were discussed for development of practical methods to limit pathogen introduction, spread and proliferation at any level of fish production cycle parallel with the adoption of Good Aquaculture Practice (GAP) and Hazard Analysis and Critical Control Points (HACCP) in Egyptian fish farms.

Keywords: Biosecurity, Invasive Species, Earthen Pond Aquaculture, Haccp, Crayfish

B-59. Hydatid Cyst "Echinococcus Granulosus" in Some Wildlife Herbivores At Tripoli Safari Park, Libya

Mohamed M. Hosni, Abdulhakim A. El Maghrbi and Alaa E. Eissa

Research Journal of Parasitology, 11: 55-60 (2016)

Mohamed M. Hosni, Abdulhakim A. El Maghrbi and Alaa E. Eissa Abstract: Background: Hydatidosis is one of the world's major zoonotic diseases caused by larval stages of Echinococcus granulosus. in North Africa, the disease is moderately endemic and associated with economic losses and public health problems. Methodology: The present study was conducted at Tripoli Safari park through the period from 2001-2004 to determine the infection rate of hydatidosis in some wildlife herbivorous species. A total of 79 wild herbivores were examined for hydatid cyst infection. The overall infection rate with hydatid cyst of examined animals was 23/79 (29.2%), 3/7 (42.9%) in Addax, (Addax nasomaculatus), 4/17 (23.5%) dorcas gazelle (Gazella dorcas), 4/14 (28.6%) barbary sheep (Ammortagus lervia), 5/12 (41.7%) mouflon (Ovis musimon) and 7/29 (24.6%) fallow deer (Dama dama). The organs distribution of hydatid cyst in infected animals was 11 (47.8%) in lung, 5 (21.7%) in liver and 7 (30.4%) in both lung and liver. Results: Cyst fertility examination of a total of 249 hydatid cyst recovered from infected animals indicated that 168 (68.3%) was fertile cyst, 47 (19.1%) and 31 (12.6%) were sterile and calcified cysts, respectively. Out of 168 fertile cysts tested for viability 43 (25.6%) were viable. Conclusion: Conclusively, the present data represents the first large scale report on the occurrence of hydatidosis in wild herbivores at North Africa.

Keywords: Hydatid Cyst, Echinococcus Granulosus, Wildlife Herbivores, Addax, Dorcas Gazelle

Dept. of Food Hygeine and Control

B-60. Spatial and Temporal Distribution of Escherichia Coli on Beef Trimmings Obtained From A Beef Packing Plant

Jeyachchandran Visvalingam, Hui Wang, Mohamed K. Youssef, Julia Devos, Col in O. Gill, and Xianq in Yang

Journal of Food Protection, 79: 1325-1331 (2016) IF: 1.417

The objective of this study was to determine the immediate source of Escherichia coli on beef trimmings produced at a large packing plant by analyzing the E. coli on trimmings at various locations of a combo b in filled on the same day and of bins filled on different days. Ten 2,000-lb (907-kg) combo bins (B1 through B10) of trimmings were obtained from a large plant on 6 days over a period of 5 weeks. Th in slices of beef with a total area of approximately 100 cm2 were excised from five locations (four corners and the center) at each of four levels of the bins: the top surface and 30, 60, and 90 cm below the top. The samples were enriched for E. coli in modified tryptone soya broth supplemented with 20 mg/liter novobiocin. The positive enrichment cultures, as determined by PCR, were plated on E. coli/coliform count plates for recovery of E. coli. Selected E. coli isolates were genotyped using multiple-locus variable-number tandem repeat analysis (MLVA). of the 200 enrichment cultures, 43 were positive by PCR for E. coli, and 32 of these cultures yielded E. coli isolates. Two bins did not yield any positive enrichment cultures, and three PCR-positive bins did not yield any E. coli isolates. MLVA of 165 E. coli isolates (30, 62, 56, 5, and 12 from B6 through B10, respectively) revealed nine distinct genotypes. MLVA types 263 and 89 were most prevalent overall and on individual days, accounting for 49.1 and 37.6% of the total isolates, respectively. These two genotypes were also found at multiple locations with in a bin. All nine genotypes belonged to the phylogenetic group A0 of E. coli, suggesting an animal origin. The finding that the trimmings carried very few E. coli indicates an overall effective control over contamination of beef with E. coli at this processing plant. The lack of stra in diversity of the E. coli on trimmings suggests that most E. coli isolates may have come from common sources, most likely equipment used in the fabrication process.

Keywords: Beef Trimmings, Escherichia Coli, Genetic Diversity, Multiple-Locus Variable-Number Tandem Repeat Analysis

B-61. Effects of Dry Chilling on The Microflora on Beef Carcasses At A Canadian Beef Packing Plant

Y. Liu, M. K. Youssef, and X. Yang

Journal of Food Protection, 79: 538-543 (2016) IF: 1.417

The aim of this study was to determine the course of effects on the microflora on beef carcasses of a commercial dry chilling process in which carcasses were dry chilled for 3 days. Groups of 25 carcasses selected at random were sampled when the chilling process commenced and after the carcasses were chilled for 1, 2, 4, 6, 8, 24, and 67 h for determination of the numbers of aerobes, coliforms, and Escherichia coli. The temperatures of the surfaces and the thickest part of the hip (deep leg) of carcasses, as well as the ambient air conditions, including air temperature, velocity, and relative humidity (RH), were monitored throughout the chilling process. The chiller was operated at 0°C with an off-coil RH of 88%. The air velocity was 1.65 m/s when the chiller was loaded. The initial RH levels of the air in the vicinity of carcasses varied with the locations of carcasses in the chiller and decreased rapidly during the first hour of chilling. The average times for shoulder surfaces, rump surfaces, and the deep leg of carcasses to reach 7°C were 13.6 ± 3.1, 16.0 ± 2.4 and 32.4 ± 3.2 h, respectively. The numbers of aerobes, coliforms, and E. coli on carcasses before chilling were 5.33 ± 0.42, 1.95 ± 0.77, 1.42 ± 0.78 log CFU/4,000 cm2, respectively. The number of aerobes on carcasses was reduced by 1 log unit each in the first hour of chilling and in the subsequent 23 h of chilling. There was no significant difference ($P > 0.05$) between the numbers of aerobes recovered from carcasses after 24 and 67 h of chilling. The total numbers (log CFU/100,000 cm2) on carcasses before chilling and after the first hour of chilling were 3.86 and 2.24 for coliforms and 3.30 and 2.04 for E. coli. The subsequent 23 h of chilling reduced the numbers of both groups of organisms by a further log unit. No coliforms or E. coli were recovered after 67 h of chilling. The findings show

Keywords: Aerobes, Air Velocity, Coliforms, Dry Chilling, Escherichia Coli, Relative Humidity

Dept. of Microbiology

B-62. Gold Nanorods As Drug Delivery Vehicles For Rifampic in Greatly Improve The Efficacy of Combating Mycobacterium Tuberculosis With Good Biocompatibility With The Host Cells.

Hala R. Ali, Moustafa R.K. Ali, Yue Wu, Salah A. Selim, Hazem F. M. Abdelaal, Essam A. Nasr, and Mostafa A. El-Sayed

Bioconjugate Chemistry, 27 (10): 2486-2492 (2016) IF: 4.818

TB remains a challenging disease to control worldwide. Nanoparticles have been used as drug carriers to deliver high concentrations of antibiotics directly to the site of infection, reducing the duration of treatment along with any side effects of off-target toxicities after systemic exposure to the antibiotics. Here in we have developed a drug delivery platform where gold nanorods (AuNRs) are conjugated to rifampic in (RF), which is released after uptake into macrophage cells (RAW264.7). Due to the nature of the macrophage cells, the nanoparticles are actively internalized into macrophages and release RF after uptake, under the safety frame of the host cells (macrophage). AuNRs without RF conjugation exhibit obvious antimicrobial activity. Therefore, AuNRs could be a promising antimycobacterial agent and an effective delivery vehicle for the antituberculosis drug Rifampic in for use in tuberculosis therapy.

Keywords: Gold Nanorods, Drug Delivery, Rifampicin, Mycobacterium Tuberculosis

B-63. Treatment of Natural Mammary Gland Tumors in Canines and Felines Using Gold Nanorods-Assisted Plasmonic Photothermal Therapy To Induce Tumor Apoptosis.

Moustafa R K Ali, Ibrahim M Ibrahim,, Hala R Ali, Salah A Selim, and Mostafa A El-Sayed

International Journal of Nanomedicine, 11: 4849-4863 (2016) IF: 4.3

Plasmonic photothermal therapy (PPTT) is a cancer therapy in which gold nanorods are injected at the site of a tumor before near-infrared light is transiently applied to the tumor causing localized cell death. Previously, PPTT studies have been carried out on xenograft mice models. Herein, we report a study showing the feasibility of PPTT as applied to natural tumors in the mammary glands of dogs and cats, which more realistically represent their human equivalents at the molecular level. We optimized a regime of three low PPTT doses at 2-week intervals that ablated tumors mainly via apoptosis in 13 natural mammary gland tumors from seven animals. Histopathology, X-ray, blood profiles, and comprehensive examinations were used for both the diagnosis and the evaluation of tumor statuses before and after treatment. Histopathology results showed an obvious reduction in the cancer grade shortly after the first treatment and a complete regression after the third treatment. Blood tests showed no obvious change in liver and kidney functions. Similarly, X-ray diffraction showed no metastasis after 1 year of treatment. in conclusion, our study suggests the feasibility of applying the gold nanorods-PPTT on natural tumors in dogs and cats without any relapse or toxicity effects after 1 year of treatment.

Keywords: Gold Nanorods, Natural Mammary Tumors, Plasmonic Photothermal Therapy, Canine, Feline

B-64. Immunological Characterization of Diphtheria Tox in Recovered From Corynebacterium

Salha Abdelkareem Selim, Farida Hessa in Mohamed, Ashgan Mohamed Hessain, and Ihab Mohamed Moussa

Saudi Journal of Biological Sciences, 23: 282-287 (2016) IF: 2.564

Diphtheria tox in (DT) is a potent tox in produced by the so-called diphtheria group which includes Corynebacterium diphtheriae (C. diphtheriae), Corynebacterium ulcerans (C. ulcerans), and Corynebacterium pseudotuberculosis (C. pseudotuberculosis). The present investigation is aimed to study in detail the production of DT by C. pseudotuberculosis. Twenty isolates were obtained from sheep diseased with caseous lymphadenitis (CLA) and twenty-six isolates were obtained from 26 buffaloes diseased with oedematous sk in disease (OSD). All isolates were identified by standard microbiological and DT production was assayed serologically by modified Elek test and immunoblotting. All sheep isolates were nitrate negative, failed to hydrolyze starch and could not produce DT, while all buffalo isolates (biotype II) revealed positive results and a specific band of 62 kDa, specific to DT, was resulted in all concentrated cell

fractions (CF), but was absent from non-toxigenic biotype I isolates. At the same time, another band of 31 kDa specific to the PLD gene was obtained with all isolates of biotype I and II. Moreover, all isolates showed positive synergistic hemolytic activity and antagonistic hemolysis with β-hemolytic Staphylococci. The obtained results also indicated that C. pseudotuberculosis could be classified into two strains; non-toxigenic biotype I strain, which failed to produce DT as well as being negative to nitrate and starch hydrolysis, and toxigenic biotype II strain, which can reduce nitrate, hydrolyze starch as well as produce DT.

Keywords: C. Pseudotuberculosis; Diphtheria Toxin; Immuno-Blotting Technique; Immunological Characterization; Modified Elek Test

B-65. Vaccination Against Corynebacterium Pseudotuberculosis Infections Controlling Caseous Lymphadenitis (Cla) and Oedematoussk in Disease

Ihab M. Moussa, Mohamed S. Ali, Ashgan M. Hessain, Saleh A. Kabli, Hassan A. Hemeg, and Salha Abdelkareem Selim

Saudi Journal of Biological Sciences, 23(6): 718-723 (2016) IF: 2.564

Corynebacterium pseudotuberculosis (C. pseudotuberculosis) is a causative organism of caseous lymphadenitis (CLA) in sheep and acute disease in buffaloes known as oedematous sk in disease (OSD). Human affected with the disease show liver abscess and abscess in the internal lymph nodes. The vaccination against CLA up till now occurs by using formal in inactivated whole cells of biovar 1 (sheep strain). Combined vaccine composed of formal in inactivated whole cells of sheep stra in and recombinant phospholipase D (rPLD) and another vaccine composed of formal in inactivated whole cells (buffalo origin) and rPLD were prepared in Biotechnology center for services and Researches laboratory at Cairo university and applied for protection against CLA. Both vaccines induced complete protection (100%) against challenge with virulent biovar 1 or biovar 2. Also vaccination against OSD was performed by two types of vaccines. Vaccine-1 was composed of formal in inactivated whole cell biovar 1 combined with rPLD and the second vaccine was composed of formal in inactivated whole cells of biovar 2 combined with rPLD. No lesions developed in vaccinated and non vaccinated buffaloes challenged with C. pseudotuberculosis biovar revealing that biovar 1 C. pseudotuberculosis is not infective for buffaloes. Buffaloes vaccinated with the second vaccine and control non vaccinated animals challenged with biovar 2 (buffalo origin) resulted in development of OSD in all animals. This indicates that OSD results due to production of tox in (s) other than PLD. Discovering this tox in (s) is of value in formulation of a future vaccine against OSD.

Keywords: Corynebacterium Pseudotuberculosis, Caseous Lymphadenitis, Oedematous Sk in Disease, Vaccination, Recombinant Phospholipase D

B-66. Rapid Detection of Clostridium Perfringens in Seafood

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Advances in Environmental Biology, 10: 174-181 (2016)

C perfringens is one of the most widely spread pathogens in the environment and an important cause of food poisoning. Seafood is a poor vehicle of C. perfringens food transmission. The enterotoxigenic strains are a common cause of food poisoning outbreaks worldwide. The symptoms, predominantly diarrhea and abdominal pain, appear 6 to 24 h after ingestion of contaminated food. Vomiting and fever are unusual. Objective: The objective of this work to study the prevalence of C.perfringens in seafood samples [Finfish (Salmon and Tilapia), Crustaceans (Shrimp and Crab) and Molluscs (Calm)], through isolation, identification and rapid detection of their toxins and cpe genes in seafood samples by Conventional PCR and SYBR Green real time PCR. Results: one hundred and fifty seafood samples [Finfish (Salmon and Tilapia), Crustaceans (Shrimp and Crab) and Molluscs (Calm)] collected from different supermarkets in El Dakahlya Governorate, Egypt. Culturing, identification and serotyping of the isolates showed that C.perfringens isolates were detected with an incidence of 13%. The prevalence of C.perfringens in the exanimated samples in Tilapia, Shrimp, Crab and Calm were 10%, 36.6 %, 13.3% and 6.6%, respectively. While C.perfringens was not recorded in salmon at all. Twenty seafood samples were identified as C.perfringens type "A" (alpha toxin) by using Multiplex PCR and these were tested by uniplex PCR and SYBR Green real time PCR for cpe gene detection, results showed the positive results for cpe gene were 15% and 20% respectively. Conclusion: Good hygienic conditions, prevent the cross contamination of C.perfringens from environment to raw seafood. SYBR Green real time PCR more sensitive, qualitative and quantitative to rapidly detection C.perfringens and their toxins directly from seafood.

Keywords: Seafood, Clostridium Perfringens, Toxins, Enterotoxin, Conventional Pcr, Syber Green Real Time Pcr.

B-67. Genotyping Characterization of Salmonella Egyptian Isolates With Special Reference To Drug Resistance Genes

Nashwa A. Ezzeldeen, Mohamed A. Abdelmonem, Ahmed Samir and Alaa A. Elgabaly

Advances in Environmental Biology, 10: 8-18 (2016)

Salmonella strains rema in a major public health problem of animals and human. Salmonellosis is one of the most common causes of food-borne disease worldwide. Most infections are zoonotic and are transmitted from food animals to humans through the ingestion of contaminated food. Objective: The present investigation was carried out to evaluate the prevalence of resistance genes in drug resistant salmonella isolates and the identity between salmonella isolates from different siurces. Results: Seventy six out of 500 samples from herbs, water, fish, shrimps and different types of meat were found to be positive to salmonella with a percentage of 15.2%. Salmonella Typhmurium, Salmonella Enteritidis and Salmonella Gallinarum were the most prevalence serotype among the recovered isolates with percentages of 28.94%, 19.73% and 17.1%,

respectively.The result of antibiotics sensitivity indicated that the recovered Salmonella isolates were highly resistant to ampicillin, amikacin, gentamicin, penicill in and amoxicill in (100%) followed by ciprofloxacin, amoxicillin/clavulanic acid and norfloxac in with percentages of 80%, 67% and 63, respectively. 68% of the isolates were intermediately sensitive to sulphtriamethoprim. PCR was designed to detect blaTEM (β-lactamases), TetA (A) (Tetracyclines), floR (chloramphenicol), gyrA and Sul1 (Sulphonamides) genes in Salmonella resistant isolates. Testing for the resistance genes using PCR showed that 100% of the tested isolates were positive with gyrA, Sul1and TetA (A) gene, while 86% of the tested isolates were positive with floR gene and finally 59% of the tested isolates were positive with blaTEM gene. in the present study, variety of Salmonella serogroups from different origins were sequenced to detect the genetic differences among such isolates. The results showed genetic variations ranged from 87.5 to 99% among the recovered isolates. Conclusion: Antimicrobial resistant bacteria and their resistance determinants are considered hazards in antimicrobial resistance risk assessment; therefore, the information obtained could be used as part of risk analysis of the distribution and development of antimicrobial resistance.

Keywords: Salmonella, Serotypes, Drug Resistance, Gene Detection, Sequencing, Food, Water

Dept. of Poultry Diseases

B-68. Full Genome Sequence Analysis of A Newly Emerged Qx-Like Infectious Bronchitis Virus From Sudan Reveals Distinct Spots of Recombination

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Infection, Genetics and Evolution, 46: 42-49 (2016) IF: 2.885

Infectious bronchitis virus (IBV) infection continues to cause economically important diseases in poultry while different geno- and serotypes continue to circulate globally. Two infectious bronchitis viruses (IBV) were isolated from chickens with respiratory disease in Sudan. Sequence analysis of the hypervariable regions of the S1 gene revealed a close relation to the QX-like genotype which has not been detected in Sudan before. Whole genome analysis of IBV/Ck/Sudan/AR251–15/2014 isolate by next generation sequencing revealed a genome size of 27,646 nucleotides harbouring 13 open reading frames: 5′-1a-1b-S-3a-3b-E-M-4b-4c-5a-5b-N-6b-3′. Highest nucleotide sequence identity of 93% for the whole genome was found with the Chinese IBV stra in Ck/CH/LHLJ/140906, the Italian IBV isolate ITA/90254/2005 and the 4/91 vaccine strain. Phylogenetic analysis of the S1 gene revealed that the IBV/Ck/Sudan/AR251–15/2014 isolate clustered together with viruses of the GI-19 lineage. Recombination analysis gave evidence for distinct patterns of orig in of RNA in the Sudanese isolate in multiple genes. Several sites of recombination were scattered throughout the genome suggesting that the Sudan-QX-like stra in emerged as a unique recombinant from multiple recombination events of parental viruses from 4/91, H120 and ITA/90254/2005 genotypes. The Sudanese QX-like isolate is plausibly genetically different from IBV strains previously reported in Africa and elsewhere.

Keywords: Infectious Bronchitis Virus, Qx-Like, Whole Genome, Sudan, Recombination

B-69. Experimental Infection of Chickens By A Flagellated Motile Stra in of Salmonella Enterica Serovar Gallinarum Biovar Gallinarum

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The Veterinary Journal, 214: 40-46 (2016) IF: 1.802

Salmonella enterica subsp. enterica serovar Gallinarum biovar Gallinarum (SG) causes fowl typhoid (FT), a septicaemic disease which can result in high mortality in poultry flocks. The absence of flagella in SG is thought to favour systemic invasion, since bacterial recognition via Toll-like receptor (TLR)-5 does not take place during the early stages of FT. in the present study, chicks susceptible to FT were inoculated with a wild type SG (SG) or its flagellated motile derivative (SG Fla+). in experiment 1, mortality and clinical signs were assessed, whereas in experiment 2, gross pathology, histopathology, systemic invasion and immune responses were evaluated. SG Fla+ infection resulted in later development of clinical signs, lower mortality, lower bacterial numbers in the liver and spleen, and less severe pathological changes compared to SG. The CD8+ T lymphocyte population was higher in the livers of chicks infected with SG at 4 days post-inoculation (dpi). Chicks infected with SG had increased expression of interleuk in (IL)-6 mRNA in the caecal tonsil at 1 dpi and increased expression of IL-18 mRNA in the spleen at 4 dpi. in contrast, the CD4+ T lymphocyte population was higher at 6 dpi in the livers of birds infected with SG Fla+. Therefore, flagella appeared to modulate the chicken immune response towards a CD4+ T profile, resulting in more efficient bacterial clearance from systemic sites and milder infection.

Keywords: Domestic Fowl, Fowl Typhoid, Salmonella Enterica Biovar Gallinarum, Pathogenicity, Immune Response

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E-70. Observer-Based Controller For Constrained Uncertain Stochastic Nonlinear Discrete-Time Systems

Mohamed F. Hassan, Muthana T. Alrifai, Hisham M. Soliman, and Mohammed A. Kourah

International Journal of Robust and Nonlinear Control, 26: 2090-2115 (2016) IF: 2.527

In this paper, an observer-based control approach is proposed for uncertain stochastic nonlinear discrete-time systems with input constraints. The widely used extended Kalman filter (EKF) is well known to be inadequate for estimating the states of uncertain nonlinear dynamical systems with strong nonlinearities especially if the time horizon of the estimation process is relatively long. Instead, a modified version of the EKF with improved stability and robustness is proposed for estimating the states of such systems. A constrained observer-based controller is then developed using the state-dependent Riccati equation approach. Rigorous analysis of the stability of the developed stochastically controlled system is presented. The developed approach is applied to control the performance of a synchronous generator connected to an infinite bus and chaos in permanent magnet synchronous motor. Simulation results of the synchronous generator show that the estimated states resulting from the proposed estimator are stable, whereas those resulting from the EKF diverge. Moreover, satisfactory performance is achieved by applying the developed observer-based control strategy on the two practical problems.

Keywords: Nonlinear Discrete-Time Systems; Extended Kalman Filter; Stochastic Control; State-Dependent Riccati Equation; Stability; Power Systems

E-71. Saturated Robust Control With Regional Pole Placement and Application To Car Active Suspension

Hisham M Soliman, Abdellah Benzaouia, and Hassan Yousef

Journal of Vibration and Control, 22: 258-269 (2016) IF: 1.643

In this paper a new saturated control design for uncertain systems is proposed. The developed saturated control scheme is based on linear matrix inequality (LMI) optimization to achieve prescribed dynamic performance measures e.g., settling time and damping ratio. in this design, the closed-loop poles are forced to lie within a desired region. The proposed design provides robustness against system uncertainties. The existence of the saturated robust control with regional pole placement is shown using LMI and Lyapunov function analysis. Simulation results of two illustrative examples are given to validate the effectiveness of the proposed controllers. Application to car active suspension to achieve comfortable dynamic performance by pole placement and avoiding actuator saturation is also considered.

Keywords: Saturated Control, Robust Control, Guaranteed Cost Control, Regional Pole Placement, Linear Matrix Inequality (Lmi), Active Suspensions

E-72. Regional Pole Placement With Saturated Control For Dc-Dc Buck Converter Through Hardware-in-The-Loop

Abdellah Benzaouia, HishamM. Soliman, and Ashraf Saleem

Transactions of The Institute of Measurement and Control, 38: 1041-1052 (2016) IF: 0.82

In this paper, the problem of robust stability and tracking of saturated control systems for buck DC-DC converters is considered. Linear Matrix Inequalities (LMIs) are used to insert the constraints in the design phase while imposing positivity in the closed-loop state. The control objective is to design a control law for the converter that limit duty ratio between 0 and 1. This will allow the system to switch between two topologies in the continuous conduction mode (CCM), to achieve a tracking reference condition. This has been developed using uncertain saturated control and regional pole placement techniques. The proposed controller is applied to a real DC-DC buck converter through a Hardware-In-the-Loop (HIL) test system. Experimental and simulation results show the effectiveness and the success of the proposed controller in tracking a reference voltage with limiting the duty ratio between 0 and 1. Results also show that the proposed controller performed better than the conventional one.

Keywords: Buck Converter, Hil Simulation, Lmi, Pole Placement, Saturated Systems, Uncertain Systems

E-73. Resilient Observer-Based Power System Stabilizers

Hisham M Soliman

Transactions of The Institute of Measurement and Control, 38: 981-991 (2016) IF: 0.82

With the development of power system interconnection, low-frequency oscillation is becoming more and more prominent, and may cause instability of power systems. in this paper, two sources of uncertainty are modelled: plant and controller uncertainties. The non-linear dynamics of power systems under wide load variations are represented by a linear model with uncertainty in the form of a norm-bounded structure. The controller uncertainty resulting from resistor tolerance used in practical implementation is also represented by a norm-bounded model. This paper presents the design of resilient power system stabilizers (PSSs). The proposed PSS keeps stability against plant uncertainty and controller gain errors in the form of a linear matrix inequality (LMI)-sufficient condition. in addition to robust stability, the PSS design achieves regional pole placement to control the settling time and damping ratio, and consequently achieves good dynamic performance. The simulation shows that the proposed PSS design is efficient using the power system model and can drastically improve the dynamic performance of a single machine and a multi-machine power system.

Keywords: Linear Matrix Inequality, Power System Stabilizer, Regional Pole Placement, Resilient Dynamic Output Feedback, Robust Control

E-74. Wide-Range Reliable Stabilization of Time-Delayed Power Systems

Hisham M. Soliman, Abdellah B|enzaouia and Hassan Yousef

Turkish Journal of Electrical Engineering and Computer Sciences, 24: 2853-2864 (2016) IF: 0.518

Steam valve control is usually discarded in power system stability due to belief in its slow response. The present manuscript makes use of it as a backup control in the case of failure of the main fast excitation control. The model describing system dynamics as a function of the two controllers, with wide range loading conditions, is derived in a norm-bounded format. Linear matrix inequalities are derived as a sufficient condition to obtain reliable controllers that provide good oscillation damping when both controllers are sound or even in the case of failure of either one. The design scheme is robust in the sense that it keeps reliable stability against wide load changes as well. A single machine infinite bus system is presented to illustrate the proposed design procedure and exhibit its performance. Results of excitation and governor controller testing show that the desired performance could be fulfilled from light load to heavy load conditions. System performance shows a remarkable improvement of dynamic stability by obtaining a well-damped oscillation time response even in the case of failure of either controller. Extension of the proposed controller to multiarea load-frequency control with time delay is also presented. Key
Keywords: Power System Stability, Excitation Control, Steam Valve Control, Linear Matrix Inequalities, Robust Control, Reliable Control, Time-Delay Systems, Load-Frequency Control 1.

E-75. Development of Distributed LFC Controllers Using Adaptive Wieghted PSO Algorithm

Rania Helmy Mansour Hennas, Magdy A.S. Aboelela, and Hassen T. Dorrah

Journal of Electrical Engineering, 16: 1-6 (2016)

This paper focuses on the application of PI/PID controller tuned with Adaptive Weighted Particle Swarm Optimization (AWPSO) algorithm on the load frequency control of power systems. This effect will be studied for two areas power systems with multiple thermal energy resources and a stand alone gas turbine system. A load deviation of different values is assumed in both areas. The retain of the working frequency within a reasonable short time is the main function of the well tuned PI/PID controller. A Matlab/Simuling model with practical system parameters has been designed in order to show the outcomes of this research work. The results show the ability of the proposed technique to keep the frequency in its permissible range even with the presence of load changes in both areas.
Keywords: Awpso, Load Frequency Control, Thermal Power Station, Gas Power Station, PID Controllers, and Matlab/Simulink

E-76. Constrained Digital Regional Pole Placer For Vehicle Active Suspension

Hisham M. Soliman, and Rashid Al-Abri

International Journal of Control Theory and Applications, 9: 371-388 (2016)

This paper presents a new nonlinear controller design method for regional pole placement of uncertain discrete- time systems. The constraint of control input saturation is considered in the design. A sufficient condition is derived for the robust stabilization and the desired dynamic performance represented by the settling time and damping ratio.The design is formulated in terms of linear matrix inequality (LMI) optimization. The effectiveness of the proposed design is illustrated by two examples. The first one is hard disk drives, whose uncertainty is modeled by a norm-bounded form. The resulting controller does not violate the limits, and the second example is on regional pole placement for an uncertain system with and without control saturation. Application to vehicle active suspension to achieve comfortable dynamic performance by pole placement and avoiding actuator saturation is also considered. The results are compared with passive suspension system. Key
Keywords: Constrained Control, Pole Placement, Linear Matrix Inequality (Lmi) Optimization, Hard Disk Drives, Vehicle Active Suspension

E-77. Design of Observer-Based Robust Power System Stabilizers

Hisham M. Soliman and Mahmoud Soliman

International Journal of Electrical and Computer Engineering (Ijece), 6: 1956-1966 (2016)

Power systems are subject to undesirable small oscillations that might grow to cause system shutdown and consequently great loss of national economy. The present manuscript proposes two designs for observer-based robust power system stabilizer (PSS) using Linear Matrix Inequality (LMI) approach to damp such oscillations. A model to describe power system dynamics for different loads is derived in the norm-bounded form. The first controller design is based on the derived model to achieve robust stability against load variation. The design is based on a new Bilinear matrix inequality (BMI) condition. The BMI optimization is solved interatively in terms of Linear Matrix Inequality (LMI) framework. The condition contains a symmetric positive definite full matrix to be obtained, rather than the commonly used block diagonal form. The difficulty in finding a feasible solution is thus alleviated. The resulting LMI is of small size, easy to solve. The second PSS design shifts the closed loop poles in a desired region so as to achieve a favorite settling time and damping ratio via a non-iterative solution to a set of LMIs. The approach provides a systematic way to design a robust output feedback PSS which guarantees good dynamic performance for different loads. Simulation results based on single-machine and multi-machine power system models verify the ability of the proposed PSS to satisfy control objectives for a wide range of load conditions.
Keywords: Bilinear Matrix Inequality; Linear Matrix Inequality

Dept. of Electronics and Communication Engineering

E-78. General Expressions For Downlink Signal To Interference and Noise Ratio in Homogeneous and Heterogeneous Lte-Advanced Networks

Nora A. Ali , Hebat-Allah M. Mourad, Hany M. ElSayed, Magdy El-Soudani, Hassanein H. Amer and Ramez M. Daoud

Journal of Advanced Research, 7: 923-929 (2016) IF: 1.665

The interference is the most important problem in LTE or LTE-Advanced networks. in this paper, the interference was investigated in terms of the downlink signal to interference and noise ratio (SINR). in order to compare the different frequency reuse methods that were developed to enhance the SINR, it would be helpful to have a generalized expression to study the performance of the different methods. Therefore, this paper introduces general expressions for the SINR in homogeneous and in heterogeneous networks. in homogeneous networks, the expression was applied for the most common types of frequency reuse techniques: soft frequency reuse (SFR) and fractional frequency reuse (FFR). The expression was examined by comparing it with previously developed ones in the literature and the comparison showed that the expression is valid for any type of frequency reuse scheme and any network topology. Furthermore, the expression was extended to include the heterogeneous network; the expression includes the problem of co-tier and cross-tier interference in heterogeneous networks (HetNet) and it was examined by the same method of the homogeneous one.

Keywords: Lte-Advanced, Signal To Interference and Noise Ratio (Sinr), Fractional Frequency Reuse (Ffr)

E-79. Multivariable Online Adaptive Pid Controller For Plasma Current, Shape, and Position in Tokamaks

Rania A. Fahmy, Ragia I. Badr and Farouk A. Rahman

Journal of Fusion Energy, 35: 831-840 (2016)

Nuclear fusion is one of the newest and most promising clean and safe energies hence, it imposes a new research area of control. in this paper, the design of a multivariable adaptive proportional-integral-derivative (PID) controller for the control of the plasma current, shape and position to ensure the safe operation of the fusion reactor is successfully developed. The recursive least square algorithm is used in an alternative way as an adaptation mechanism for tuning PID controller gains. Since stability is a vital issue in the evaluation of control systems, therefore stability analysis of the proposed controller is developed using the Lyapunov stability theory. The main objective of plasma current, shape and position controller in fusion reactors is to improve the stability and the performance of tokamak magnetic systems without contravening the limits imposed by the actuating coils voltages physical limitations. The proposed APID (adaptive PID) controller tunes online its parameters to cope with the presence of the disturbance or any parameters changes occur during the operation. The results of the proposed APID on a simulation code of a tokamak show a noteworthy improvement with respect to those obtained with other control techniques in the cases of changing the initial controller gains, adding disturbance signal and variation in the reactor model parameters.

Keywords: Fusion Reactors, Tokamak, Multivariable Adaptive Control, Pid, Rls

E-80. Optimal Design of Multivariable Controller For Nonlinear Systems Using Variable Population Artificial Bee Colony Algorithm

Nasr A. Elkhateeb and Ragia Badr

Wseas Transactions on Systems and Control, 11: 12-19 (2016)

Artificial bee colony algorithms belong to the paradigm of bio-inspired, population-based, algorithms that have been widely used to solve optimization problems. These algorithms use population of individuals/particles/bees/ants in order to explore a search space of potential solutions to a given problem and to be able to quickly converge to a global solution, or at least to a good solution. The proposed paper uses a variable population of bees in order to improve the converge rate of the algorithm, as well as a dynamic control of the inertia of the bees in order to better control the exploration of the search space. The balance between exploitation and exploration of the search space is a well-known key feature for such optimization methods and many works have been devoted to improving the management of this balance: managing population, operators, and fitness functions. To evaluate the performance of the proposed algorithm, a comparison is made with the classic artificial bee colony and genetic algorithms in tuning the multivariable the proportional-integral-derivative (PID) controllers. The proposed experimental study is the Distillation Column System (DCS) which represent control systems of complex industrial processes. Moreover, the DCS is known to be multivariable, time variant, nonlinear MIMO system with time delays. The experimental results show that the new algorithm performs better than classic approaches such as genetic algorithm and classic artificial bee colony algorithm.

Keywords: Multivariable Pid Controller, Variable Population Size, Artificial Bee Colony,Nonlinear Systems, Distillation Column System

Dept. of Engineering Mathematics and Physics

E-81. A Survey on High Efficiency Wireless Local Area Networks: Next Generation Wifi

Hassan Aboubakr Omar; Khadige Abboud; Nan Cheng; Kamal Rahimi Malekshan; Amila Tharaperiya Gamage and Weihua Zhuan

Ieee Communications Surveys & Tutorials, 18: 2315-2344 (2016) IF: 9.22

The emerging paradigm of the Internet of Everything, along with the increasing demand of Internet services everywhere, results in a remarkable and continuous growth of the global Internet traffic. As a cost-effective Internet access solution, WiFi networks currently generate a major portion of the global Internet traffic. Furthermore, the number of WiFi public hotspots worldwide is expected to increase by more than sevenfold by 2018. To face this huge increase in the number of densely deployed WiFi networks, and the massive amount of data to be supported by these networks in indoor and outdoor environments, it is necessary to improve the current WiFi standard and define specifications for high efficiency wireless local area networks (HEWs). This paper presents potential techniques that can be applied for HEWs, in order to achieve the required performance in dense HEW deployment scenarios, as expected in the near future. The HEW solutions under consideration includes physical layer techniques, medium access control layer strategies, spatial frequency reuse schemes, and

power saving mechanisms. To accurately assess a newly proposed HEW scheme, we discuss suitable evaluation methodologies, by defining simulation scenarios that represent future HEW usage models, performance metrics that reflect HEW user experience, traffic models for dominant HEW applications, and channel models for indoor and outdoor HEW deployments. Finally, we highlight open issues for future HEW research and development.

Keywords: Ieee 802.11 Standard, Internet, Quality of Service, Tv, Wireless Lan, Ip Networks, Ofdm, Media Access Protocol,Wireless Lan, Access Protocols, Frequency Allocation, Next Generation Networks, Telecommunication Traffic,Next Generation Wifi, Internet of Everything, Global Internet Traffic, Wifi Networks, Wifi Public Hotspots, Indoor Environments, Outdoor Environments, High Efficiency Wireless Local Area Networks, Hew, Physical Layer Techniques, Medium Access Control Layer Strategies, Spatial Frequency Reuse Schemes, Power Saving Mechanisms, User Experience, Traffic Modelsnext Generation Wifi, Internet of Everything, Global Internet Traffic, Wifi Networks, Wifi Public Hotspots, Indoor Environments, Outdoor Environments, High Efficiency Wireless Local Area Networks, Hew, Physical Layer Techniques, Medium Access Control Layer Strategies, Spatial Frequency Reuse Schemes, Power Saving Mechanisms, User Experience, Traffic Models

E-82. Wireless Access Technologies For Vehicular Network Safety Applications

Hassan Aboubakr Omar; Ning Lu and Weihua Zhuang

Ieee Network, 30: 22-26 (2016) IF: 2.899

Road safety is becoming urgent due to a large number of traffic accidents each year and its severe socio-economic impact on a global scale. A promising solution to improve road safety is to deploy VANETs, a technology that can make driving safer by enabling a variety of advanced road safety applications, through broadcasting of safety messages by vehicles and roadside units. This article discusses the ability of existing wireless technologies to provide reliable broadcast of safety messages, which are necessary to realize any road safety application. The wireless technologies under consideration are the IEEE 802.11p standard, the current cellular network standards, and a time-division multiple access protocol, known as VeMAC, recently proposed for VANET safety applications. The performance of the IEEE 802.11p standard is compared with that of the VeMAC protocol via computer simulations in different highway and city scenarios, including a traffic bottleneck situation caused by emergency parking of a vehicle on a highway. We also review recent developments of the VeMAC protocol, including prototype experiments and on-road demonstrations of VeMAC-based safety applications implemented in real cars.

Keywords: Traffic Control, Road Safety, Wireless Communication, Vehicular Ad Hoc Networks, Ieee 802.11P Standard, Time Division Multiple Access, Performance Evaluation, Traffic Control, Road Safety, Wireless Communication, Vehicular Ad Hoc Networks, Ieee 802.11P Standard, Time Division Multiple Access, Performance Evaluation, On-Road Demonstration, Wireless Access Technology, Vehicular Network Safety Application, Road Safety, Traffic Accident, Socio-Economic Impact, Vanet, Safety Message Broadcasting, Roadside Unit, Wireless Technology, Ieee 802.11P Standard, Cellular Network Standard

14. res_id: 2256 J res_wcode: 3571 Interworking of Dsrc and Cellular Network Technologies For V2x Communications: A Survey

Khadige Abboud; Hassan Aboubakr Omar and Weihua Zhuang

Ieee Transactions on Vehicular Technology, 65: 9457-9470 (2016) IF: 2.243

Vehicle-to-anything (V2X) communications refer to information exchange between a vehicle and various elements of the intelligent transportation system (ITS), including other vehicles, pedestrians, Internet gateways, and transport infrastructure (such as traffic lights and signs). The technology has a great potential of enabling a variety of novel applications for road safety, passenger infotainment, car manufacturer services, and vehicle traffic optimization. Today, V2X communications is based on one of two main technologies: dedicated short-range communications (DSRC) and cellular networks. However, in the near future, it is not expected that a single technology can support such a variety of expected V2X applications for a large number of vehicles. Hence, interworking between DSRC and cellular network technologies for efficient V2X communications is proposed. This paper surveys potential DSRC and cellular interworking solutions for efficient V2X communications. First, we highlight the limitations of each technology in supporting V2X applications. Then, we review potential DSRC-cellular hybrid architectures, together with the main interworking challenges resulting from vehicle mobility, such as vertical handover and network selection issues. in addition, we provide an overview of the global DSRC standards, the existing V2X research and development platforms, and the V2X products already adopted and deployed in vehicles by car manufactures, as an attempt to align academic research with automotive industrial activities. Finally, we suggest some open research issues for future V2X communications based on the interworking of DSRC and cellular network technologies.

Keywords: Vehicles, Etsi, Europe, Roads, North America, Internet,Research and Development, Cellular Radio, Mobility Management (Mobile Radio), Automotive Industrial Activities, Dsrc Technology, Cellular Network Technology, V2x Communication, Vehicle-To-Anything Communication, Intelligent Transportation System, Its, Pedestrians, Internet Gateways, Transport Infrastructure, Traffic Lights, Traffic Signs, Road Safety, Passenger Infotainment, Car Manufacturer Services, Vehicle Traffic Optimization, Dedicated Short-Range Communications, Vehicle Mobility, Vertical Handover, Network Selection Issue, Global Dsrc Standards, V2x Research and Development Platforms, V2x Products, Car Manufactures, V2x Communications, Connected Car Services, Dsrc-Cellular Interworking, Dsrc Global Standards, Dsrc R&D Platforms, Mobility Management, Vertical Handover

E-83. Iterative Refinement For A System of Linear Integro-Differential Equations of Fractional Type

Sarah A. Deif and Said R. Grace

Journal of Computational and Applied Mathematics, 294(2016): 138-150 (2016) IF: 1.328

novel technique based on iterative refinement is developed to approximate the analytical solution of a system of linear fractional integro-differential equations. While the study focuses

mainly on Fredholm-type equations, adaptation to the Volterra-type is also presented. A comparison is made with the method of successive approximations on the basis of convergence speed and accuracy. Several numerical examples are given to demonstrate the efficacy of our algorithm. The authors also present formulations of some error bounds
Keywords: Caputo Derivative System of Fractional Integro-Differential Equations Fredholm and Volterra Equations Iterative Refinement Error Bounds

E-84. Asymptotic Behavior of Even-Order Damped Differential Equations With P-Laplacian Like Operators and Deviating Arguments

Qingmin Liu, Martin Bohner, Said R Grace and Tongxing Li

Journal of Inequalities and Applications, 2016-321: 321-339 (2016) IF: 0.621

We study the asymptotic properties of the solutions of a class of even-order damped differential equations with p-Laplacian like operators, delayed and advanced arguments. We present new theorems that improve and complement related contributions reported in the literature. Several examples are provided to illustrate the practicability, maneuverability, and efficiency of the results obtained. An open problem is proposed.
Keywords: Asymptotic Behavior; Functional Differential Equation; Even-Order; Damping Term; P-Laplacian Equation

E-85. Criteria For The Oscillation of Second Order Nonlinear Dynamic Inclusions With Distributed Deviating Arguments

Said R. Grace and Taher S. Hassan

Communications in Applied Analysis, 20(2016): 1-12 (2016)

In this paper we investigate some new criteria for the oscillation of second order nonlinear inclusions with distributed arguments on time scales. We establish the case of strongly superlinear and the case strongly sublinear subject to various conditions
Keywords: Criteria For The Oscillation of Second Order , Dynamic Inclusions , Distributed Deviating Arguments

E-86. on Oscillatory and Asymptotic Behavior of A Second-Order Nonlinear Damped Neutral Differential Equation

Ercan Tunç1 and Said R. Grace2

International Journal of Differential Equations, (2016)

This paper discusses oscillatory and asymptotic properties of solutions of a class of second-order nonlinear damped neutral differential equations. Some new sufficient conditions for any solution of the equation to be oscillatory or to converge to zero are given.The results obtained extend and improve some of the related results reported in the literature.The results are illustrated with examples.
Keywords: Oscillatory and Asymptotic Behavior ,Second-Order , Neutral Differential Equation

Dept. of Mechanical Design and Production

E-87. Improvement of An Adhesive Joint Constructed From Carbon Fiber-Reinforced Plastic and Dry Carbon Fiber Laminates

Mahmoud R.Abusrea and Kazuo Arakawa

Composites Part B: Engineering, 97: 368-373 (2016) IF: 4.727

The staircase joint is an adhesive joint constructed using stepped carbon fiber-reinforced plastic (CFRP) fabric, half molded with dry carbon fibers. in this adhesive joint, the CFRP part is fabricated first, then remolded with dry carbon fiber laminates. Some improvements are provided to enhance performance in terms of tensile strength. These improvements include the addition of extra carbon fiber covers and overlapping the carbon fiber half over the CFRP. This paper introduces three adhesive joints: the first is the original staircase joint and the other two are improved staircase joints. All joints and CFRP fabrics were made in our laboratory using vacuum-assisted resin transfer molding (VARTM) manufacturing techniques. Specimens were prepared for tensile testing to measure joint performance. The results showed an improved tensile load for the modified staircase joints. For example, the total percentage increase in the tensile load was 39% for five-carbon-fiber-layer CFRP. The final joining efficiency reached 59% for seven-carbon-fiber-layer CFRP. However, the tensile fracture behavior of all joints showed the same pattern of cracks, originating near the joint ends, followed by crack propagation until fracture
Keywords: Polymer-Matrix Composites (Pmcs); Mechanical Testing; Resin Transfer Molding; Joints

Dept. of Structural Engineering

E-88. Coordination of Urban Infrastructure Reconstruction Projects

Hesham Osman

Structure & Infrastructure Engineering, 12: 0-0 (2016) IF: 1.565

The large number of urban infrastructure renewal activities occurring in cities throughout the world leads to social, economic and environmental impacts on the communities in its vicinity. As such, a coordinated effort is required to streamline these activities. This paper presents a framework to enable temporal (time-based) coordination of water, sewer and road intervention activities. Intervention activities include routine maintenance, renewal and replacement of physical assets. The coordination framework considers (1) life-cycle costs, (2) infrastructure level-of-service and (3) risk exposure to system operators. The model enables infrastructure asset managers to trade-off options of delaying versus bringing forward intervention activities of one system in order to be executed in conjunction with another co-located system in the right-of-way. The framework relies on a combination of meta-heuristics and goal-based optimisation. in order to demonstrate the applicability of the framework, a case study for a major infrastructure corridor in Cairo, Egypt, is taken as an example. Results show that the framework can be scaled up to include other infrastructure systems located in the right-of-way like electricity, gas and telecom, provided that information can be shared among these entities
Keywords: Infrastructure Planning, Decision Making, Project Management, Construction Management, Optimisation

Dept. of Systems and Biomedical Engineering

E-89. Relationship Between Native Papillary Muscle T1 Time and Severity of Functional Mitral Regurgitation in Patients With Non-Ischemic Dilated Cardiomyopathy

Shingo Kato, Shiro Nakamori, Sébastien Roujol, Francesca N. Delling, Shadi Akhtari, Jihye Jang, Tamer Basha, Sophie Berg, Kraig V. Kissinger, Beth Goddu, Warren J. Manning and Reza Nezafat

Journal of Cardiovascular Magnetic Resonance, 18(1): 79-90 (2016) IF: 5.6

Background: Functional mitral regurgitation is one of the severe complications of non-ischemic dilated cardiomyopathy (DCM). Non-contrast native T1 mapping has emerged as a non-invasive method to evaluate myocardial fibrosis. We sought to evaluate the potential relationship between papillary muscle T1 time and mitral regurgitation in DCM patients. Methods: Forty DCM patients (55 ± 13 years) and 20 healthy adult control subjects (54 ± 13 years) were studied. Native T1 mapping was performed using a slice interleaved T1 mapping sequence (STONE) which enables acquisition of 5 slices in the short-axis plane within a 90 s free-breathing scan. We measured papillary muscle diameter, length and shortening. DCM patients were allocated into 2 groups based on the presence or absence of functional mitral regurgitation. Results: Papillary muscle T1 time was significantly elevated in DCM patients with mitral regurgitation (n = 22) in comparison to those without mitral regurgitation (n = 18) (anterior papillary muscle: 1127 ± 36 msec vs 1063 ± 16 msec, $p < 0.05$; posterior papillary muscle: 1124 ± 30 msec vs 1062 ± 19 msec, $p < 0.05$), but LV T1 time was similar (1129 ± 38 msec vs 1134 ± 58 msec, $p = 0.93$). Multivariate linear regression analysis showed that papillary muscle native T1 time ($\beta = 0.10$, 95 % CI: 0.05–0.17, $p < 0.05$) is significantly correlated with mitral regurgitant fraction. Elevated papillary muscle T1 time was associated with larger diameter, longer length and decreased papillary muscle shortening (all p values <0.05). Conclusions: in DCM, papillary muscle native T1 time is significantly elevated and related to mitral regurgitant fraction.

Keywords: Cardiac Mr Imaging, T1 Mapping, Dcm, Papillary Muscle T1

E-90. Driver Drowsiness Detection Using Forehead Brain Signals

A. Torki and A. M. Eldeib

Journal of Engineering and Applied Science – Faculty of Eng., Cairo University, 63: 0-0 (2016)

Driver drowsiness is a major problem causing car accidents. Many studies assessed drowsiness indicators at different driving setups. Brain signals recorded at different head sites resulted high accuracies. Forehead sites facilitates practical implementation of drowsiness detection system. The detection of drowsiness after normal working day with normal sleep habits was the scope. in this study, subjects carried out simulated monotonous driving task for two hours after 6 PM. Brain signals and facial changes were recorded simultaneously. Recorded data for all subjects were segmented to five seconds epochs. Each epoch of brain signals was labelled as alert or drowsy in accordance to subject's facial symptoms in video records. Features were extracted out of brain signals recorded at forehead sites (Fp1 and Fp2 with Fpz reference) by discrete wavelet decomposition. Support vector machine was used for classification. The highest classification accuracy was 84.73% from combined group of features consisting of, energy of Alpha, energy of Beta, standard deviations of detail coefficients at fifth level (Alpha) and fourth level (Beta). Support vector machine classifier setup was radial basis function kernel. Many reasons contribute in the variance of accuracy, the driving task setup, preparation of subject for driving, vigilance states labeling, and signal preprocessing.

Keywords: Driver Drowsiness Detection, Observer Rating Drowsiness, Discrete Wavelet Transformation, Support Vector Machine

E-91. Arabic Speech Segmentation Into Syllables Using Neural Networks

Mohamed S. Abdo and Sahar A. Fawzi

Journal of Engineering and Applied Science – Faculty of Eng., Cairo University, 63: 0-0 (2016)

The Neural Network based Arabic Speech Segmentation System "NNASS" is an adaptive Arabic speech syllable boundaries identifier that mainly serves as an automatic segmentation tool for speaker independent ASV and speech corpus/database construction systems. By training NNASS on different candidate boundaries' features from reference utterances, NNASS is capable of recognizing the syllables boundaries of multiple utterances. Visual inspection revealed that syllables boundaries are always combined with a Cepstral peaks. Cepstral peaks extracted from recorded speech signal within a certain validation thresholds assignment are considered probable boundaries. These probable boundaries are applied to NNASS to classify them into valid or invalid ones. Experiments are conducted over two sets of Arabic utterances; the first set constitutes 468 boundaries with a resulting identification accuracy of 87 % at validation thresholds assignment of 10 milliseconds. The second set constitutes 774 boundaries with a resulting accuracy of 96.5 % at validation thresholds assignment of 20 milliseconds.

Keywords: Automatic Segmentation, Continuous Arabic Speech, Neural Networks, Syllable Boundaries, Mel Frequency Cepstral Coefficients "Mfcc".

Faculty of Computers and Information

Dept. of Computer Science (CS)

E-92. Prediction Mechanisms For Monitoring State of Cloud Resources Using Markov Chain Model

Mustafa M. Al-Sayed , Sherif Khattab and Fatma A. Omara

Journal of Parallel and Distributed Computing, Vol. 96: 163-171 (2016) IF: 1.93

Cloud computing allows for sharing computing resources, such as CPU, application platforms, and services. Monitoring these resources would benefit from an accurate prediction model that significantly reduces the network overhead caused by unnecessary push and pull messages. However, accurate prediction of the computing resources is considered hard due to the dynamic nature of cloud computing. in this paper, two monitoring mechanisms have been developed: the first is based on a Continuous Time Markov Chain (CTMC) model and the second is based on a Discrete Time Markov Chain (DTMC) model. It is found that The CTMC-based mechanism outperformed the DTMC-based mechanism. Also, the CTMCbased mechanism outperformed the Grid Resource Information Retrieval (GRIR) mechanism, which does not employ prediction, and a prediction-based mechanism, which uses Markov Chains to predict the time interval of monitoring mobile grid resources, in monitoring cloud resources.

Keywords: Markov Chains; Cloud Computing; Resource Monitoring

E-93. Data Security Using Cryptography and Steganography Techniques

Marwa E. Saleh, Abdelmgeid A. Aly and Fatma A. Omara

International Journal of Advanced Computer Science and Applications, 7: 1-9 (2016)

Although cryptography and steganography could be used to provide data security, each of them has a problem. Cryptography problem is that, the cipher text looks meaningless, so the attacker will interrupt the transmission or make more careful checks on the data from the sender to the receiver. Steganography problem is that once the presence of hidden information is revealed or even suspected, the message is become known. According to the work in this paper, a merged technique for data security has been proposed using Cryptography and Steganography techniques to improve the security of the information. Firstly, the Advanced Encryption Standard (AES) algorithm has been modified and used to encrypt the secret message. Secondly, the encrypted message has been hidden using method in [1]. Therefore, two levels of security have been provided using the proposed hybrid technique. in addition, the proposed technique provides high embedding capacity and high quality stego images.

Keywords: Image Steganography; Pixel Value Difference (Pvd); Encryption; Decryption; Advance Encryption Standard (Aes).

E-94. Genetic-Based Task Scheduling Algorithm in Cloud Computing Environment

Safwat A. Hamad and Fatma A. Omara

International Journal of Advanced Computer Science and Applications, 7: 550-556 (2016)

Nowadays, Cloud computing is widely used in companies and enterprises. However, there are some challenges in using Cloud computing. The main challenge is resource management, where Cloud computing provides IT resources (e.g., CPU, Memory, Network, Storage, etc.) based on virtualization concept and pay-as-you-go principle. The management of these resources has been a topic of much research. in this paper, a task scheduling algorithm based on Genetic Algorithm (GA) has been introduced for allocating and executing an application's tasks. The aim of this proposed algorithm is to minimize the completion time and cost of tasks, and maximize resource utilization. The performance of this proposed algorithm has been evaluated using CloudSim toolkit.

Keywords: Cloud Computing; Task Scheduling; Genetic Algorithm; Optimization Algorithm

E-95. An Enhanced Task Scheduling Algorithm on Cloud Computing Environment

Hussin M. Alkhashai and Fatma A. Omara

International Journal of Grid and Distributed Computing, 9: 91-100 (2016)

Cloud computing is the technology that moves the information technology (IT) services out of the office. Unfortunately, Cloud computing has faced some challenges. The task scheduling problem is considered one of the main challenges because a good mapping between the available resources and the users' tasks is needed to reduce the execution time of the users' tasks (i.e., reduce make-span), and increase resource utilization. The objective of this paper is to introduce and implement an enhanced task scheduling algorithm to assign the users' tasks to multiple computing resources. The aim of the proposed algorithm is to reduce the execution time, and cost, as well as, increase resource utilization. The proposed algorithm is considered an amalgamation of the Particle Swarm Optimization (PSO),the Best–Fit (BF), and Tabu-Search (TS) algorithms; called BFPSOTS. According to the proposed BFPSOTS algorithm, the BF algorithm has been used to generate the initial population of the standard PSO algorithm instead of to be random. The Tabu-Search (TS) algorithm has been used to improve the local research by avoiding the trap of the local optimality which could be occurred using the standard PSO algorithm. The proposed hybrid algorithm (i.e., BFPSOTS) has been implemented using Cloudsim. A comparative study has been done to evaluate the performance of the proposed algorithm relative to the standard PSO algorithm using five problems with different number of independent task, and Virtual Machines (VMs). The performance parameters which have been considered are the execution time (Makspan), cost, and resources utilization. The implementation results prove that the proposed hybrid algorithm (i.e., BFPSOTS) outperforms the standard PSO algorithm..

Keywords: Cloud Computing; Cloudsim; Task Scheduling; Particle Swarm Optimization; Tabu Search

E-96. Comparative Study of Multi-Query Optimization Techniques Using Shared Predicate-Based For Big Data

Radhya Sahal, Mohamed H. Khafagy and Fatma A. Omara

International Journal of Grid and Distributed Computing, 9: 229-240 (2016)

Big data analytical systems, such as MapReduce, have become main issues for many enterprises and research groups. Currently, multi-query which translated into MapReduce jobs is submitted repeatedly with similar tasks. So, exploiting these similar tasks can offer possibilities to avoid repeated computations of MapReduce jobs. Therefore, many researches have addressed the sharing opportunity to optimize multi-query processing. Consequently, the main goal of this work is to study and compare comprehensively two existed sharing opportunity techniques using predicate-based filters; MRShare and relaxed MRShare. The comparative study has been performed over TPC-H benchmark and confirmed that the relaxed MRShare technique significantly outperforms the MRShare for shared data in terms of predicate-based filters among multi-query.
Keywords: Big Data, Mapreduce, Sharing Opportunity, Multi-Query Optimization, Filter, Predicates

E-97. An Improved Image Steganography Method Based on Lsb Technique With Random Pixel Selection

Marwa M. Emam, Abdelmgeid A. Aly and Fatma A. Omara

International Journal of Advanced Computer Science and Applications, 7: 361-366 (2016)

with the rapid advance in digital network, information technology, digital libraries, and particularly World Wide Web services, many kinds of information could be retrieved any time. Thus, the security issue has become one of the most significant problems for distributing new information. It is necessary to protect this information while passing over insecure channels. Steganography introduces a strongly approach to hide the secret data in an appropriate media carriers such as images, audio files, text files, and video files. in this paper, a new image steganography method based on spatial domain is proposed. According to the proposed method, the secret message is embedded randomly in the pixel location of the cover image using Pseudo Random Number Generator (PRNG) of each pixel value of the cover image instead of embedding sequentially in the pixels of the cover image. This randomization is expected to increase the security of the system. The proposed method works with two layers (Blue and Green), as (2-1-2) layer, and the byte of the message will be embedded in three pixels only in this form (3-2-3). From the experimental results, it has found that the proposed method achieves a very high Maximum Hiding Capacity (MHC), and higher visual quality as indicated by the Peak Signal-to- Noise Ratio (PSNR).
Keywords: Image Steganography; Prng (Pseudorandom Number Generator); Peak Signal-To-Noise Rate (Psnr); Mean Square Error (Mse)

E-98. Integrating Semantic Features For Enhancing Arabic Named Entity Recognition

Hamzah A. Alsayadi Abeer M. ElKorany

International Journal of Advanced Computer Science and Applications, 7/ 3: 128-136 (2016)

Named Entity Recognition (NER) is currently an essential research area that supports many tasks in NLP. Its goal is to find a solution to boost accurately the named entities identification. This paper presents an integrated semantic-based Machine learning (ML) model for Arabic Named Entity Recognition (ANER) problem. The basic idea of that model is to combine several linguistic features and to utilize syntactic dependencies to infer semantic relations between named entities. The proposed model focused on recognising three types of named entities: person, organisation and location. Accordingly, it combines internal features that represented linguistic features as well as external features that represent the semantic of relations between the three named entities to enhance the accuracy of recognising them using external knowledge source such as Arabic WordNet ontology (ANW). We introduced both features to CRF classifier, which are effective for ANER. Experimental results show that this approach can achieve an overall F-measure around 87.86% and 84.72% for ANERCorp and ALTEC data sets
Keywords: Arabic Named Entity Recognition (Aner); Conditional Random Fields (Crf); Domain Ontology; Semantic Relation Feature (Srf); Arabic Wordnet Ontology (Anw

E-99. High Performance Computing Over Parallel Mobile Systems

Doha Ehab Attia, Abeer Mohamed ElKorany and Ahmed Shawy Moussa,

International Journal of Advanced Computer Science and Applications, 7/9: 99-103 (2016) IF: 0

There are currently more mobile devices than people on the planet. This number is likely to multiply many folds with the Internet of Things revolution in the next few years. This may treasure an unprecedented computational power especially with the wide spread of multicore processors on mobile phones. This paper investigates and proposes a new methodology for mobile cluster computing, where multiple mobile devices including their multicore processors can be combined to perform possibly massively parallel applications. The paper presents in details the steps for building and testing the mobile cluster using the proposed methodology and proving the successful implementation
Keywords: Parallel Computing; High-Performance Computing; Mobile Computing; Cluster Computing; Android Os

E-100. Semantic Feature Based Arabic Opinion Mining Using Ontology

Abdullah M. Alkadri and Abeer M. ElKorany

International Journal of Advanced Computer Science and Applications, 7 No. 5: 577-583 (2016) IF: 0

with the increase of opinionated reviews on the web, automatically analyzing and extracting knowledge from those reviews is very important. However, it is a challenging task to be done manually. Opinion mining is a text mining discipline that

automatically performs such a task. Most researches done in this field were focused on English texts with very limited researches on Arabic language. This scarcity is because there are a lot of obstacles in Arabic. The aim of this paper is to develop a novel semantic feature-based opinion mining framework for Arabic reviews. This framework utilizes the semantic of ontologies and lexicons in the identification of opinion features and their polarity. Experiments showed that the proposed framework achieved a good level of performance compared with manually collected test data.

Keywords: Opinion Mining; Sentimental Analysis; Ontology; Feature Extraction; Polarity Identification

E-101. Bf-Pso-Ts: Hybrid Heuristic Algorithms For Optimizing Task Scheduling on Cloud Computing Environment

Hussin M. Alkhashai and Fatma A. Omara

International Journal of Advanced Computer Science and Applications, 7: 207-212 (2016) IF: 0

Task Scheduling is a major problem in Cloud computing because the cloud provider has to serve many users. Also, a good scheduling algorithm helps in the proper and efficient utilization of the resources. So, task scheduling is considered as one of the major issues on the Cloud computing systems. The objective of this paper is to assign the tasks to multiple computing resources. Consequently, the total cost of execution is to be minimum and load to be shared between these computing resources. Therefore, two hybrid algorithms based on Particle Swarm Optimization (PSO) have been introduced to schedule the tasks; Best-Fit-PSO (BFPSO) and PSO-Tabu Search (PSOTS). According to BFPSO algorithm, Best-Fit (BF) algorithm has been merged into the PSO algorithm to improve the performance. The main principle of the modified BFSOP algorithm is that BF algorithm is used to generate the initial population of the standard PSO algorithm instead of being initiated randomly. According to the proposed PSOTS algorithm, the Tabu-Search (TS) has been used to improve the local research by avoiding the trap of the local optimality which could be occurred using the standard PSO algorithm. The two proposed algorithms (i.e., BFPSO and PSOTS) have been implemented using Cloudsim and evaluated comparing to the standard PSO algorithm using five problems with different number of independent tasks and resources. The performance parameters have been considered are the execution time (Makspan), cost, and resources utilization. The implementation results prove that the proposed hybrid algorithms (i.e., BFPSO, PSOTS) outperform the standard PSO algorithm.

Keywords: Cloud Computing; Task Scheduling; Cloudsim; Particle Swarm Optimization; Tabu Search; Best-Fit

Dept. of Information System (IS)

E-102. Towards A Comprehensive Data Analytics Framework For Smart Healthcare Services

Sherif Sakr and Amal Elgammal

Big Data Research, 4: 44-58 (2016) IF: 0

With the increasing volumes of information gathered via patient monitoring systems, physicians have been put on increasing pressure for making sophisticated analytical decisions that exploit the various types of data that is being gathered per patient. This phenomenon of continuously growing datasets is arising and gaining momentum in several application domains to what is now recognized in the business community as the Big Data challenge. in this article, we define and discuss some of the major challenges in the healthcare systems which can be effectively tackled by the recent advancement in ICT technologies. in particular, we focus on sensing technologies, cloud of computing, internet-of-things and big data analytics systems as emerging technologies which are made possible by the remarkable progress in various aspects including network communication speed, computational capabilities and data storage capacities that provide various advantages and characteristics that can contribute towards improving the efficiency and effectiveness of healthcare services. in addition, we describe the architectural components of our proposed framework, SmartHealth, for big data analytics services and describe its various applications in the healthcare domain.

Keywords: Health Informatics; Smart Healthcare; Big Data Analytics,Ontology; Interoperability.

Dept. of Information Technology (IT)

E-103. Hybrid-Biomarker Case-Based Reasoning System For Water Pollution Assessment in Abou Hammad Sharkia, Egypt,

Aboul EllaHassanien, Nashwa El-Bendary, Asmaa Hashem Sweidan, Abd El-karim Mohamedd and Osman Mohammed Hegazy

Applied Soft Computing, 46: 1043-1055 (2016) IF: 2.857

Water pollution by organic materials or metals is one of the problems that threaten humanity, both nowadays and over the next decades. Morphological changes in Nile Tilapia "Oreochromis niloticus" fish liver and gills can also represent the adaptation strategies to maintain some physiological functions or to assess acute and chronic exposure to chemicals found in water and sediments. This paper presents an automatic system for assessing water quality, in Sharkia Governorate – Egypt, based on microscopic images of fish gills and liver. The proposed system used fish gills and liver as hybrid-biomarker in order to detect water pollution. It utilized case-based reasoning (CBR) for indicating the degree of water quality based on the different histopathological changes in fish gills and liver microscopic images. Various performance evaluation metrics namely, retrieval accuracy, receiver operating characteristic (ROC) curves, F-measure, and G-mean have been used in order to objectively indicate the true performance of the system considering the unbalanced data. Experimental results showed that the proposed hybrid-biomarker CBR based system achieved water quality prediction accuracy of 97.9% using cosine distance similarity measure. Also, it outperformed both SVMs and LDA classifiers for the tested microscopic images dataset.

Keywords: Case-Based Reasoning (CBR), Feature Extraction, Biomarker , Fish Gills, Fish Liver, Water Pollution

Faculty of Regional and Urban Planning

Dept. of Regional Development

E-104. Quantifying The Relationship Between The Built Environment Attributes and Urban Sustainability Potentials For Housing Areas

Taher Osman, Prasanna Divigalpitiya, Mustafa M Osman, Emad Kenawy, Muhammad Salem and Omar Hamdy

Buildings, 6: 1-10 (2016) IF: 0

The Greater Cairo Metropolitan Region (GCMR) in its seeking to sustainable development (SD) by the year of 2050 facing the serious challenge of around 65 percent of Cairenes live in unplanned settlements. in this respect, the authors examined the effect of urban characteristics of unplanned settlements on SD in the Egyptian context, focusing on the type of unplanned growth on agricultural land. The output of the analysis were fourfold. First of all, we provide a brief overview of previous research on the main types of unplanned settlements in GCMR and the sustainability definition according to the Egyptian context. Secondly, we had a discussion with the local government during our field survey in GCMR to determine the study samples, the main urban characteristics, and the sustainability evaluation criteria in the Egyptian context. Thirdly, through the comparative analysis and geographic information system (GIS), we examined how the character of urban development affected per capita four urban measures in a cross-section of two settlements, one represented the unplanned settlements and other as a comparative planned sample to determine the real gap. Finally, by using the evaluation matrix, the help and block items are estimated for each measure of urban characteristics, providing substantive evidence on how the four measures of urban characteristics have been affected by the urban sprawl.

Keywords: Unplanned Settlements; Sustainable Development; Urban Characteristics; Gis Analysis; Greater Cairo Metropolitan Region; Evaluation Matrix

E-105. The Impact of Built Environment Characteristics on Metropolitans Energy Consumption: An Example of Greater Cairo Metropolitan Region

Taher Osman, Prasanna Divigalpitiya and Mustafa M Osman

Buildings, 6: 1-17 (2016) IF: 0

This paper examined the influences of the built environment and socio-economic driving factors on domestic gasoline consumption in developing metropolitan regions through a case study of the greater Cairo metropolitan region (GCMR), Egypt. Structural equation modeling (SEM) was used in analyzing the causality of the domestic gasoline consumption. The influences of major factors hypothetically affecting the domestic energy consumption such as resident characteristics and built environment characteristics were examined. The results proved a high positive influence of the resident's income and the number of adults as driving factors, directly and indirectly, affecting energy consumption levels. Population density and attitude towards eco-friendly driving factors proved to be a very low influence on energy consumption. The built environment driving factors such as access time to public transportation and related building characteristics factors proved to have a low impact on energy consumption. The study findings suggest that the design of a built environment should be well related to the socioeconomic factors to manage the domestic energy consumption in developing regions.

Keywords: Climate Change; Mixed Land-Use; Urban Sustainability; Energy Consumption; Developing Countries

(3)

Medical Sciences Sector

Faculty of Medicine

Dept. of Andrology & Sexology

M-106. Pilot Study on The Effect of Botanical Medicine (Tribulus Terrestris) on Serum Testosterone Level and Erectile Function in Aging Males With Partial Androgen Deficiency (Padam)

Mohamed Farid Roaiah, Yasser Ibrahim El Khayat, Sameh Fayek GamalEl Din, and Mohamed Ahmed Abd El Salam

Journal of Sex and Marital Therapy, 42:4: 297-301 (2016) IF: 1.514

This study was conducted on 30 consecutive male patients presenting to Kasr-Al Ainy Andrology outpatient clinic complaining of manifestations of partial androgen deficiency in aging males (PADAM). in this study (750 mg/day) of Tribulus terrestris in 3 divided doses, each of 250 mg, as an endogenous testosterone enhancer had been tried for a duration of 3 months and the evaluation of its effect had been monitored for each patient concerning its effect on serum testosterone (total and free) and luteinizing hormone (LH), as well as its impact on erectile function, which was evaluated by the International Index of Erectile Function-5 (IIEF-5) questionnaire for those patients. Results showed a statistically significant difference in the level of testosterone (total and free) and IIEF-5, but no statistically significant difference in the level of LH before and after treatment. Also, the study showed statistically significant correlation between testosterone (total and free) and IIEF-5, but no statistically significant correlation between the level of LH and the IIEF-5 before and after treatment.
Keywords: Botanical Medicine (Tribulus Terrestris), Serum Testosterone Level, Erectile Function,Aging Males With Partial Androgen Deficiency (Padam)

M-107. Tramadol Abuse and Sexual Function

Ibrahim A. Abdel-Hamid, MD, Karl-Erik Andersson, MD, PhD, Marcel D. Waldinger, MD, PhD, and Tarek H. Anis, MD

Sexual Medicine Reviews, 4: 235-246 (2016)

Introduction Tramadol exhibits an effect profile similar to that of opioid agonists, and tramadol abuse seems to be a problem for a number of countries. The relationship between tramadol and sexual function appears to be controversial. Men with premature ejaculation (PE) may benefit from taking tramadol off label; however, these patients live “on a knife's edge” and are exquisitely sensitive to develop other sexual dysfunctions. Aim To review the literature regarding the problem of tramadol abuse and its relationship with sexual function. Methods We searched electronic databases from 1977 to September 2015, including PubMed MEDLINE, EMBASE, EBCSO Academic Search Complete, Cochrane Systematic Reviews Database, and GoogleScholar using the following key words: tramadol, sexual functions, and sexual dysfunction. Main Outcome Measure To define the supposed benefits and the potential risks of tramadol on different sexual functions including ejaculation, orgasm, erection, desire, and testosterone levels. Results Although tramadol is thought to have low abuse and dependence potentials worldwide, its abuse has become a serious problem in many countries, particularly in the Middle East, Africa, and West Asia. The benefit of tramadol in PE was reported in 11 clinical trials, evaluated by 6 systematic reviews, 3 of which pooled data in a meta-analysis. The evidence base on erectile dysfunction, decreased libido, hypogonadism, anorgasmia, and risky sexual behaviors in patients abusing tramadol is inadequate. Conclusions Tramadol may offer a useful intervention for treating PE. As all primary studies had suffered from selection, allocation, performance, or assessment bias, additional rigorous well-designed controlled trials are warranted to further investigate the potential long-term risks of tramadol and to determine the safe and the effective minimum daily dose. Clinical research on drug abuse and sexual dysfunction is an emerging field. To date, small numbers of studies have been performed and further studies are warranted.
Keywords: Tramadol, Sexual Function, Ejaculation, Erection, Hypogonadism

Dept. of Anesthesiology

M-108. Disturbed Fluid Responsiveness and Lactate/Pyruvate Ratio As Predictors For Mortality of Septic Shock Patients

Ahmed Abdalla Mohamed and Ahmed Essam

Egyptian Journal of Anaesthesia, 32(4): 451-461 (2016)

Objectives: Evaluation of fluid responsiveness of septic shock patients admitted to surgical ICU and the predictability of non-invasive monitoring and estimated lactate/pyruvate (L/P) ratio for survival of these patients. Patients and methods: The study included 58 septic shocked patients admitted and managed at surgical ICU. After non-invasive determination of baseline hemodynamic data and calculation of shock index (SI-0) and Pleth variability index (PVI-0), all patients received intravenous colloid infusion followed 15-min later by non-invasive re-evaluation for SI-15 and PVI-15. Blood samples were obtained for estimation of blood lactate and pyruvate levels at admission (BLL-0 and BPL-0) and 12-h after fluid resuscitation (BLL-12 and BPL-12) and L/P ratio was calculated. All patients were managed according to the Surviving Sepsis Campaign guidelines and followed up for ICU mortality rate (MR). Results: ICU stay MR was 20.7%. Survival showed negative significant correlation with PVI, L/P ratio and BLL, while it showed positive significant correlation with BPL. Receiver Operating Characteristic (ROC) curve analysis defined baseline and persistently low PVI, high BLL and L/P ratio as significant sensitive predictors for MR, while elevated BPL-12 as significant specific predictor for survival. Regression analysis defined persistently elevated L/P ratio as the highly significant specific predictor, while persistently disturbed SI and PVI could predict mortality as screening tests. Odds ratio for mortality at BLL-0 of >2 mmol/L was 0.0321 (95% CI: 0.0037–0.2755), while it was 4.1111 (95% CI: 1.0702–15.792) at BLL-0 >4 mmol/L. Conclusion: After fluid resuscitation and hemodynamic stability, persistently elevated BLL could predict mortality, while elevated BPL could predict survival of septic shock patients. Continuous non-invasive evaluation of fluid responsiveness judged by PVI and SI could provide sensitive
Keywords: Septic Shock,Shock Index,Pleth Variability Index,Blood Lactate,Icu Mortality

M-109. Plasma Mitochondrial Dna At Admission Can Predict The Outcome of Acute Trauma Patients Admitted To Icu

Ahmed Abdalla Mohamed , Ahmed Shaker Ragab and Reham Ahmed Rashed

Egyptian Journal of Anaesthesia, 32(4): 565-571 (2016)

Objectives: We assessed whether at admission plasma circulating cell free mitochondrial DNA (ccf-mtDNA) is related to injury severity and can predict morbidity and mortality in acute trauma patients. Patients and methods: Patients were evaluated at Emergency Department (ED) using Injury Severity Scale (ISS), but only patients required ICU admission were studied (Group B). At ED arrival, blood samples were obtained for quantitative real-time PCR estimation of plasma level of ccf-mtDNA. Study outcome was the correlation between morbidity and mortality and at admission plasma ccf-mtDNA level and its predictability for morbidity and mortality. Ten healthy volunteers gave blood samples as control group (Group B). Results: Twenty-seven patients passed smooth ICU stay and were discharged alive (Group B1), while 34 patients developed additional morbidities (Group B2) and 11 patients (18%) of Group A2 died. Mean estimated plasma ccf-mtDNA levels were significantly higher in Group B than in Group A, but patients of Group B1 had significantly lower ccf-mtDNA levels than patients of Group B2. Patients developed adult respiratory distress syndrome (ARDS) had significantly higher ccf-mtDNA levels than patients developed sepsis or acute myocardial infarction (AMI) with significantly higher levels in patients developed sepsis. Estimated plasma ccf-mtDNA levels at time of admission showed positive significant correlation with morbidity rate. Odds ratio (OR) for relative risk for development of additional morbidities in patients who had a high plasma ccf-mtDNA level was 26.35. At admission plasma ccf-mtDNA levels in survivors were significantly lower than in nonsurvivors, and OR was 4.0806. High plasma ccf-mtDNA showed high sensitivity as predictor for ICU mortality.Conclusion: High at ED admission plasma ccf-mtDNA levels could predict development of additional morbidities during ICU stay of acute trauma patients and showed high sensitivity for prediction of their survival. Very high plasma ccf-mtDNA levels could predict patients liable to develop ARDS.

Keywords: Acute Trauma,Mitochondrial Dna,Pcr,Icu,Morbidity

Dept. of Cardiology

M-110. Hemoglobin A1c As A Marker Predicting Extent and Severity of Coronary Artery Disease in Non-Diabetic Patients

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Acta Cardiologica, 71 (5): 581-585 (2016).6

Objective: Lowering hemoglobin A1c (HbA1c) was shown to be associated with reduction of microvascular, neuropathic and possibly macrovascular complications in diabetic patients. However, in non-diabetic patients, few reports have examined the relation between HbA1c and extent of coronary artery disease. The aim of this study was to examine the relationship between HbA1c level and severity of coronary artery disease (CAD) in non-diabetic patients scheduled for elective coronary angiography. Methods: We prospectively studied 408 consecutive non-diabetic patients with or without history of previous myocardial infarction who were scheduled for conventional coronary angiography. HbA1c was measured in all patients at time of admission. Severity of CAD was assessed by Gensini score. Gensini score >30 was considered severe coronary atherosclerosis. Patients were divided into two groups; the high risk group (HbA1c, 5.7-6.4%) and the low risk group (HbA1c, <5.7%). Results: Patients in the high risk group had higher Gensini score (45.1 ± 36.7 vs. 26.8 ± 26.0, p <001.). Patients with Gensini score >30 had higher values of HbA1c (6.0 ± 0.48 vs. 5.75 ± 0.54, p <0.001). HbA1c showed positive correlation with Gensini score. HbA1c value of 5.85% showed a sensitivity and specificity of 70 and 50% respectively for prediction of severe coronary atherosclerosis. Conclusion: HbA1c is significantly associated with severe coronary atherosclerosis in non-diabetic patients.

Keywords: Hemoglobin A1c; Coronary Artery Disease; Non-Diabetic Patients

Dept. of Clinical & Chemical Pathology

M-111. Effect of Interleukin-10 Gene Promoter Polymorphisms -1082 G/A and - 592 C/A on Response To Therapy in Children and Adolescents With Chronic Hepatitis C Virus Infection

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Human Immunology, 77: 1248-1253 (2016) IF: 2.127

bstract Background and aim Studying predictors of response to therapy for hepatitis C virus (HCV) infection in children may help avoid the inappropriate use of currently available costly therapy associated with numerous adverse effects. We tested the hypothesis that inheritance of single nucleotide polymorphisms (SNPs) of the interleukin-10 (IL-10) promoter gene might influence response to HCV treatment. Patients and methods The impact of SNPs, -1082 G/A and -592 C/A, in the promoter region of IL-10 gene, on response to HCV therapy was assessed in a cohort of 40 children treated with a combination of pegylated interferon (Peg-IFN) α2b and ribavirin. Results Sustained virological response was achieved in 48.7%. High viral load was associated with non-response to therapy. There was no association between histopathological degree of inflammation or fibrosis and response to therapy. There was no direct statistically significant association between polymorphisms in the IL-10 gene (-1082G/A and -592 C/A) as regards inflammation or response to therapy in children. As for the SNP -592 C/A; there was a statistically significant association with the score of fibrosis ($P < 0.004$), concluding that the A allele was protective from moderate and severe fibrosis. Meanwhile the SNP -1082G/A did not show any association with the fibrosis score. Conclusion We could not associate response to therapy for HCV with IL-10 polymorphisms -1082 G/A and -592 C/A. For the SNP -592 C/A, the A allele protected from moderate and severe fibrosis. Abbreviations HCVhepatitis C virusTh1Type 1 helper T cellsTh2Type 2 helper T cellsILinterleukinSNPssingle nucleotide polymorphisms PEG-IFN pegylated interferon AST aspartate amino transferaseALTalanine amino transferase GGT gamma-glutamyl transferase AP alkaline phosphatase PCR polymerase chain reaction EVR early virologic response ETR end of treatment response SVR sustained virological response

SDS Sequence Detection System IQR, interquartile range HA Ihistological activity index
Keywords: Hcv Interleukin-10 Peg-Ifn Snp -1082 G/A SNP -592 C/A

M-112. Serum Amyloid A Type 1 Gene Polymorphism in Egyptian Children With Familial Mediterranean Fever.

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Pathobiology, 83(6): 295-300 (2016) IF: 1.732

Abstract BACKGROUND: Since spontaneous inflammation is an important contributor to familial Mediterranean fever (FMF), genetic variants mediating inflammation are of interest. We investigated gene variants in the acute-phase serum amyloid A type 1 (SAA1), a sensitive marker of inflammatory activity, and their association with susceptibility and severity of FMF. METHODS: The genotypes of 2 single-nucleotide polymorphisms within exon 3 of SAA1 (2995C/T and 3010C/T) were determined in 105 Egyptian children with FMF and in 125 controls by polymerase chain reaction-restriction fragment length polymorphism. Genotyping of the causative MEFV mutations was performed by reverse hybridization. RESULTS: The M694I mutation was the most frequent allele (42.8%), followed by V726A (18.6%), M680I (17.1%), E148Q (11.9%) and M694V (9.0%). The frequency of the SAA1 α, β and x03B3; alleles was not significantly different between FMF patients and controls. The genotype frequency of SAA1 α/α was higher in patients than in healthy subjects (21.0 vs. 14.4%) although it did not reach statistical significance. The clinical manifestations including age at disease onset, number of FMF attacks, colchicine dose and severity score were not related to genotypes of SAA1. However, M694V mutation and female gender were significantly associated with severity. CONCLUSION: The genetic polymorphism of SAA1 is not associated with susceptibility and severity of FMF in Egyptian children.
Keywords: Https://Www.Karger.Com/Article/Abstract/444933# Keyworselector

M-113. Interleukin-23R Gene Polymorphism in Pediatric Egyptian Patients With Primary Immune Thrombocytopenia

Hala M. Farawela, Shahira K.A. Botros, Mona El-Ghamrawy and Eman O. Ebrahim

Blood Coagulation and Fibrinolysis, 27: 374-377 (2016) IF: 1.242

Primary immune thrombocytopenia is an acquired autoimmune disorder caused by the production of antiplatelet antibodies. These autoantibodies opsonize platelets for splenic clearance, resulting in low levels of circulating platelets. The current case–control study aimed at detecting the frequency of interleukin-23 receptor rs1884444 single nucleotide polymorphism in Egyptian children with primary immune thrombocytopenia and its possible role as a genetic marker for disease risk. Interleukin-23 receptor rs1884444 single nucleotide polymorphism was studied in 50 patients with primary immune thrombocytopenia and 100 healthy age and sex-matched controls by polymerase chain reaction amplification of the target gene followed by allele-specific restriction enzyme digestion. Regarding the distribution of the genotypes of the interleukin-23 receptor rs1884444 polymorphism, no statistically significant difference was found between cases and control groups. The variant genotypes (GT/TT) frequency was 10% in primary immune thrombocytopenia cases versus 7% in the control groups [P valueU0.755, odds ratio (OR): 0.326, 95% confidence interval (CI): 0.099–1.076]. Similarly, no difference was found between acute and chronic cases. The variant genotypes GT/TT frequency was 10.7% in acute versus 9.1% in chronic primary immune thrombocytopenia (P valueU0.849). The variant genotypes GT/TT were not found to be a risk factor for acute primary (P valueU0.807, OR: 0.641, 95% CI: 0.16–2.563) or chronic primary immune thrombocytopenia (P valueU0.914, OR: 0.762, 95% CI: 0.153–3.797). Our study suggests the possibility that interleukin-23 receptor gene polymorphism may not contribute to the susceptibility of development of primary immune thrombocytopenia in Egyptian children.
Keywords: Childhood Primary Immune Thrombocytopenia, Il-23R Gene, Polymorphism

M-114. Urinalysis: The Automated Versus Manual Techniques; Is It Time To Change?.

Asmaa Ismail Ahmed, Heba Baz and Sarah Lotfy

Clinical Laboratory, 62: 49-56 (2016).936

BACKGROUND: Urinalysis is the third major test in clinical laboratory. Manual technique imprecision urges the need for a rapid reliable automated test. We evaluated the H800-FUSIOO automatic urine sediment analyzer and compared it to the manual urinalysis technique to determine if it may be a competitive substitute in laboratories of central hospitals. METHODS: 1000 urine samples were examined by the two methods in parallel. Agreement, precision, carryover, drift, sensitivity, specificity, and practicability criteria were tested. RESULTS: Agreement ranged from excellent to good for all urine semi-quantitative components (K > 0.4, p = 0.000), except for granular casts (K = 0.317, p = 0.000). Specific gravity results correlated well between the two methods (r = 0.884, p = 0.000). RBCS and WBCs showed moderate correlation (r = 0.42, p = 0.000) and (r = 0.44, p = 0.000), respectively. The auto-analyzer's within-run precision was > 75% for all semi-quantitative components except for proteins (50% precision). This finding in addition to the granular casts poor agreement indicate the necessity of operator interference at the critical cutoff values. As regards quantitative contents, RBCs showed a mean of 69.8 +/- 3.95, C.V. = 5.7, WBCs showed a mean of 38.9 +/- 1.9, C.V. = 4.9). Specific gravity, pH, microalbumin, and creatinine also showed good precision results with C.Vs of 0.000, 2.6, 9.1, and 0.00 respectively. in the between run precision, positive control showed good precision (C.V. = 2.9), while negative control's C.V. was strikingly high (C.V. = 127). Carryover and drift studies were satisfactory. Manual examination of inter-observer results showed major discrepancies (< 60% similar readings), while intra-observer's results correlated well with each other (r = 0.99, p = 0.000). CONCLUSIONS: Automation of urinalysis decreases observer-associated variation and offers prompt competitive results when standardized for screening away from the borderline cutoffs.
Keywords: Urine, Automation, H800-Fus100, Evaluation

M-115. Cell Free Dna and Procalcitonin As Early Markers of Complications in Icu Patients With Multiple Trauma and Major Surgery.

Asmaa I. Ahmed , Randa A. Soliman and Shereif Samir

Clinical Laboratory, 62: 2395-2404 (2016).936

BACKGROUND: Cell free DNA (cfDNA) was recently suggested as a new marker of sepsis and poor outcome in ICU patients. Procalcitonin has also been the focus of attention as an early marker for systemic inflammation and sepsis. METHODS: cfDNA, procalcitonin (PCT), C-reactive protein (CRP), and lactate levels were measured in 30 ICU patients with multiple trauma or after major surgery on the first day of admission and on 5th and 7th days for PCT, CRP, and lactate. cfDNA was measured by real-time PCR, PCT by ELISA, CRP immunoturbidimetrically, and lactate spectrophotometrically. SOFA score and Injury Severity Score (ISS) for trauma patients were calculated. RESULTS: Significantly higher levels of cfDNA were observed in non-survivor patients in comparison to survivors and in patients with sepsis in comparison to those without sepsis ($p = 0.002$ and $p = 0.02$, respectively). The ROC curve was calculated for cfDNA as a predictor of outcome, the area under the curve (AUC) was 0.847 (95% CI: 0.669 - 0.952), at a cutoff value of 15500 ng/µL, sensitivity = 83.3%, specificity = 77.8% ($p < 0.0001$). As a prognostic marker of sepsis, the AUC for cfDNA was 0.788 (95% CI: 0.601 - 0.915), sensitivity = 56.25%, specificity = 100% ($p = 0.0007$). Day 5 PCT levels significantly correlated with SOFA scores on day 5, ISS on admission ($p < 0.001$ and $p = 0.028$, respectively), and a significant elevation of its levels was observed in non-survivor patients compared to survivors ($p = 0.001$). As a predictor of sepsis, PCT showed a sensitivity of 81.3%, specificity of 100% on day 5, (AUC: 0.987, 95% CI: 0.955 - 1.00); at a cutoff value of 202.90 pg/mL ($p = 0.001$). As a predictor of outcome, PCT on day 5 showed a sensitivity of 94.0% and a specificity of 78.0% at a cutoff value of 194.40 pg/mL ($p = 0.001$). Day 1 CRP correlated with ISS on admission, and on day 5 it correlated with SOFA score 5, while lactate correlated with length of stay on days 1, 5, and 7, and its levels were significantly higher in non-survivors on days 5 and 7. CONCLUSIONS: cfDNA is a good predictor of patient outcome in ICU and to a lesser extent as a marker of sepsis. PCT is another promising marker that can complement cfDNA to reach better patient management. Other markers can help in less severe cases.

Keywords: Cell Free Dna, Procalcitonin, Sepsis, Icu, Outcome

M-116. Frequency of Hereditary Hemochromatosis (Hfe) Gene Mutations in Egyptian Beta Thalassemia Patients and Its Relation To Iron Overload

Azza Aboul Enein, Nermine A. El Dessouky, Khalda S. Mohamed, Shahira K. A. Botros, Mona F. Abd El Gawad, Mona Hamdy and Nehal Dyaa

Macedonian Journal of Medical Sciences, 4: 226-231 (2016)

AIM: This study aimed to detect the most common HFE gene mutations (C282Y, H63D, and S56C) in Egyptian beta thalassemia major patients and its relation to their iron status. SUBJECTS and METHODS: The study included 50 beta thalassemia major patients and 30 age and sex matched healthy persons as a control group. Serum ferritin, serum iron and TIBC level were measured. Detection of the three HFE gene mutations (C282Y, H63D and S65C) was done by PCR-RFLP analysis. Confirmation of positive cases for the mutations was done by sequencing. RESULTS: Neither homozygote nor carrier status for the C282Y or S65C alleles was found. The H63D heterozygous state was detected in 5/50 (10%) thalassemic patients and in 1/30 (3.3%) controls with no statistically significant difference between patients and control groups ($p = 0.22$). Significantly higher levels of the serum ferritin and serum iron in patients with this mutation ($p = 001$). CONCLUSION: Our results suggest that there is an association between H63D mutation and the severity of iron overload in thalassemic patients.

Keywords: Https://Www.Ncbi.Nlm.Nih.Gov/Pmc/Articles/Pmc4908736/

Dept. of Dermatology

M-117. Can Basal Cell Carcinoma Lateral Border Be Determined By Fluorescence Diagnosis?: Verification By Mohs Micrographic Surgery.

Khaled El Hoshy, Manal Bosseila, Dina El Sharkawy and Rehab Sobhi

Photodiagnosis and Photodynamic Therapy, 14: 4-8 (2016) IF: 2.412

Abstract BACKGROUND: The preferential accumulation of 5-aminolaevulinic acid (ALA)-induced protoporphyrin IX (PpIX) in neoplastic cells supports its potential use in the photodetection of epithelial tumours through porphyrin fluorescence. OBJECTIVE: To assess the validity of fluorescence diagnosis (FD) as an efficient pre-surgical in vivo imaging tool for defining the lateral boundaries of various types of basal cell carcinomas (BCCs). METHODS: The BCC tumour area was determined for 27 patients using FD digitalized imaging system, where the accumulation of PpIX in tumour tissue in relation to normal tissue was measured. Subsequently, BCCs were excised according to the complete area defined by FD using Mohs micrographic surgery (MMS). RESULTS: of the 27 BCCs, the FD margin of the lesion coincided with the histopathological picture in 12 BCCs (44.44%). The mean value of accumulation factor (AF) was 2.7. Although 17 pigmented BCCs showed attenuated or absent fluorescence in the center, fluorescence at their periphery was used as a guide for excision, and statistically, the pigmentation of the BCCs showed no effect on the results of the FD efficacy ($p=1.0$). CONCLUSION: Fluorescence diagnosis of BCC may be beneficial as a guide to the safety margin needed before MMS. The safety margin is decided according to the FD tumour diameter in relation to the clinical tumour diameter.

Keywords: Accumulation Factor; Basal Cell Carcinoma (Bcc); Fluorescence Diagnosis; Mohs Micrographic Surgery (Mms); Pigmented Bcc

M-118. Phototherapeutic Modalities Pose No Significantly Increased Risk of Oxidative Damage To Dna in Dark Skinned Individuals.

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Indian Journal of Dermatology, Venereology and Leprology, 82(6): 666-672 (2016) IF: 1.488

BACKGROUND: 8-oxoguanine, a major product of DNA oxidation, is considered a key parameter in measuring the carcinogenic effects of ultraviolet radiation. OBJECTIVE: To assess and compare the carcinogenic potential of different photo (chemo) therapeutic modalities in photoresponsive skin diseases by measuring the levels of 8-oxoguanine in dark-skinned individuals before and after photo (chemo) therapy. METHODS: A prospective, randomized controlled pilot study was conducted in 63 patients of skin types III-V with photo-responsive dermatoses including vitiligo, psoriasis and mycosis fungoides. Patients were divided into three groups; Group 1 (received narrowband ultraviolet-B), Group 2 (received psoralen plus ultraviolet-A) and Group 3 (received broadband ultraviolet-A). Biopsies were taken before and after phototherapy to measure 8-oxoguanine levels using enzyme-linked immunosorbent assay. Biopsies were also taken from the sun-protected skin in 21 controls subjects who had no dermatological disease. RESULTS: Regardless of the disease, a significantly higher level of 8-oxoguanine was found after treatment when compared to the pre-treatment baseline levels; however, these levels were comparable to those in control subjects. A weakly significant positive correlation was found between cumulative dose and 8-oxoguanine levels following psoralen plus ultraviolet-A therapy. in controls, comparing the 8-oxoguanine levels between skin types III and IV showed significantly lower 8-oxoguanine in skin type IV. CONCLUSION: Therapeutic doses of ultraviolet radiation are relatively safe in dark skinned patients; however, minimizing the cumulative dose of phototherapeutic modalities (particularly psoralen plus ultraviolet-A) is recommended.

Keywords: 8-Oxoguanine, Carcinogenesis, Narrowband Ultraviolet-B, Psoralen Plus Ultraviolet-A

M-119. Evaluation of The Correlation Between Serum Levels Ofvitamin D and Vitamin D Receptor Gene Polymorphismsin An Egyptian Population

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International Journal of Dermatology, Volume 55, Issue 12: 13291-1335 (2016) IF: 1.415

BACKGROUND: Vitiligo is an autoimmune depigmentation disorder. Polymorphisms in the vitamin D receptor (VDR) have been found to be associated with vitiligo. OBJECTIVES: To evaluate the potential association between VDR gene polymorphisms (ApaI, TaqI, and FokI) and vitiligo susceptibility, and to detect if there is correlation between serum 25-hydroxyvitamin D [25(OH)D] levels and vitiligo and between VDR gene polymorphisms and 25(OH)D levels in vitiligo. MATERIALS and METHODS: Seventy-five patients with vitiligo and 75 age and sex-matched controls were subjected to detailed history taking and dermatological examination to determine the extent and clinical type of vitiligo. A blood sample (5 ml) was retrieved to investigate VDR gene polymorphisms and serum 25(OH)D level. RESULTS: Our results showed that the serum level of vitamin D is statistically significantly lower in patients than controls. The frequency of the ApaI variant a allele, the variant genotype (aa), and the variant genotype (tt) were significantly higher among the vitiligo cases than among controls. Our study also showed that the serum 25(OH)D levels were not significantly different among the different ApaI, TaqI, and FokI genotypes. CONCLUSION: The present study showed that serum level of 25(OH)D is statistically significantly lower in patients than controls, so screening for vitamin D deficiency seems of value in patients with vitiligo for the possibility of vitamin D supplementation. We also report that VDR gene polymorphisms may be a risk for the development of vitiligo in an Egyptian population.

Keywords: Vitamin D/Vitamin D Receptor/Vitiligo

M-120. The Role of Systemic Steroidsand Phototherapy in Thetreatment of Stable Vitiligo: Arandomized Controlled Trial

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Dermatologic Therapy, 29(6): 406-412 (2016) IF: 1.268

Pathogenesis of vitiligo is believed to be multifactorial disease with a wide variety of therapeutic modalities. The aim of this work is to assess the efficacy of oral mini-pulse steroids (OMP) plus Nb-U.V.B in comparison to OMP alone and Nb-U.V.B alone in treating stable vitiligo. A prospective randomized controlled study including 45 patients categorized into three groups receiving therapy for 3 months; Group A received Nb-U.V.B plus OMP, Group B received OMP alone while Group C received Nb-U.V.B alone. Clinical assessment and PCR evaluation of bFGF, ICAM1, and ELISA for AMA were done. Patients receiving Nb-U.V.B plus OMP and using Nb-U.V.B alone gave statistically significant clinical response than those treated with OMP alone. Statistically significant rise of BFGF was noticed after treatment with Nb-U.V.B plus OMP and with Nb-U.V.B alone. Patients treated with OMP alone and with Nb-U.V.B alone showed statistically significant drop of ICAM-1 after therapy. NB-U.V.B plus OMP and Nb-U.V.B alone were found to be clinically superior over OMP alone in treating stable vitiligo patients, hence suggesting that adding OMP to Nb-U.V.B can maintain clinical and laboratory success for a longer period of time and with less relapse.

Keywords: Nb-U.V.B; Oral Pulse Steroids; Systemic Steroids; Vitiligo

Dept. of Diagnostic Radiology

M-121. Intraprocedural Blood Volume Measurement Using C-Arm Ct As A Predictor For Treatment Response of Malignant Liver Tumours Undergoing Repetitive Transarterial Chemoembolization (Tace).

Thomas J. Vogl, Patrik Schaefer, Thomas Lehnert, Nour-Eldin A. Nour-Eldin, Hanns Ackermann, Emmanuel Mbalisike, Renate Hammerstingl, Katrin Eichler, Stephan Zangos and Nagy N. N. Naguib

European Radiology, 26(3): 755-763 (2016) IF: 3.64

PURPOSE: To evaluate feasibility of measuring parenchymal blood volume (PBV) of malignant hepatic tumours using C-arm CT, test the changes in PBV following repeated transarterial chemoembolization (TACE) and correlate these changes with the change in tumour size in MRI. METHODS: 111 patients with liver malignancy were included. Patients underwent MRI and TACE in a 4- to 6-week interval. During intervention C-arm CT was performed. Images were post-processed to generate PBV maps. Blood volume data in C-arm CT and change in size in MRI were evaluated. The correlation between PBV and size was tested using Spearman rank test. RESULTS: Pre-interventional PBV maps showed a mean blood volume of 84.5 ml/1000 ml ± 62.0, follow-up PBV maps after multiple TACE demonstrated 61.1 ml/1000 ml ± 57.5. The change in PBV was statistically significant ($p = 0.02$). Patients with initial tumour blood volume >100 ml/1000 ml dropped 7.1% in size and 47.2% in blood volume; 50-100 ml/1000 ml dropped 4.6% in size and 25.7% in blood volume; and <50 ml/1000 ml decreased 2.8% in size and increased 82.2% in blood volume. CONCLUSION: PBV measurement of malignant liver tumours using C-arm CT is feasible. Following TACE PBV decreased significantly. Patients with low initial PBV show low local response rates and further increase in blood volume, whereas high initial tumour PBV showed better response to TACE.

Keywords: Computed Tomography; Liver; Neoplastic Processes; Perfusion; Therapeutic Chemoembolization

M-122. Transarterial Chemoembolization of Hepatocellular Carcinoma in A Rat Model: The Effect of Additional Injection of Survivin Sirna To The Treatment Protocol

Thomas J. Vogl, Elsie Oppermann, Jun Qian, Ulli Imlau, Andreas Tran , Yousef Hamidavi, Huedayi Korkusuz, Wolf Otto Bechstein, Nour-Eldin Abdel-Rehim Nour-Eldin, Tatjana Gruber-Rouh, Renate Hammerstingl and Nagy Naguib Naeem Naguib

Bmc Cancer, 16: 325-325 (2016) IF: 3.265

BACKGROUND: Transarterial chemoembolization is one of the most widely accepted interventional treatment options for treatment of hepatocellular carcinoma. Still there is a lack of a standard protocol regarding the injected chemotherapeutics. Survivin is an inhibitor of Apoptosis protein that functions to inhibit apoptosis, promote proliferation, and enhance invasion. Survivin is selectively up-regulated in many human tumors. Small interfering RNA (siRNA) can trigger an RNA interference response in mammalian cells and induce strong inhibition of specific gene expression including Survivin. The aim of the study is to assess the effectiveness of the additional injection of Survivin siRNA to the routine protocol of Transarterial Chemoembolization (TACE) for the treatment of hepatocellular carcinoma in a rat model. METHODS: The study was performed on 20 male ACI rats. on day 0 a solid Morris Hepatoma 3924A was subcapsullary implanted in the liver. on day 12 MRI measurement of the initial tumor volume (V1) was performed. TACE was performed on day 13. The rats were divided into 2 groups; Group (A, n = 10) in which 0.1 mg mitomycin, 0.1 ml lipiodol and 5.0 mg degradable starch microspheres were injected in addition 2.5 nmol survivin siRNA were injected. The same agents were injected in Group (B,=10) without Survivin siRNA. MRI was repeated on day 25 to assess the tumor volume (V2). The tumor growth ratio (V2/V1) was calculated. Western blot and immunohistochemical analysis were performed. RESULTS: For group A the mean tumor growth ratio (V2/V1) was 1.1313 +/- 0.1381, and was 3.1911 +/- 0.1393 in group B. A statistically significant difference between both groups was observed regarding the inhibition of tumor growth ($P < 0.0001$) where Group A showed more inhibition compared to Group B. Similarly immunohistochemical analysis showed significantly lower ($p < 0.002$) VEGF staining in group A compared to group B. Western Blot analysis showed a similar difference in VEGF expression ($P < 0.0001$). CONCLUSION: The additional injection of Survivin siRNA to the routine TACE protocol increased the inhibition of the hepatocellular carcinoma growth in a rat animal model compared to regular TACE protocol.

Keywords: Chemoembolization; Hepatocellular Carcinoma; Survivin Sirna

M-123. High-Frequency Versus Low-Frequency Microwave Ablation in Malignant Liver Tumours: Evaluation of Local Tumour Control and Survival

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International Journal of Hyperthermia, 32(8): 868-875 (2016) IF: 3.261

PURPOSE: To compare local tumour control and survival rates in patients with liver metastases treated with microwave ablation (MWA), using either a low-frequency (LF) (915 MHz) or high-frequency (HF) system (2.45 GHz). MATERIALS and METHODS: The retrospective study included 221 patients (mean age: 61.7 years) with 356 malignant hepatic lesions. Ninety-four patients with 133 lesions underwent LF-MWA between September 2008 and February 2011, while 127 patients with 223 lesions were treated with HF-MWA between March 2011 and July 2013. MRI was performed after 24 h from each procedure and at 3, 6, 9, 12, 18 and 24 months post-ablation. Both groups were compared with the Fisher's exact test. Survival rates were calculated using the Kaplan-Meier test. RESULTS: The mean initial ablation volume of LF-MWA was nearly half of HF-MWA (19.1 mL vs. 39.9 mL). The difference in volume between both systems was significant ($p < .0001$). With LF-MWA, 39/133 lesions (29.32%) progressed at follow-up while the number of lesions which progressed with HF-MWA was 10/223 (4.5%). The mean time to progression was 5.03 and 5.31 months for the lesions treated with LF-MWA and HF-MWA, respectively. The difference between both systems was significant ($p = .00059$). The 1-, 2- and 4-year overall survival rates for curative indication were 98.9%, 95.7% and 82.9% for

LF-MWA, respectively, and were 100%, 97.6% and 92.9% for HF-MWA, respectively. The difference in survival rates was not significant (p > .05). CONCLUSION: Both LF- and HF-MWA systems are effective treatment options for oligonodular liver malignant lesions, but significantly higher ablation volumes, longer time to progression and lower progression rates were observed in HF-MWA.

Keywords: Microwaves; Ablation Techniques; Liver; Neoplasms

M-124. Real-Time Qualitative Mr Monitoring of Microwave Ablation in Ex Vivo Livers.

Benjamin Kaltenbach, Andrei Roman, Katrin Eichler, Nour-Eldin A. Nour- Eldin, Thomas J. Vogl and Stephan Zangos

International Journal of Hyperthermia, 32(7): 757-764 (2016) IF: 3.261

PURPOSE: Computed tomography (CT) and ultrasound-guided microwave ablations (MWA) are part of the established treatment of liver tumours. in spite of its potential advantages, magnetic resonance (MR) monitoring of MWA did not enter clinical practice because of the lack of compatible devices. The purpose of the current study was to prove the feasibility of real-time qualitative MR monitoring using a new MR-compatible MWA device. MATERIAL and METHODS: We performed 27 MWA experiments with different durations (5, 10 and 15 min) on an ex vivo bovine liver model using a MR-compatible MWA device. We compared the diameters of the ablation zone as depicted on three T1-based sequences to those of the macroscopic specimen. The volume and the sphericity index of the macroscopic ablation area were calculated in order to characterise the device. Ablation pattern and artefacts on the three sequences were also taken into account. RESULTS: We obtained high-quality real-time images using all three sequences. The diameters as depicted on the MR sequences slightly overestimated the macroscopic ablation area but correlated significantly in all cases ($p < 0.05$). VIBE provided the best correlation for both short-axis diameter ($r = 0.96$) and long-axis diameter ($r = 0.87$), whereas starVIBE ($r = 0.85$; $r = 0.72$) and FLASH ($r = 0.75$; $r = 0.84$) correlated slightly less. Significantly more severe noise artefacts were observed on starVIBE compared to FLASH and VIBE sequences ($p < 0.0001$). CONCLUSION: The current ex vivo liver model experiment suggests that real-time qualitative MR monitoring of MWA is feasible. Further research using in vivo and human models are recommended.

Keywords: Ex Vivo Model; Mr Imaging; Microwave; Thermal Ablation

M-125. Thermal Ablation of Colorectal Lung Metastases: Retrospective Comparison Among Laser-Induced Thermotherapy, Radiofrequency Ablation, and Microwave Ablation

Thomas J. Vogl, Romina Eckert, Nagy N. N. Naguib, Martin Beeres, Tatjana Gruber-Rouh and Nour-Eldin A. Nour-Eldin

American Journal of Roentgenology, 207(6): 1340-1349 (2016) IF: 2.66

OBJECTIVE: The purpose of this study is to retrospectively evaluate local tumor control, time to tumor progression, and survival rates among patients with lung metastatic colorectal cancer who have undergone ablation therapy performed using laser-induced thermotherapy (LITT), radiofrequency ablation (RFA), or microwave ablation (MWA). MATERIALS and METHODS: Data for this retrospective study were collected from 231 CT-guided ablation sessions performed for 109 patients (71 men and 38 women; mean [± SD] age, 68.6 ± 11.2 years; range, 34-94 years) from May 2000 to May 2014. Twenty-one patients underwent LITT (31 ablations), 41 patients underwent RFA (75 ablations), and 47 patients underwent MWA (125 ablations). CT scans were acquired 24 hours after each therapy session and at follow-up visits occurring at 3, 6, 12, 18, and 24 months after ablation. Survival rates were calculated from the time of the first ablation session, with the use of Kaplan-Meier and log-rank tests. Changes in the volume of the ablated lesions were measured using the Kruskal-Wallis method. RESULTS: Local tumor control was achieved in 17 of 25 lesions (68.0%) treated with LITT, 45 of 65 lesions (69.2%) treated with RFA, and 91 of 103 lesions (88.3%) treated with MWA. Statistically significant differences were noted when MWA was compared with LITT at 18 months after ablation ($p = 0.01$) and when MWA was compared with RFA at 6 months ($p = 0.004$) and 18 months ($p = 0.01$) after ablation. The overall median time to local tumor progression was 7.6 months. The median time to local tumor progression was 10.4 months for lesions treated with LITT, 7.2 months for lesions treated with RFA, and 7.5 months for lesions treated with MWA, with no statistically significant difference noted. New pulmonary metastases developed in 47.6% of patients treated with LITT, in 51.2% of patients treated with RFA, and in 53.2% of patients treated with MWA. According to the Kaplan-Meier test, median survival was 22.1 months for patients who underwent LITT, 24.2 months for those receiving RFA, and 32.8 months for those who underwent MWA. The overall survival rate at 1, 2, and 4 years was 95.2%, 47.6%, and 23.8%, respectively, for patients treated with LITT; 76.9%, 50.8%, and 8.0%, respectively, for patients treated with RFA; and 82.7%, 67.5%, and 16.6%, respectively, for patients treated with MWA. The log-rank test revealed no statistically significant difference among LITT, RFA, and MWA. The progression-free survival rate at 1, 2, 3, and 4 years was 96.8%, 52.7%, 24.0%, and 19.1%, respectively, for patients who underwent LITT; 77.3%, 50.2%, 30.8%, and 16.4%, respectively, for patients who underwent RFA; and 54.6%, 29.1%, 10.0%, and 1.0%, respectively, for patients who underwent MWA, with no statistically significant difference noted among the three ablation methods. CONCLUSION: LITT, RFA, and MWA can be used as therapeutic options for lung metastases resulting from colorectal cancer. Statistically significant differences in local tumor control revealed a potential advantage in using MWA. No differences in time to tumor progression or survival rates were detected when the three different ablation methods were compared.

Keywords: Ablation; Colorectal Carcinoma; Laser-Induced Thermotherapy; Lung Metastases; Microwave; Radiofrequency

M-126. The Value of Mri in Patients With Temporomandibular Joint Dysfunction: Correlation of Mri and Clinical Findings.

Thomas J. Vogl, Hans-Christoph Lauer, Thomas Lehnert, Nagy N.N. Naguib, Peter Ottl, Natalie Filmann, Howard Soekamto and Nour-Eldin A. Nour-Eldin

European Journal of Radiology, 85(4): 714-719 (2016) IF: 2.593

AIM: To estimate the correlation between the MRI findings and clinical outcomes in patients with temporomandibular joint dysfunction (TMD). METHODS and MATERIALS: We included 546 female and 248 male patients who were clinically diagnosed with TMD (mean age 38.7 years) and examined by MRI (T1 and T2 weighted images, parasagittal and paracoronal slices). A questionnaire, radiological, and clinical findings were analysed for statistically significant correlations. The analysed parameters included gender, age, disk position, joint degeneration, arthralgia, mouth opening, condyle position and clinical progress. RESULTS: of all TMJ's 62% showed physiological disc position, 35% anterior and 3% posterior disc position. Modification of therapy occurred in 20% and alteration of diagnosis was found in 32% of all cases. Anterior disc displacement with reduction showed a specificity of 88% and a sensitivity of 78%, whereas anterior disc displacement without reduction showed a specificity of 84% and a sensitivity of 73%. A significant correlation between disc length, condyle morphology and disc displacement was found. With the increase of intra-articular liquid as seen on MRI the level of arthralgia significantly rose as opposed to mouth opening. CONCLUSION: Specificity and sensitivity, for anterior disc displacement and osseous changes in TMJ were highly acceptable. Results had confirmed the diagnostic capability of MRI in diagnostic imaging of TMJ. Additionally MRI should be used primarily in severe, therapy-resistant cases and for surgical planning purposes.
Keywords: Internal Derangement; Magnetic Resonance Imaging (Mri); Temporomandibular Joint Disorder (Tmd)

M-127. Long-Term Changes in Aortic Length After Thoracic Endovascular Aortic Repair.

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Journal of Vascular and Interventional Radiology, 27(2): 181-187 (2016) IF: 2.57

PURPOSE: To study long-term changes to the thoracic aorta following thoracic endovascular aortic repair (TEVAR) for treatment of different aortic pathologic conditions. MATERIALS and METHODS: This retrospective study included 53 consecutive patients (mean age, 58.8 y ± 14; 13 female and 40 male) in whom TEVAR was performed between October 2002 and May 2010. The mean duration of follow-up was 21.1 months (range, 0.5-96 mo). Statistical analysis was performed with the Friedman test and Conover-Iman test. RESULTS: Nineteen patients with aortic aneurysm (group 1), 25 patients with type B dissection (group 2), and 9 patients with other pathologic conditions (group 3) were treated with TEVAR. The mean overall aortic lengths (from the origin of the left subclavian artery to the origin of the celiac trunk) before TEVAR were 271.4 mm, 268.6 mm, and 233.6 mm in groups 1, 2, and 3, respectively. At 12-month follow-up, the lengths were 282.8 mm, 294.4 mm, and 237.5 mm in groups 1, 2, and 3, respectively. The changes in aortic lengths following TEVAR were statistically significant ($P < .001$). A second intervention was required in 14 patients, and 6 patients died during follow-up. CONCLUSIONS: A significant change in the overall aortic length was observed following TEVAR. The changes in aortic length reached statistical significance after 12 months.
Keywords: Aortic Length Changes, Thoracic Endovascular Aortic Repair, Tevar

M-128. Pneumothorax Complicating Coaxial and Non-Coaxial Ct-Guided Lung Biopsy: Comparative Analysis of Determining Risk Factors and Management of Pneumothorax in A Retrospective Review of 650 Patients

Nour-Eldin A. Nour-Eldin, Mohammed Alsubhi, Ahmed Emam, Thomas Lehnert, Martin Beeres, Volkmar Jacobi, Tatjana Gruber-Rouh, Jan-Erik Scholtz, Thomas J. Vogl and Nagy N. Naguib

Cardiovascular and Interventional Radiology, 39(2): 261-270 (2016) IF: 2.144

PURPOSE: To assess the scope and determining risk factors related to the development of pneumothorax throughout CT-guided biopsy of pulmonary lesions in coaxial and non-coaxial techniques and the outcome of its management. MATERIALS and METHODS: The study included CT-guided percutaneous lung biopsies in 650 consecutive patients (407 males, 243 females; mean age 54.6 years, SD 5.2) from November 2008 to June 2013 in a retrospective design. Patients were classified according to lung biopsy technique into coaxial group (318 lesions) and non-coaxial group (332 lesions). Exclusion criteria for biopsy were lesions <5 mm in diameter, uncorrectable coagulopathy, positive-pressure ventilation, severe respiratory compromise, pulmonary arterial hypertension, or refusal of the procedure. Risk factors related to the occurrence of pneumothorax were classified into: (a) Technical risk factors, (b) patient-related risk factors, and (c) lesion-associated risk factors. Radiological assessments were performed by two radiologists in consensus. Mann-Whitney U test and Fisher's exact tests were used for statistical analysis. p values <0.05 were considered statistically significant. RESULTS: The incidence of pneumothorax complicating CT-guided lung biopsy was less in the non-coaxial group (23.2 %, 77 out of 332) than the coaxial group (27 %, 86 out of 318). However, the difference in incidence between both groups was statistically insignificant ($p = 0.14$). Significant risk factors for the development of pneumothorax in both groups were emphysema ($p < 0.001$ in both groups), traversing a fissure with the biopsy needle (p value 0.005 in non-coaxial group and 0.001 in coaxial group), small lesion, less than 2 cm in diameter (p value of 0.02 in both groups), location of the lesion in the basal or mid sections of the lung ($p = 0.003$ and <0.001 in non-coaxial and coaxial groups, respectively), and increased needle track path within the lung tissue of more than 2.5 cm ($p = 0.01$ in both groups). The incidence of pneumothorax in the non-coaxial group was significantly correlated to the number of specimens obtained ($p = 0.006$). This factor was statistically insignificant in the coaxial group ($p = 0.45$). The biopsy yield was more diagnostic and

conclusive in the coaxial group in comparison to the non-coaxial group (p = 0.008). Simultaneous incidence of pneumothorax and pulmonary hemorrhage was 27.3 % (21/77) in non-coaxial group and in 30.2 % (26/86) in coaxial group. Conservative management was sufficient for treatment of 91 out of 101 patients of pneumothorax in both groups (90.1 %). Manual evacuation of pneumothorax was efficient in 44/51 patients (86.3 %) in both groups and intercostal chest tube was applied after failure of manual evacuation (7 patients: 13.7 %), from which one patient developed a persistent air leakage necessitating pleurodesis. CONCLUSION: Pneumothorax complicating CT-guided core biopsy of pulmonary lesions, showed the insignificant difference between coaxial and non-coaxial techniques. However, both techniques have the same significant risk factors including small and basal lesions, increased lesion's depth from pleural surface, and increased length of aerated lung parenchyma crossed by biopsy needle and passing through pulmonary fissures in the needle tract.

Keywords: Ct-Guided; Coaxial; Lung Biopsy; Non-Coaxial; Pneumothorax

M-129. Ecg-Gated Versus Non-Ecg-Gated High-Pitch Dual-Source Ct For Whole Body Ct Angiography (Cta).

Martin Beeres, Julian L. Wichmann, Claudia Frellesen, Andreas M. Bucher, Moritz Albrecht, Jan-Erik Scholtz, Nour-Eldin A. Nour-Eldin, Tatjana Gruber-Rouh, Clara Lee, Thomas J. Vogl and Thomas Lehnert

Academic Radiology, 23(2): 163-167 (2016) IF: 1.966

RATIONALE and OBJECTIVES: To investigate motion artifacts, image quality, and practical differences in electrocardiographic (ECG)-gated versus non-ECG-gated high-pitch dual-source computed tomography angiography (CTA) of the whole aorta. MATERIALS and METHODS: Two groups, each including 40 patients, underwent either ECG-gated or non-ECG-gated high-pitch dual-source CTA of the whole aorta. The aortic annulus, aortic valve, coronary ostia, and the presence of motion artifacts of the thoracic aorta as well as vascular contrast down to the femoral arteries were independently assessed by two readers. Additional objective parameters including image noise and signal-to-noise ratio were analyzed. RESULTS: Subjective and objective scoring revealed no presence of motional artifacts regardless of whether the ECG-gated or the non-ECG-gated protocol was used ($P > 0.1$). Image acquisition parameters (examination length, examination duration, radiation dose) were comparable between the two groups without significant differences. The aortic annulus, aortic valve, and coronary ostia were reliably evaluable in all patients. Vascular contrast was rated excellent in both groups. CONCLUSIONS: High-pitch dual-source CTA of the whole aorta is a robust and dose-efficient examination strategy for the evaluation of aortic pathologies whether or not ECG gating is used.

Keywords: Aorta; Ct Angiography; Dual-Source Ct; High-Pitch; Radiation Dose

M-130. Evaluation of Different Kev-Settings in Dual-Energy Ct Angiography of The Aorta Using Advanced Image-Based Virtual Monoenergetic Imaging.

Martin Beeres, Jesko Trommer, Claudia Frellesen, Nour-Eldin A. Nour-Eldin, Jan E. Scholtz, Eva Herrmann, Thomas J. Vogl and Julian L. Wichmann

International Journal of Cardiovascular Imaging, 32(1): 137-144 (2016) IF: 1.88

To compare quantitative image quality in dual-energy CT angiography (DE-CTA) studies of the aorta using different virtual monoenergetic imaging (MEI) and advanced image-based virtual monoenergetic (MEI+) settings at varying kiloelectron volt (keV) levels. Fifty consecutive patients with clinically-indicated CT of the whole aorta to evaluate suspected aortic disease underwent DE-CTA on a third-generation dual-source CT scanner. Quantitative image quality indices were assessed. Contrast material, saline flush and flow rate were kept equal for optimum comparability. DE-CTA MEI and MEI+ series ranging from 40 to 100 keV (10-keV intervals) were reconstructed. Signal intensity, noise, signal-to-noise ratio and contrast-to-noise ratio (CNR) of multiple aortic segments were evaluated. Comparisons between the different MEI and MEI+ datasets were performed. Three-hundred aortic segments total were evaluated. in the MEI+ series the 40, 50 and 100 keV MEI+ showed superior noise and CNR levels (+84, +58, +103 % on average; all $p < 0.05$) compared to MEI. However, signal intensity between MEI+ and MEI at nearly all aortic segments showed no significant difference ($p > 0.1$). MEI+ shows lower image noise compared to MEI, resulting in superior quantitative image quality, in particular at low keV levels (40 or 50 keV).

Keywords: Aorta; Ct Angiography; Dual Energy Ct; Image Noise; Virtual Monoenergetic Imaging

M-131. Current Strategies in Interventional Oncology of Colorectal Liver Metastases.

Tatjana Gruber-Rouh, Christian Marko, Axel Thalhammer, Nour-Eldin Nour-Eldin, Marcel Langenbach, Martin Beeres, Nagy N Naguib, Stephan Zangos, and Thomas J Vogl

British Journal of Radiology, 89: 1064-1064 (2016) IF: 1.84

The adequate treatment of non-resectable liver metastases from colorectal cancer which are resistant to systemic chemotherapy currently provides a great challenge. The aim is to identify and review key strategies in the treatment of colorectal liver metastases. A search for current literature on the topic of interventional strategies for colorectal metastases was performed in Medline in order to achieve this goal. Studies before 2005 and with <20 patients treated for colorectal metastases were excluded. Transarterial chemoembolization (TACE), transarterial embolization and selective internal radiation therapy (SIRT) were identified as examples of regional strategies for colorectal liver metastases, utilizing the unique blood supply of the liver. Radiofrequency ablation (RFA), microwave ablation (MWA) and cryoablation were selected as examples for currently available ablative techniques. Median survival in the key studies reviewed ranged from 7.7 to 28.6 for TACE, 8.3-12.6 for SIRT, 8.2-53.2 for RFA and 29-43 months for MWA. After review of the literature, it can be concluded that interventional oncologic therapies are a safe and effective

method for treating colorectal liver metastases. The use of new chemotherapeutic agents for local therapy and new ablation technologies and techniques may increase patient survival and allows a neoadjuvant therapy setting. in addition, a combination of local therapies may be used to increase effectiveness in the future, which is subject to further research.
Keywords: Interventional Oncology, Colorectal, Liver Metastases

M-132. Feasibility of Assessing Pulmonary Blood Volume Using C-Arm Ct During Transpulmonary Chemoperfusion and Chemoembolization in Primary and Secondary Lung Tumours.

Thomas J Vogl, Nour-Eldin A Nour-Eldin, Nagy N N Naguib, Thomas Lehnert, Hanns Ackermann, Renate Hammerstingl and Marcus Hezel

British Journal of Radiology, 89: 1062-1062 (2016) IF: 1.84

OBJECTIVE: Assessment of parenchymal blood volume (PBV) of primary and secondary pulmonary malignancies by using a C-arm CT, regarding its role in detecting early functional response to transpulmonary chemoembolization (TPCE) and clinical practicability. METHODS: 21 patients with a mean age of 56.77 years, who were assigned to TPCE during their palliative treatment, were included. PBV and the diameter of tumours were analyzed. PBV maps were calculated from three-dimensional CT-angiographic (3D-CTA) data sets. Imaging was performed on a flat detector, C-arm CT. Groups of response were classified according to the criteria of the response evaluation criteria in solid tumours. Statistically significant differences were determined and Pearson's regression analysis correlated PBV and diameter as parameters of response to treatment. RESULTS: During 4.91 sessions, median diameter increased 18.18% ($p > 0.05$) and PBV reduced 39.62% ($p > 0.05$). Functional and imaging response per tumour was statistical significantly different ($p \leq 0.05$). Correlation coefficient was $r = 0.058$. 2/41 tumours showed partial response; 31/41 tumours showed stable disease; and 8/41 tumours showed progressive disease. The highest pre-treatment PBV values were measured in decreasing tumours (206.93 ml l(-1)), and the lowest values were measured in increasing tumours (60.17 ml l(-1); $p > 0.05$). The lowest values were also measured in lung cancer (53.02 ml l(-1)) that was significantly different to uterine leiomyosarcoma (103.31 ml l(-1)) and renal cell cancer (113.14 ml l(-1); $p \leq 0.05$). CONCLUSION: Assessment of PBV maps by using 3D-CTA image data is feasible in the clinical routine. PBV shows a stronger response to TPCE treatment than measurement in diameter and should be considered as a response parameter for early detection.
Keywords: Pulmonary Blood Volume , C-Arm Ct, Transpulmonary Chemoperfusion , Chemoembolization , Lung Tumours

M-133. Effect of Diagnostic Cone-Beam Computed Tomography Protocols on Image Quality, Patient Dose, and Lesion Detection.

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Physica Medica-European Journal of Medical Physics, 32(12): 1575-1583 (2016) IF: 1.763

OBJECTIVE: To evaluate the effect of cone-beam computed tomography (CBCT) image acquisition protocols on image quality, lesion detection, delineation, and patient dose. METHODS: 100-patients and a CTDI phantom combined with an electron density phantom were examined using four different CBCT-image acquisition protocols during image-guided transarterial chemoembolization (TACE). Protocol-1 (time: 6s, tube rotation: 360°), protocol-2 (5s, 300°), protocol-3 (4s, 240°) and protocol-4 (3s, 180°) were used. The protocols were first investigated using a phantom. The protocols that were found to be clinically appropriate in terms of image quality and radiation dose were then assessed on patients. A higher radiation dose and/or a poor image quality were inappropriate for the patient imaging. Patient dose (patient-entrance dose and dose-area product), image quality (Hounsfield Unit, noise, signal-to-noise ratio and contrast-to-noise ratio), and lesion delineation (tumor-liver contrast) were assessed and compared using appropriate statistical tests. Lesion detectability, sensitivity, and predictive values were estimated for CBCT-image data using pre-treatment patient magnetic resonance imaging. RESULTS: The estimated patient dose showed no statistical significance ($p>0.05$) between protocols-2 and -3; the assessed image quality between these protocols manifested insignificant difference ($p>0.05$). Two other phantom protocols were not considered for patient imaging due to significantly higher dose (protocols-1) and poor image quality (protocol-4). Lesion delineation and detection were insignificant ($p>0.05$) between protocols-2 and -3. Lesion sensitivities generated were 81-89% (protocol-2) and 81-85% (protocol-3) for different lesion types. CONCLUSION: Data acquisition using protocols-2 and -3 provided good image quality, lesion detection and delineation with acceptable patient dose during CBCT-imaging mainly due to similar frame numbers acquired.
Keywords: Cone-Beam Computed Tomography; Image Acquisition Protocols; Image Quality; Lesion Delineation; Lesion Detection; Patient Dose

M-134. Improved Visual Delineation of The Intimal Flap in Stanford Type A and B Dissections At 3Rd Generation Dual-Source High-Pitch Ct Angiography

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Radiologia Medica, 121(7): 573-579 (2016) IF: 1.523

Evaluation of the intimal flap visibility comparing 2nd and 3rd generation dual-source high-pitch CT. METHODS: Twenty-five consecutive patients with aortic dissection underwent CT angiography on a second and third generation dual-source CT scanner using prospective ECG-gated high-pitch dual-source CT acquisition mode. Contrast material, saline flush and flow rate

were kept equal for optimum comparability. The visibility of the intimal flap as well as the delineation of the different vascular structures was evaluated. RESULTS: in 3rd generation dual-source high-pitch CT we could show a significant improvement of intimal flap visibility in aortic dissection. Especially, the far end of the dissection membrane could be better evaluated in 3rd generation high-pitch CT, reaching statistical significance ($P < 0.01$). CONCLUSION: 3rd Generation high-pitch CT angiography shows a better delineation of the aortic intimal flap in a small patient cohort, especially in the far ends of the dissection membrane. This might be due to higher tube power in this CT generation. However, to generalise these findings larger trials are needed.

Keywords: Aorta; Ct Angiography; Dual-Source Ct; High-Pitch Ct

M-135. Cystic Lesions in Multislice Computed Tomography of The Chest: A Diagnostic Approach

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Egyptian Journal of Radiology and Nuclear Medicine, 47: 1313-1322 (2016)

Purpose: To evaluate the role of Multislice Computed Tomography (MSCT) in the detection, diagnosis and differentiation of possible causes of chest cystic lesions using different capabilities of MSCT. Patients and methods: The study involved 43 patients. Clinical examination, history taking, relevant laboratory data, pulmonary function test if needed, together with different tech- niques of MSCT according to the assessed case were done to reach the possible diagnosis, and then pathology assessment was needed in 11 cases. Results: MSCT showed that 30 (70%) of cases were lung cysts, 5 (12%) of cases were medi- astinal, 4 (9%) of cases were pleural and 4 (9%) of cases were chest wall. 25 (42%) of cases were with single cyst and 18 (58%) of cases were with multiple cysts. 23 (47%) of cases were with air containing cysts and 20 (53%) of cases were with fluid containing cysts. We discussed the differentiating MSCT features of various cystic lesions and the approach used to reach final diagnosis. Conclusion: Cystic lesions of the thorax have a wide range of differential diagnosis, and to reach the cause a multidisciplinary approach should be done. The role of MSCT imaging is essential in diagnosis and evaluation of different chest cystic lesions.

Keywords: Multislice Computed Tomography (Msct) Cyst Chest Lung Pleura

Dept. of Ear Nose & Throat

M-136. Is The External Branch of The Superior Laryngeal Nerve Dispensable in Thyroid Surgery?

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Thyroid, 26: 169-173 (2016) IF: 3.784

Background: There is growing evidence that the external branch of the superior laryngeal nerve (eSLN) participates in thyroarytenoid (TA) contraction, but little data quantify its role in vocal cord adduction. Injury to the eSLN, such as in thyroid surgery, is difficult to diagnose and likely underappreciated. It is the authors' belief that eSLN injury contributes to aspiration by depriving its contribution to the laryngeal plexus. The goal of this study was to measure the glottic closing force (GCF) from eSLN stimulation in a porcine model. Methods: The recurrent laryngeal nerve (RLN) and eSLN were identified bilaterally in four porcine necks. Bilateral RLNs and eSLNs were stimulated simultaneously to obtain a control GCF using a pressure transducer placed in the glottis. Subsequently, bilateral eSLNs were stimulated and the GCF measured to quantify its percent contribution to the control value. Results: Stimulation of the RLNs and the eSLNs each led to TA muscle contraction and a measureable GCF in all four porcine necks. The control GCF was 1000.1 mmHg, while the eSLN mediated CGF was 800 mmHg. The percentage GCF attributable to the eSLN was thus 800/1000 = 80%. Conclusions: Reflex glottic closure is one of the most important mechanisms for the prevention of aspiration during deglutition. The biomechanical quantification of glottic closure can be shown as the GCF. This study has shown that the eSLN contributes in a significant way to the GCF in a porcine model, a finding that has not been quantified to the best of the authors' knowledge. Therefore, greater focus should be placed on preserving this nerve in thyroid surgery.

Keywords: Glottic Closure Force - Thyroidectomy - Superior Laryngeal Nerve

M-137. External Branch of The Superior Laryngeal Nerve Mediated Glottic Closing Force in The Porcine Model.

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The Annals of Otology Rhinology and Laryngology, 125: 421-424 (2016) IF: 1.171

OBJECTIVES: Based on our laboratory's newly confirmed motor pathway for glottic closure, we measured the glottic closing force (GCF) during isolated stimulation of the external branch of the superior laryngeal nerve (eSLN) in the porcine model. Glottic closure is 1 of the primary mechanisms for prevention of aspiration during deglutition. METHODS: The recurrent laryngeal nerve (RLN) and eSLN were identified bilaterally in 4 porcine necks. Subsequently, GCF was measured with a pressure transducer as the distal ends of individual nerves were stimulated in 4 animals. The RLN mediated GCF was measured first, followed by isolated eSLN mediated GCF, followed by transection of the RLN and repeat measurement of the eSLN GCF. Ultimately, the cricothyroid (CT) muscle attachment was released and the GCF measured. RESULTS: The GCF during isolated eSLN stimulation before and after RLN transection is approximately 89% of the RLN mediated GCF in each animal. The GCF after CT release is approximately 84% of the RLN perceived GCF. Transection of the RLN did not alter the eSLN observed GCF. CONCLUSIONS: The GCF obtained during isolated eSLN stimulation is adequate for delivery of an appropriate laryngeal protective response and may be considered a target motor nerve for augmenting GCF in selected rehab settings.

Keywords: Thyroidectomy - Recurrent Laryngeal Nerve - Glottic Closure Force

Dept. of Endemic

M-138. Ombitasvir, Paritaprevir, and Ritonavir Plus Ribavirin For Chronic Hepatitis C Virus Genotype 4 Infection in Egyptian Patients With Or Without Compensated Cirrhosis (Agate-Ii): A Multicentre, Phase 3, Partly Randomised Open-Label Trial

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The Lancet Gastroenterology and Hepatology, 1: 36-44 (2016)

Abstract BACKGROUND: in Egypt, chronic hepatitis C virus (HCV) infection occurs in around 10% of the population (about 8 million individuals), and is a leading cause of liver cirrhosis, hepatocellular carcinoma, and mortality. Although HCV genotype 4 constitutes about 20% of HCV infections worldwide, the prevalence in Egypt is more than 90%. We assessed the efficacy and safety of the two direct-acting antiviral drugs ombitasvir, an NS5A inhibitor, and paritaprevir, an NS3/4A protease inhibitor dosed with ritonavir, plus ribavirin in treatment of chronic HCV infection in Egypt. METHODS: AGATE-II was a phase 3, open-label, partly randomised trial in patients with chronic HCV genotype 4 infection recruited from five academic and hepatology centres in Egypt. Patients were HCV treatment-naive or treatment-experienced with interferon-based regimens. Eligible patients were aged 18 years or older, and had been chronically infected with HCV genotype 4 for at least 6 months with a plasma HCV RNA concentration of more than 1000 IU/mL at screening. Patients without cirrhosis were assigned to receive 12 weeks of 25 mg ombitasvir, 150 mg paritaprevir, and 100 mg ritonavir orally once daily plus weight-based ribavirin. Patients with compensated cirrhosis were randomly assigned (1:1) to receive the same treatment for either 12 weeks or 24 weeks. Randomisation was stratified by previous pegylated interferon and ribavirin treatment experience using a web-based interactive response technology system and computer-generated schedules prepared by personnel from the funder's statistics department. Investigators were masked to randomisation schedules and were informed of each patient's assigned treatment by the interactive response technology system immediately after allocation. The primary endpoint was the proportion of patients with a sustained virological response (HCV RNA <15 IU/mL) 12 weeks after the last dose of study drug (SVR12). All patients who received at least one dose of study drugs were included in the primary and safety analysis. This study is registered with ClinicalTrials.gov, number NCT02247401. FINDINGS: Between Nov 4, 2014, and March 16, 2015, we screened 182 patients with HCV infection, of whom 160 were eligible for inclusion; 100 patients were assessed as not having cirrhosis and were given 12 weeks of treatment, and 60 patients assessed as having cirrhosis were randomly assigned to the 12-week treatment group (n=31) or the 24-week treatment group (n=29). 94 (94%; 95% CI 88-97) of 100 patients in the without cirrhosis group, 30 (97%; 84-99) of 31 patients in the cirrhosis 12-week treatment group, and 27 (93%; 78-98) of 29 patients in the cirrhosis 24-week treatment group achieved SVR12. The most common adverse events in patients without cirrhosis were headache (41 [41%]) and fatigue (35 [35%]). Fatigue occurred in nine (29%) patients in the cirrhosis 12-week treatment group and 11 (38%) patients in the cirrhosis 24-week treatment group, and headache occurred in nine (29%) patients in the cirrhosis 12-week treatment group and in 10 (35%) patients in the cirrhosis 24-week treatment group. Adverse events were predominantly mild or moderate in severity, and laboratory abnormalities were not clinically meaningful. No patients discontinued treatment because of an adverse event. One serious adverse event in the group without cirrhosis was attributed to study drugs by the investigators; the patient had deep venous thrombosis. INTERPRETATION: Ombitasvir, paritaprevir, and ritonavir plus ribavirin for 12 weeks achieved SVR12 in a high proportion of patients and was well tolerated in Egyptian patients with HCV genotype 4 infection with or without compensated cirrhosis. Extension of treatment to 24 weeks in patients with cirrhosis did not improve the proportion of patients achieving SVR12. A shorter duration regimen could be useful to address the significant burden of HCV genotype 4 infection in patients with compensated cirrhosis.

Keywords: Ombitasvir-Paritaprevir-Ritonavir-Ribavirin Chronic Hcv

M-139. Can Serum Icam 1 Distinguish Pancreatic Cancer From Chronic Pancreatitis?

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Asian Pacific Journal of Cancer Prevention, 17: 4671-4675 (2016)

Background and aim: Pancreatic cancer is the fourth leading cause of cancer-related death worldwide, with an overall 5-year survival of <5% mainly due to presence of advanced disease at time of diagnosis. Therefore development of valid biomarkers to diagnose pancreatic cancer in early stages is an urgent need. This study concerned the sensitivity and specificity of serum ICAM 1 versus CA 19-9 in differentiation between pancreatic cancer and healthy subjects and acohort of patients with chronic pancreatitis with a focus on assessing validity in diagnosis of early stages of pancreatic cancer. Methods: A cohort of 50 patients with histologically diagnosed pancreatic tumors, 27 patients with chronic pancreatitis, and 35 healthy controls were enrolled. Serum samples for measurement of CA19-9 and I-CAM 1 were obtained from all groups and analyzed for significance regarding diagnosis and disease stage. Results: At a cut off value of (878.5 u/ml) I-CAM 1 had 82% and 82.26% sensitivity and specificity for differentiation between cancer and non-cancer cases, with higher sensitivity and specificity than CA19-9 at different cut offs (CA19-9 sensitivity and specificity ranged from 64-80% and 56.4 – 61.2% respectively). The AUC was 0.851 for I-CAM and 0.754 for CA19-9. Neither of the markers demonstrated significance for distinguishing between early and late cancer stages. Conclusion: ICAM 1 is a useful marker in differentiation between malignant and benign pancreatic conditions, and superior to CA19-9 in this regard. However, neither of the markers can be recommended for use in differentiation between early and late stage pancreatic cancers.

Keywords: Pancreatic Cancer- I-Cam- Ca19-9- Chronic Pancreatitis

Dept. of Forensic & Toxicology

M-140. Cutaneous (Tpa) and Skeletal (Tn1) Mrna As Marker of Aging in Contused Wounds

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Journal of Forensic Sciences, 61: 1007-1010 (2016) IF: 1.322

Wound age estimation is one of the most important forensic aspects. Troponin I (TnI) and many cytokines, for example, tissue plasminogen activator (tPA), are involved in wound inflammation and healing. Skeletal (TnI) and cutaneous (tPA) mRNA was detected using real-time PCR in 25 female albino rats. They were divided into 5 groups: control and 4 injured groups. Injured groups were sacrificed 1, 6, 24, and 30 h after inflicting contused wound. The expression levels of cutaneous (tPA) were decreased significantly at 1, 6, and 30 h after contusion (71.7%, 30.7 and 16.9%), while the expression levels of skeletal (TnI) were increased significantly at 1 and 6 h post-traumatic, then they gradually decreased until reaching normal levels at 24 h and assumed significantly lower levels at 30 h postcontusion. These results suggested that the determination of cutaneous (tPA) and skeletal (TnI) mRNA levels was useful for wound age estimation

Keywords: Forensic Science, Wound Age Estimation, Messenger Rna, Real-Time Pcr, Contused Wound, Blunt Trauma

M-141. Patterns of Violent Deaths Associated With Positive Ethanol Finding in Eastern Province, Saudi Arabia

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Egyptian Journal of Forensic Sciences, 6(4): 388-395 (2016)

Background: The analysis of alcohol exemplifies the principal aim of forensic toxicology worldwide. Detection of ethanol in post-mortem cases is getting more important nowadays due to the upsurge in the number of ethanol related fatalities all over the world. Toxicological analysis is mandatory to diagnose, and interpret the presence and levels of alcohol in different post mortem samples. The difficulties in the interpretation of blood alcohol concentration (BAC) are more profound when the body shows signs of putrefaction and the measured BAC is low as sometimes it is false positive due to decomposition. Objective: To investigate ethanol related violent deaths, whether suicidal, homicidal or accidental fatalities with positive analytical results regarding ethanol since start of January 2012, till end of December 2014 in Eastern Province, Saudi Arabia. Methods: Ethanol related violent deaths whether suicidal, homicidal or, accidental fatalities over the period from the start of January 2012, till end of December 2014 in the Eastern region, Saudi Arabia were retrospectively investigated. Results: From a total 1376 cases examined in the Forensic Medical Authority, Eastern Province over the assigned three year period, only 94 ethanol positive fatalities were detected and were investigated retrospectively. Cases with positive ethanol results, were chiefly males between 21 and 30 years of age (28.8%). Accidental causes significantly predominated (47.9%) over suicidal and homicidal causes (28.8%, and 23.3%, respectively). Most of the cases were non-Saudi (73.3%), with prevalence of Indian nationality (47.8%). Conclusion: The precise statistical mortality database for ethanol related violent deaths may provide an enormous support for the effect of alcohol on aggressive behavior, human health and mortality. in the current study, ethanol positive deaths were 94 in total, with predominance of non-Saudi Indian males. Majority of the studied cases were between 21 and 30 years of age. Further international studies are recommended

Keywords: Ethanol; Deaths; Violent; Medicolegal; Dammam

Dept. of Internal Medicine

M-142. Association of Ptpn22 1858C→T Polymorphism, Hla‑Drb1 Shared Epitope and Autoantibodies With Rheumatoid Arthritis

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Rheumatology International, 36: 1167-1175 (2016) IF: 1.702

To assess impact of PTPN22 1858C→T polymorphism, HLA shared epitope and autoantibodies on susceptibility and severity of rheumatoid arthritis (RA). A total of 150 RA patients and 150 controls were included in the study. Anti-cyclic citrullinated peptide (anti-CCP) and rheumatoid factor isotypes (IgG, IgM and IgA) were assayed by ELISA. PTPN22 1858C→T polymorphism was performed by RFLP analysis and HLA-DRB1 genotyping by PCR-SSP analysis. Single-view, anteroposterior radiographs of the hands and feet were obtained on all RA patients. The results showed association of PTPN22 1858 T allele with RA (OR = 2.3, 95 % CI 1.5–3.5) and bone erosion (OR = 2.9, 95 % CI 1.1–7.6). The associations increased with the combination of positive autoantibodies, HLA-DRB1 SE with PTPN22 1858 T allele carriage.

Keywords: Autoantibodies · Ptpn22 Gene · Rheumatoid Arthritis · Shared Epitope

M-143. Exploring Portal Vein Hemodynamic Velocities As A Promising, Attractive Horizon For Small-For-Size Syndrome Prediction After Living-Donor Liver Transplantation: An Egyptian Center Study

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Transplantation Proceedings, 48: 2135-2139 (2016).867

Background Liver transplantation is the only definite treatment for patients with irreversible liver failure. This explored the impact of portal vein hemodynamic velocities on graft functions to determine the mean portal vein velocities that may increase small-for-size syndrome (SFSS) risk. Methods The study was conducted with 123 cirrhotic patients who underwent living-donor liver transplantation (LDLT) at Kasr Alainy Hospital, Cairo, Egypt. Patients were submitted to full history, examination, pre-transplantation labs, and imaging. Intra-operative Doppler studies were performed after graft reperfusion. Post-operative (PO) Doppler was performed once a day over the first 2 weeks. Complete graft functions were obtained daily for patients. Results PVV (portal vein velocities) declined gradually but significantly after LT (intra-operative), and PO PVV were significantly higher in the SFSS group. The best cut-off values for prediction of SFSS with the use of intra-

operative (before, during, and after) post-anastomotic PVV were 55.5, 106, and 126.5 cm/s, respectively, and, for PO before and after anastomotic PVV, 48.6 and 71.1 cm/s, respectively. There was a significant positive correlation between PO mean PVV and mean alanine transferase, total bilirubin, and international normalized ratio. Conclusions PVV is a significant hemodynamic factor that influences graft functions. SFSS, which has a negative impact after LDLT, could be predicted by cut-off values for PVV, and therefore preventive measures such as splenectomy may be considered for its prevention.
Keywords: Liver Transplantation, Small-For-Size-Syndrome, Portal Vein Velocity

Dept. of Medical Biochemistry and Molecular Biology

M-144. Corticotropin-Releasing Hormone (Crh) and Crh Receptor 1 Gene Expression in Vitiligo

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Clinical and Experimental Dermatology, 41: 734-740 (2016) IF: 1.315

Background. Vitiligo is a disorder characterized by depigmented patches in the skin. Psychological stress can activate the hypothalamic–pituitary–adrenal axis in the brain as well as on the peripheral level and aggravate autoimmune skin diseases. Skin appendages have dual functions dually as prominent targets and sources of the peripheral corticotropin-releasing hormone (CRH)–proopiomelanocortin axis. Aim. To assess the role of CRH and CRHR-1 in vitiligo, and its possible association with psychological stress. Methods. in total, 30 patients with vitiligo and 30 healthy controls were collected from the outpatient clinic. Expression of CRH and CRHR-1 was measured by realtime PCR in lesions and control skin. Results. A significant increase in CRH and CRHR-1 expression was significantly correlated with psychological stress in vitiligo. Conclusion. We conclude that CRH and CRHR-1 are altered by psychological stress and play an important role in the pathogenesis of vitiligo.
Keywords: Corticotropin-Releasing Hormone; Crh Receptor 1; Vitiligo

M-145. Human Papillomavirus (Hpv) in Egyptian Females: Study By Cytology, Histopathology, Colposcopy and Molecular Diagnosis of High Risk Types

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The Malaysian Journal of Pathology, 38(3): 257-266 (2016).754

Objectives: in Northern Africa, the region Egypt belongs to, about 10.7% of women are estimated to harbour cervical human papillomavirus (HPV) infection and 78.4% of invasive cancers are attributed to HPVs 16 or 18. We aimed at comparing HPV detection by ISH-PCR tissue with other conventional available cheaper techniques, finding which of them can be relied upon in a developing country like Egypt for HPV detection. Methods: Sixty patients were included. For them colposcopy, PAP smear, histopathology and detection of HPV using ISH PCR tissue and PCR swab were achieved. Results: PCR-ISH tissue was positive in 53.33%, 46.6% were negative. Pap smear was negative in 26 cases (43.33%) and 43 cases (56.67%) were positive. LSIL with perinuclear halo represented nearly half of the positive cases (16/34; 47.05%), 10 cases were diagnosed as HSIL, 4 cases as ASCUS and 4 as AGC. Histopathology was negative in 12 (20%) cases and 48 (80%) cases were positive. CIN I and CIN I+ koliocytosis represented half of the cases (30/60) and more than half of positive cases (30/48; 62.5%). Comparing the results of pap smear, histopathology, colposcopy and PCR swab with ISH PCR tissue, highly significant results were seen with sensitivity of 87.5%, 100%, 62.5% and 56.2% respectively but the specificity were 78.6%, 42.9%, 28.6% and 100% respectively. Conclusion: Conventional cytology and histopathology were sensitive tests for detection of HPV. This may help for early detection of cancer cervix in a developing country like Egypt. PCR swab showed the highest specificity and the lowest sensitivity.
Keywords: Hpv, Egypt, Ish-Pcr, Pap Smear, Histopathology

M-146. Polymorphisms of A1-Antitrypsin and Interleukin-6 Genes and The Progression of Hepatic Cirrhosis in Patients With A Hepatitis C Virus Infection

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Balkan Journal of Medical Genetics, 19(2): 35-44 (2016).404

Hepatitis C virus (HCV) infection represents a serious health problem. The -174 G/C mutation in the pro inflammatory cytokine interleukin-6 (IL-6) is associated with developing liver diseases. Likewise, the S and Z mutations in the serine protease inhibitor α1-antitrypsin (A1AT) are associated with pulmonary emphysema and/or liver cirrhosis. We explored the distribution of the single nucleotide polymorphisms (SNPs) of IL-6 and A1AT genes in chronic HCV-infected patients and evaluated their impact on the progression of liver cirrhosis. One hundred and fifty Egyptian HCV-infected patients together with 100 healthy controls were enrolled in this study. The patient groups were subdivided into chronic hepatitis patients (n = 85) and cirrhotic patients (n = 65). The SNP of IL-6 (-174 G/C, rs1800795), A1AT Z mutation (342 Glu/Lys, rs28929474) and A1AT S mutation (264 Glu/Val, rs17580) were determined using a polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) method. Cirrhotic patients exhibited significantly increased frequency of the A1AT S allele compared with the controls (34.6 vs. 5.0%), while the chronic hepatitis patients showed a higher frequency of the A1AT Z allele compared with the controls (14.7 vs. 2.5%). Remarkably, IL-6 (CC genotype) was detected only in the chronic hepatitis patients. Multivariate regression analysis showed that aspartate transaminase (AST) and the S alleles of A1AT, represented as SS+MS genotypes, were significantly independent predictors for development of liver cirrhosis. We concluded that inheritance of deficient S and Z alleles of the A1AT gene but not IL-6 (-174 G/C), were associated with progressive liver diseases
Keywords: A1 Antitrypsin (A1at); Cirrhosis; Inter- Leukin 6 (Il-6); Hepatitis C Virus (Hcv) Infection; Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (Pcr-Rflp); Polymorphism.

M-147. Methylene Tetrahydrofolate Reductase (Mthfr) Gene Polymorphisms in Rheumatoid Arthritis Patients: Correlation With Serum Osteopontin Levels and Disease Activity

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The Egyptian Rheumatologist, 38: 283-288 (2016)

Background: Rheumatoid arthritis (RA) is a systemic, chronic inflammatory disease with genetic predisposition. Osteopontin (OPN) is overexpressed in RA and plays a key role in the perpetuation of synovitis. Not all RA patients show the same level of response to methotrexate (MTX) suggesting genetic variations in the drug-metabolizing enzymes. Aim of the work: To detect methylene-tetra-hydrofolate reductase (MTHFR) 677C/T and 1298A/C gene polymorphisms in RA patients treated with MTX and to investigate the relationship with serum OPN levels and disease activity. Patients and methods: 62 RA patients and 21 healthy controls were included. Serum OPN was measured using ELISA. Genotyping of MTHFR gene was carried out by polymerase chain reaction-restriction fragment length polymorphism. Disease activity score in 28 joints (DAS28)and the modified health assessment questionnaire (MHAQ) were assessed. Results: The patients' age was 42.7 ± 12.7 years, F:M (4.6:1) and a disease duration of 5.7± 4.6 years. Their DAS28 was 4.1± 1.6 and the MHAQ (median 1; range 0–2.3). Serum OPN levels in RA patients (median 8.8; range 4–44.5 ng/ml) were significantly higher than in control(5.6; 2.1–10.9) (p= 0.002). in RA patients, serum OPN significantly correlated with the duration morning stiffness (p=0.009), ESR (p< 0.0001) and DAS28 (p <0.0001). MTHFR 677C>T) polymorphisms significantly correlated with MHAQ (p=0.012) while (1298A>C)polymorphisms significantly correlated with tender joint count (p= 0.04). OPN levels were higher among patients with MTHFR (1298A/C) AC genotype (8.9; 4.1–33.9 ng/ml), while in those with(677C>T) polymorphisms it was higher among those with CT genotype (8.9; 4.1–44.5).

Keywords: Rheumatoid Arthritis; Mthfr; Osteopontin; Disease Activity Score

Dept. of Microbiology

M-148. Phenotypic and Genotypic Characterization of Esbl-Producing Escherichia Coli and Klebsiella Pneumoniae Isolates From Patient'S Urine

Mohammad M. H. R. Alfola, Zenat Kamel, Mona G. El Din Nada, Laila A. Rashed and Basma A. El-Awady

The International Arabic Journal of Antimicrobial Agents, 6(4:3): 1-8 (2016)

Introduction: Extended-spectrum β-lactamases (ESBLs)-producing Enterobacteriaceae are a clinical threat that may cause nosocomial as well as community-acquired infections. E.coli and Klebsiella pneumoniae are among the most common Gram-negative bacilli causing urinary tract infections. This study investigated certain molecular characteristics of phenotypically proved ESBL-producing E. coli and K. pneumoniae. Materials and Methods: This study includes a total of 64 community and hospital-acquired Enterobacteriaceae suspected to produce ESBLs using routine antimicrobial susceptibility test. Identification of species of Enterobacteriaceae was done by the API 20E identification system. ESBL production was detected by double disk synergy test (DDST) followed by detection of the encoding genes by PCR using primers for bla-TEM, bla-CTX-M1, bla-CTX-M2, bla-SHV and bla-PER genes. Results: The identity of confirmed isolates was 40 E.coli and 24 Klebsiella pneumonie. Out of these, 49 isolates were positive for ESBLproduction by DDST. Fifty seven isolates were proved to produce ESBLs using PCR. The bla-TEM, bla-CTX-M1 and bla-PER were the most prevalent ESBL genes (45.3%, 45.3% and 34.375%; respectively). Conclusion: The double disk synergy test showed sensitivity of 82.5% compared to PCR. The study showed high prevalence of ESBLs in E. coli and K. pneumonie isolates from urine specimens with bla-TEM, bla-CTX-M1 and bla-PER as the predominant detected genes.

Keywords: E. Coli, Klebsiella Pneumoniae, Esbls, Ddst, Pcr.

Dept. of Neurology

M-149. Relationship Between Matrix Metalloproteinase-9 and Common Carotid Artery Intima Media Thickness

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Neurological Sciences, 37: 117-122 (2016) IF: 1.783

Atherosclerosis causes significant morbidity and mortality. Carotid intima media thickness (IMT) predicts future ischaemic strok e incidence. Matrix metalloproteinases (MMPs) play a considerable role in atherosclerosis and hold therapeutic promise as well. To investigate the relationship between serum level of matrix metalloproteinase-9 (MMP-9) and common carotid artery intima media thickness (CCA-IMT) in patients with ischaemic stroke and asymptomatic subjects. Thirty patients with a previous ischaemic stroke and 30 asymptomatic volunteers were recruited. Assessment of vascular risk factors, serum level of MMP-9 and CCA-IMT on both sides was performed. The IMT of both CCAs correlated positively with the serum MMP-9 level in asymptomatic subjects (p = 0.000), even after adjustment for other risk factors. in the patients group, this positive correlation was significant for the right but not for the left CCA (right CCA: p = 0.023, left CCA: p = 0.0284). Fasting blood sugar correlated positively with serum levels of MMP-9 in asymptomatic subjects (p = 0.005) but did not correlate positively in patients. There was no significant correlation between MMP-9 and age or other investigated laboratory risk factors in either the patient or asymptomatic groups. MMP-9 is positively correlated with CCA-IMT both in stroke patients and asymptomatic subjects. This may indicate that MMP-9 is a possible therapeutic target for stroke prevention.

Keywords: Atherosclerosis Carotid Media Thickness Metalloproteinase Mmp-9

M-150. Focal Interictal Epileptiform Discharges in Idiopathic Generalized Epilepsy

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Neurological Sciences, 37: 1071-1077 (2016) IF: 1.783

Are idiopathic generalized epilepsies (IGEs) truly generalized? Do IGEs represent a continuum or rather distinct syndromes? Focal changes in the electroencephalography (EEG) have been reported in IGEs. The aim of this work is to investigate focal

interictal epileptiform discharges (IEDs) in IGEs, and their relation to clinical variables. Forty-one IGE patients (classified according to ILAE, 2001) were recruited from a tertiary center (age 23 ± 10.938 years). Their files were reviewed and they were subjected to clinical examination and interictal EEG. Patients with focal IEDs were compared to those without focal IEDs. Nine patients had juvenile myoclonic epilepsy (JME) and 32 had idiopathic epilepsy with generalized tonic–clonic seizures only (EGTCSA). Focal IEDs were found in 20 patients, mostly in the frontal (45.5 %) and temporal (31.8 %) distribution. Patients with focal IEDs were treated with a larger number of combined antiepileptic drugs (AEDs) (p value = 0.022). No significant difference was found between the two groups regarding age, sex, age at onset, epilepsy syndrome, seizure frequency, family history, AEDs used (sodium valproate and carbamazepine) and their doses. Seventeen EGTCSA patients had focal IEDs. They were treated with larger number of combined AEDs (p value = 0.0142). No significant difference was found between the EGTCSA patients with and those without focal IEDs regarding age, sex, age at onset, seizure frequency, family history and AEDs doses. Caution must be applied in the interpretation of interictal focal IEDs. These focal changes may be related to prognosis, however this needs further investigation.

Keywords: Epilepsy Focal Eeg Resistance Jme Egtcsa

Dept. of Ophthalmology

M-151. Anterior Chamber Angle Evaluation Following Phakic Posterior Chamber Collamer Lens With Centraflow and Its Correlation With Icl Vault and Intraocular Pressure

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Journal of Ophthalmology, 2016: 1-7 (2016) IF: 1.463

Purpose. To assess intraocular pressure (IOP), lens vaulting, and anterior chamber (AC) angle width, following V4C implantable Collamer lens (ICL) procedure formyopic refractive error. Methods.Aprospective case series that enrolled 54 eyes of 27 patients that were evaluated before and after V4C phakic posterior chamber Collamer lens implantation for correction ofmyopic refractive error. Preoperative measurement of IOP was done using Goldmann applanation tonometer and anterior chamber angle width using both Van Herick slit lamp grading system and Scheimpflug tomography imaging (Oculus Pentacam). Follow-up of the aforementioned variables was at 1, 6, and 18 months postoperatively, together with ICL vault measurements. Results. The mean baseline IOP of 11.69 ± 2.15 showed a statistically significant (□ = 0.002) increase after 1 month that remained unchanged at 6 and 18 months postoperatively, with mean value of 16.07 ± 4.12, 16.07 ± 4.10, and 16.07 ± 4.13, respectively. Pentacam AC angle width showed a statistically significant decrease at 1 (□ = 0.025), 6 (□ = 0.016), and 18 (□ = 0.010) months postoperatively, with mean preoperative value of 40.14±5.49 that decreased to 25.28±5.33, 25.46±5.44, and 25.49±5.38, at 1, 6, and 18months, respectively.Mean ICL vault showed moderate correlation with Pentacam AC angle width at 1 (□ = −0.435) and 6 (□ = −0.424) months. Conclusion. V4C ICL implantation resulted in decrease in AC angle width and increase in IOP, within acceptable physiological values at all time points.

Keywords: Ac Angle- Icl

Dept. of Orthopaedic

M-152. The Anatomical Reduction of A Moderate or Severe Stable Slipped Capital Femoral Epiphysis By Modified Dunn Subcapital Osteotomy Using The Ganz Approach

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The Bone and Joint Journal, 98-B: 1283-1288 (2016) IF: 2.66

Aims This study analysed the clinical and radiological outcome of anatomical reduction of a moderate or severe stable slipped capital femoral epiphysis (SCFE) treated by subcapital osteotomy (a modified Dunn osteotomy) through the surgical approach described by Ganz. Patients and Methods We prospectively studied 31 patients (32 hips; 16 females and five males; mean age 14.3 years) with SCFE. on the Southwick classification, ten were of moderate severity (headshaft angle > 30° to 60°) and 22 were severe (head-shaft angle > 60°). Each underwent open reduction and internal fixation using an intracapsular osteotomy through the physeal growth plate after safe surgical hip dislocation. Unlike the conventional procedure, 25 hips did not need an osteotomy of the apophysis of the great trochanter and were managed using an extended retinacular posterior flap. Results Clinical outcome was assessed using the range of movement and the Harris Hip (HHS), Western Ontario and McMaster Universities Osteoarthritis (WOMAC), and Merle d'Aubigné scores, while radiological measurements included slip and alpha angles. The mean duration of follow-up was 24.1 months (12 to 40). There was a significant improvement in all clinical and radiological measurements after treatment (p < 0.001). Post-operative major complications were one deep infection and one case of femoral head collapse. Conclusion These findings suggest that a modified Dunn osteotomy carried out through Ganz approach is a safe and effective method of treating the stable SCFE with a high degree of slip.

Keywords: Scfe – Anatomical

M-153. Triple Attack Technique For Non-Union of Femoral Neck Fractures

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International Orthopaedics, 40: 807-812 (2016) IF: 2.387

Purpose The purpose of this study was to describe the technique and clinical results following the utilization of biomechanical and biological means for adequate fracture healing in management of non-union of the neck of femur while preventing distortion of normal hip biomechanics. Methods Twenty-two patients with non-united fractures of femoral neck in adults were treated with what was termed the 'triple attack' procedure. This constituted iliac autogenous bone grafting, valgus subtrochanteric osteotomy together with static fixation across the nonunion fracture site of the neck to avoid delayed femoral neck shortening. Results All patients were classified as Pauwel's type III fractures. The mean time interval between the last operation and the current procedure was 4.6 months. Average operative time was 58.6 minutes. Patients were followed up for an average of 43.6 months. Complete union was achieved in all cases at an average of 4.3 months. Significant improvement of all radiological parameters was noticed together with the Harris hip score from an average of 21.2 pre-operatively to 89.6 at the last

follow-up. Conclusion The present study provides encouraging clinical and functional results to suggest that this newly described procedure ('triple attack') might be a valuable option in the management of non-united femoral neck fractures.
Keywords: Non-Union . Femur . Neck . Valgus . Osteotomy . Triple . Fixation

Dept. of Parasitology

M-154. Outbreak of Middle East Respiratory Syndrome At Tertiary Care Hospital, Jeddah, Saudi Arabia, 2014

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Emerging Infectious Diseases., 22(5): 794-801 (2016) IF: 6.994

During March-May 2014, a Middle East respiratory syndrome (MERS) outbreak occurred in Jeddah, Saudi Arabia, that included many persons who worked or received medical treatment at King Fahd General Hospital. We investigated 78 persons who had laboratory-confirmed MERS during March 2-May 10 and documented contact at this hospital. The 78 persons with MERS comprised 53 patients, 16 healthcare workers, and 9 visitors. Among the 53 patients, the most probable sites of acquisition were the emergency department (22 patients), inpatient areas (17), dialysis unit (11), and outpatient areas (3). Infection control deficiencies included limited separation of suspected MERS patients, patient crowding, and inconsistent use of infection control precautions; aggressive improvements in these deficiencies preceded a decline in cases. MERS coronavirus transmission probably was multifocal, occurring in multiple hospital settings. Continued vigilance and strict application of infection control precautions are necessary to prevent future MERS outbreaks.
Keywords: Mers-Cov; Middle East Respiratory Syndrome Coronavirus; Saudi Arabia; Coronavirus Infections; Infection Control; Nosocomial; Outbreak; Transmission; Vector-Borne Infections; Viruses

Dept. of Pathology

M-155. Expression of Stem Cell Marker Bmi1 in Invasive Breast Cancer and Correlation With Estrogen Receptor, Progesterone Receptor, Her2/Neu, and Ki67

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Kasr Al Ainy Medical Journal, 22: 109-114 (2016) IF: 2

Background Worldwide, breast cancer is the most common cancer in women. Currently, Bmi1 has been linked to a stem cell-like 11 gene expression microarray signature, predictive of tumor relapse, metastasis, and resistance to therapy in multiple human cancers. Aim The aim of this study was to evaluate immunohistochemical expression of Bmi1 in invasive breast cancer, and its correlation with the clinicopathological features, hormone receptor status [estrogen receptor (ER) and progesterone receptor (PR)], HER2/neu score, Ki67 proliferation index, and molecular subtypes. Patients and methods Fifty invasive breast carcinomas were studied for immunohistochemical demonstration of Bmi1, ER, PR, HER2/neu, and Ki67. Cases were classified into four molecular subtypes (luminal A, luminal B, Her2-enriched, and triple negative). Results Bmi1 expression was detected in 37 (74%) breast carcinoma cases, and a significant positive association with tumor size (P=0.03) and lymph node metastasis (P=0.01) was reported in this study. No significant correlation was detected between Bmi1 expression and other variables such as age, histologic type, grade, hormone receptor status, Her2 status, Ki67, and molecular subtypes (P>0.05). Conclusion Bmi1 stem cell marker was detected in a high percentage of breast cancer cells, and there was a significant positive association with tumor size and lymph node metastasis, which confirms its role in aggressiveness and dissemination of cancer cells. However, no correlations with ER, PR, Her2, Ki67 expressions, or molecular subtyping were found. Further studies are required to rule out the prognostic value of cancer stem cell marker Bmi1 and its therapeutic targeting.
Keywords: Bmi1, Breast Cancer, Estrogen Receptor and Progesterone Receptor, Her2/Neu, Ki67

M-156. Role of Cardiac Myocyte Heart Fatty Acid Protein Depletion (H-Fabp) in Early Myocarial Infarction in Human Heart (Autopsy Study)

Amany Shabaiek1, Nour El-Hoda Ismael2, Samar Elsheikh2 and Hebat Allah Amin1*

Macedonian Journal of Medical Sciences, 4(1): 17-21 (2016)

Many immunohistochemical markers have been used in the postmortem detection of early myocardial infarction. AIM: in the present study we examined the role of Heart-type fatty acid binding protein (H-FABP), in the detection of early myocardial infarction. MATERIAL and METHODS: We obtained samples from 40 human autopsy hearts with/ without histopathological signs of ischemia. RESULTS: All cases of definite and probable myocardial infarction showed a well-defined area of H-FABP depletion. All of the control cases showed strong H-FABP expression, except two markedly autolysed myocardial samples that showed affected antigenicity. CONCLUSION: Thus, we suggest H-FABP as being one of the valuable tools facing the problem of postmortem detection of early myocardial infarction/ischemia, but not in autolysis.
Keywords: Myocarial Infartion- Hfabp.

Dept. of Pediatrics

M-157. Pycr2 Mutations Cause A Lethal Syndrome of Microcephaly and Failure To Thrive

laila abd-almottalb sleem and Iman Gamal El Din Mahmoud Abdelbaky

Annals of Neurology, 80(1): 59-70 (2016) IF: 9.638

Objective: A study was undertaken to characterize the clinical features of the newly described hypomyelinating leukodystrophy type 10 with microcephaly. This is an autosomal recessive disorder mapped to chromosome 1q42.12 due to mutations in the PYCR2 gene, encoding an enzyme involved in proline synthesis in mitochondria. Methods: From several international clinics, 11 consanguineous families were identified with PYCR2 mutations by whole exome or targeted sequencing, with detailed clinical and radiological phenotyping. Selective mutations from patients

were tested for effect on protein function. Results: The characteristic clinical presentation of patients with PYCR2 mutations included failure to thrive, microcephaly, craniofacial dysmorphism, progressive psychomotor disability, hyperkinetic movements, and axial hypotonia with variable appendicular spasticity. Patients did not survive beyond the first decade of life. Brain magnetic resonance imaging showed global brain atrophy and white matter T2 hyperintensities. Routine serum metabolic profiles were unremarkable. Both nonsense and missense mutations were identified, which impaired protein multimerization. Interpretation: PYCR2-related syndrome represents a clinically recognizable condition in which PYCR2 mutations lead to protein dysfunction, not detectable on routine biochemical assessments. Mutations predict a poor outcome, probably as a result of impaired mitochondrial function.
Keywords: Microcephaly, Hypomylination, Leukodystrophy, Developmental Delay

M-158. The Prevalence of Congenital Heart Defects in Infants With Cholestatic Disorders of Infancy: A Single-Centre Study.

Aya M Fattouh, Engy A Mogahed, Nehal Abdel Hamid, Rodina Sobhy, Noha Saber and Hanaa El-Karaksy

Archives of Disease in Childhood, 101: 803-807 (2016) IF: 3.231

Background There is deficiency of data about congenital heart defects (CHDs) in cholestatic disorders of infancy other than Alagille syndrome (AGS). We aimed to define the prevalence and types of CHDs in infants with various causes of cholestatic disorders of infancy. Methods This cross-sectional study was conducted on 139 infants presenting with cholestasis whether surgical or non-surgical. The study was carried out at the Pediatric Hepatology Unit, Cairo University Children's Hospital, Egypt. Full examination and investigations were done in an attempt to reach an aetiologic diagnosis for cholestasis, in addition to a comprehensive echocardiographic study. Results The age at the onset of cholestasis ranged from 1 day to 7 months. Males constituted 61.2%. Biliary atresia (BA) was diagnosed in 39 patients (28%), AGS in 16 patients (11.5%), 27 patients had miscellaneous diagnoses and 57 cases had indeterminate aetiology. CHDs were detected in 55 patients (39.5%). Shunt lesions were detected in 24 patients (43.6%), pulmonary stenosis in 18 patients (32.7%) and combined lesions in 9 patients (16.4%). Three patients (5.5%) had abnormal cardiac situs. Only seven patients had clinical presentation suggestive of CHD. CHDs were detected in 14 patients with BA (35.9%), 15 patients with AGS (93.7%) and 26 patients in the remaining group (30.9%). Conclusion CHDs are not uncommon among cholestatic infants and are mostly asymptomatic. Echocardiographic examination of cholestatic infants is recommended particularly for patients with BA before undergoing hepatic portoenterostomy as presence of CHD may impact the anaesthetic planning and affect the outcome of hepatobiliary surgery.
Keywords: Alagille Syndrome, Biliary Atresia, Cholestasis, Congenital Heart Defects, Echocardiography.

M-159. Early Ventricular Dysfunction After Anthracycline Chemotherapy in Children

Agha H, Shalaby L, Attia W, Abdelmohsen G, Aziz OA and Rahman MY.

Pediatr Cardiol, 37(3): 537-544 (2016) IF: 1.452

The aim of this study was to determine the effect of induction dose of anthracycline chemotherapy on the biventricular function among children with acute hematological malignancies (AHM) using tissue Doppler imaging (TDI) and 2D speckle tracking echocardiography (2D-STE). Thirty pediatric patients with AHM and a mean age of 9.24 ± 4.14 years performed conventional echocardiography, TDI and 2D-STE. After induction chemotherapy, the RV showed mainly a diastolic alteration in its function manifested in significant reduction in the tricuspid TDI-derived E' and E'/A' ratio compared with the baseline (20.40 ± 3.81 vs. 17.47 ± 3.87 cm/s, $p = 0.001$, 1.29 ± 0.27 vs. 1.03 ± 0.37, $p < 0.01$, respectively), while the TDI-derived RV MPI and isovolumetric relaxation time of RV were significantly increased (0.32 ± 0.06 vs. 0.36 ± 0.08, $p < 0.01$, 24.73 ± 8.62 vs. 28.47 ± 11.51 ms, $p < 0.05$, respectively). The LV showed post-chemotherapy mainly an alteration in its longitudinal systolic function in the form of a reduction in MAPSE (13.61 ± 2.00 vs. 11.95 ± 1.75 mm; $p < 0.001$), TDI-derived systolic velocity of lateral mitral annulus (10.98 ± 2.34 vs. 10.03 ± 1.83 cm/s, $p < 0.05$), 2D-STE-derived global longitudinal strain (-21.58 ± 2.54 vs. -19.18 ± 3.59 %, $p = 0.001$) and 2D-STE-derived global longitudinal strain rate (-1.76 ± 0.22 vs. 1.55 ± 0.29 1/s, $p < 0.05$), with preservation of LV diastolic function when compared to baseline. TDI and 2D-STE could be used for early detection of anthracycline-induced cardiotoxicity in the pediatric age group. Early after induction chemotherapy, the RV develops mainly diastolic dysfunction, while the LV showed a relative longitudinal systolic impairment.
Keywords: 2D-Ste; Anthracycline; Cardiotoxicity; Mpi; Tdi

M-160. Expanding The Mutation and Clinical Spectrum of Roberts Syndrome

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Congenital Anomalies, 56: 154-162 (2016).985

Roberts syndrome and SC phocomelia syndrome are rare autosomal recessive genetic disorders representing the extremes of the spectrum of severity of the same condition, caused by mutations in ESCO2 gene. We report three new patients with Roberts syndrome from three unrelated consanguineous Egyptian families. All patients presented with growth retardation, mesomelic shortening of the limbs more in the upper than in the lower limbs and microcephaly. Patients were subjected to clinical, cytogenetic and radiologic examinations. Cytogenetic analysis showed the characteristic premature separation of centromeres and puffing of heterochromatic regions. Further, sequencing of the ESCO2 gene identified a novel mutation c.244_245dupCT (p.T83Pfs*20) in one family besides two previously reported mutations c.760_761insA (p.T254Nfs*27) and c.764_765delTT (p.F255Cfs*25). All mutations were in homozygous state, in exon 3. The severity of the mesomelic shortening of the limbs and craniofacial anomalies showed variability among patients. Interestingly,

patient 1 had abnormal skin hypopigmentation. Serial fetal ultrasound examinations and measurements of long bones diagnosed two affected fetuses in two of the studied families. A literature review and case comparison was performed. in conclusion, we report a novel ESCO2 mutation and expand the clinical spectrum of Roberts syndrome.
Keywords: Esco2 Novel Mutation; Prenatal Diagnosis;Rbs/Sc Complex; Roberts Syndrome

M-170. Micronucleus Assay and Pro-Oxidant Status of Patients With Known Chromosomal Aneuploidy

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Der Pharma Chemica, 8: 158-164 (2016)

Aneuploidy is a well known chromosomal abnormality, and it is considered as a major cause of congenital birth defects and miscarriage. The present study aims to examine micronucleus frequency (MN), oxidative stress and antioxidant activity in chromosomal aneuploidy disorders including Down syndrome (DS), Klinefelter (KF) and Turner syndrome (TS), comparing to healthy controls matched age group. Peripheral blood samples were collected from 50 subjects, including, 20 normal healthy control and 30 patients with Down, Klinefelter and Turner syndromes. Micronucleus level was scored for each subject. Biochemical parameters, including lipid peroxide (LPO), nitric oxide (NO), total antioxidant capacity (TAC) were determined .The activity of paraoxonase1 (PON1) was also detected in blood serum for the three genetic diseases. DS and KF syndrome cases had an elevated count of MN (13.27 ± 0.59, 14.30±1.29 respectively vs. 1. 80 ± 0.19; $P < 0.05$). However, Turner patients recorded an insignificant change in micronucleus frequency. in addition, significant decrease in TAC and PON1 was recorded in all patients comparing with normal controls ($p \leq 0.05$). While, NO and MDA product declared significant increase in DS, KF and Turner syndrome as compared to normal control group. Thus, it could be concluded that the MN, antioxidants and oxidative stress biomarkers assays are a powerful tools for detecting genetic disorders in chromosomal aneuploidy patients.
Keywords: Down Syndrome, Klinefelter Syndrome, Turner Syndrome, Micronucleus Frequency and Lipid Peroxidation,

M-171. Assessment of Left Ventricular Volume and Function Using Real-Time 3D Echocardiography Versus Angiocardiography in Children With Tetralogy of Fallot.

Abdel Aziz FM, Abdel Dayem SM, Ismail RI, Hassan H and Fattouh AM

Journal of Cardiovascular Ultrasound, 24: 123-127 (2016)

Background: Evaluation of left ventricular (LV) size and function is one of the important reasons for performing echocardiography. Real time three dimensional echocardiography (RT3DE) is now available for a precise non-invasive ventricular volumetry. Aim of work was to validate RT3DE as a non-invasive cardiac imaging method for measurement of LV volumes using cardiac angiography as the reference technique. Methods: Prospective study on 40 consecutive patients with tetralogy of Fallot (TOF) referred for cardiac catheterization for preoperative assessment. Biplane cineangiography, conventional 2 dimensional echocardiography (2DE) and RT3DE were performed for the patients. A control group of 18 age and sex matched children was included and 2DE and RT3DE were performed for them. Results: The mean LV end diastolic volume (LVEDV) and LVEDV index (LVEDVI) measured by RT3DE of patients were lower than controls (p value = 0.004, 0.01, respectively). There was strong correlation between the mean value of the LVEDV and the LVEDVI measured by RT3DE and angiography ($r = 0.97$, $p < 0.001$). The mean value of LV ejection fraction measured by RT3DE was lower than that assessed by 2DE (50 ± 6.2%, 65 ± 4.6%, respectively, p value < 0.001) in the studied TOF cases. There was good intra- and inter-observer reliability for all measurements. Conclusion: RT3DE is a noninvasive and feasible tool for measurement of LV volumes that strongly correlates with LV volumetry done by angiography in very young infants and children, and further studies needed.
Keywords: Tetralogy of Fallot · Echocardiography · Three-Dimensional

Dept. of Pharmacology

M-172. Protective Effects of Nebivolol on Acetic Acid-Induced Ulcerative Colitis in Rats

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Kasr Alainy Medical Journal, 22: 99-108 (2016) IF: 2

Background Ulcerative colitis (UC) is a chronic inflammatory disease of large intestine. Overproduction of free radicals, lowered antioxidant capacity and abnormal apoptosis are involved in pathogenesis. Nebivolol, a β blocker with vasodilatory, antioxidant, anti-inflammatory effects, can play future role in therapies for UC. Aim of the study The purpose of this study was to evaluate the protective effect of nebivolol against acetic acid (AA)-induced UC in rats. Methods Male wistar rats were pre-treated orally with nebivolol 5 mg/kg/d, 10 mg/kg/day, for seven days, before and 3 days after induction of colitis (by intra-rectal administration of 2 ml of 4% AA). Colonic macroscopic scoring and histopathological examination were done. Colonic content of thiobarbituric acid reactive substances (TBARS), reduced glutathione (GSH), superoxide dismutase (SOD) and myeloperoxidase (MPO) activities were assessed. Apoptosis was monitored by determining caspase-3 gene expression. Serum levels of interleukin (IL)1-β, SOD, TBARS and tumour necrosis factor (TNF)-α were measured. Results in AA- group, serum levels of TBARS, TNF-α and IL-1β were significantly increased. SOD activity was significantly reduced. Caspase 3 protein expression was upregulated. Colonic content of TBARS and the activity of MPO were elevated. GSH concentration and activity of SOD were significantly reduced, compared to control group. in nebivolol pretreated groups (5 and 10 mg/kg/d) and sulfasalazine group, all parameters were near normal. Nebivolol significantly decreased colonic macroscopic scoring and wet colon weight compared to AA group. The coloprotective effect of nebivolol was confirmed by histopathological examination. Conclusion Nebivolol has a protective effect against AA- induced colitis, through its antiinflammatory, anti-oxidant and anti-apoptotic effects.
Keywords: Nebivolol, Ulcerative Colitis, Rats, Anti-Oxidant, Anti-Apoptotic

Dept. of Physiology

M-173. Insulin and Vanadium Protect Against Osteoarthritis Development Secondary To Diabetes Mellitus in Rats.

El Karib AO1, Al-Ani B1, Al-Hashem F1, Dallak M1, Bin-Jaliah I1, El-Gamal B2, Bashir SO1, Eid RA3 and Haidara MA1,4.

Arch Physiol Biochem, 122(3): 148-154 (2016) IF: 1.536

OBJECTIVE: Diabetic complications such as cardiovascular disease and osteoarthritis (OA) are among the common public health problems. The effect of insulin on OA secondary to diabetes has not been investigated before in animal models. Therefore, we sought to determine whether insulin and the insulin-mimicking agent, vanadium can protect from developing OA in diabetic rats. METHODS: Type 1 diabetes mellitus (T1DM) was induced in Sprague-Dawley rats and treated with insulin and/or vanadium. Tissues harvested from the articular cartilage of the knee joint were examined by scanning electron microscopy, and blood samples were assayed for oxidative stress and inflammatory biomarkers. RESULTS: Eight weeks following the induction of diabetes, a profound damage to the knee joint compared to the control non-diabetic group was observed. Treatment of diabetic rats with insulin and/or vanadium differentially protected from diabetes-induced cartilage damage and deteriorated fibrils of collagen fibers. The relative biological potencies were insulin + vanadium >> insulin > vanadium. Furthermore, there was about 2- to 5-fold increase in TNF-α (from 31.02 ± 1.92 to 60.5 ± 1.18 pg/ml, $p < 0.0001$) and IL-6 (from 64.67 ± 8.16 to 338.0 ± 38.9 pg/ml, $p < 0.0001$) cytokines and free radicals measured as TBARS (from 3.21 ± 0.37 to 11.48 ± 1.5 μM, $p < 0.0001$) in the diabetic group, which was significantly reduced with insulin and or vanadium. Meanwhile, SOD decreased (from 17.79 ± 8.9 to 8.250.29, $p < 0.0001$) and was increased with insulin and vanadium. The relative potencies of the treating agents on inflammatory and oxidative stress biomarkers were insulin + vanadium >> insulin > vanadium. CONCLUSION: The present study demonstrates that co-administration of insulin and vanadium to T1DM rats protect against diabetes-induced OA possibly by lowering biomarkers of inflammation and oxidative stress.

Keywords: Diabetes; T1dm; Insulin; Osteoarthritis; Rat Model; Vanadium

Dept. of Public Health

M-174. Use of Personal Digital Assistants To Detect Healthcare-Associated Infections in A Neonatal Intensive Care Unit in Egypt

Elham AM El-Feky, Doa'a A Saleh, Jehan El-Kholy, Ahmed Mahmoud Sayed, Yasmeen Mansi and Mohamed Hashem

Journal of Infection in Developing Countries, 10: 1250-1257 (2016) IF: 1.139

Introduction: Personal digital assistants (PDAs) used in electronic laboratory-based surveillance are a promising alternative to conventional surveillance to detect healthcare-associated infections (HAIs). The aim of the study was to monitor, detect, and analyze HAIs using PDAs in a neonatal intensive care unit (NICU). Methodology: in this descriptive study, 1,053 neonates admitted to the NICU in the obstetrics and gynecology ward at the Cairo University hospital were included and evaluated for HAIs by collecting data using PDAs programmed by Naval Medical Research Unit 3, Cairo, with the definitions for HAIs provided by the National Healthcare Safety Network of the Centers for Disease Control and Prevention. Case records were reviewed three times a week over 19 months, from March 2012 to September 2013. Results: of 124 suspected episodes of infection recorded in PDAs, 89 confirmed episodes of infection were identified. HAI and NICU infection rates were 7.4 and 2.72/1,000 patient-days, respectively. Primary bloodstream infection was detected in 81 episodes and pneumonia in 8 episodes. The majority of infections (62%) were acquired in the ward before NICU admission. Klebsiella spp. was isolated most frequently (42%), followed by coagulase-negative Staphylococci (31%). Conclusions: This study is the first to report the use of PDAs in surveillance to detect HAIs in the NICU in our hospital. The majority of infections were acquired at the obstetric care department, indicating the importance of implementing rigorous prevention and control programs and a more detailed surveillance to identify other risk factors for infections.

Keywords: Personal Digital Assistant; Healthcare-Associated Infections; Surveillance; Neonatal Intensive Care Uni

Dept. of Rheumatology

M-175. Does Human Leukocyte Antigen Influence The Risk of Development and Type of Vasculitis in Egyptian Patients With Chronic Hepatitis C Virus Infection ?

Amira A. Shahin a , * , Olfat G. Shaker b , Hanan E. Darweesh a , Mohammed El Sayed c and Basma M. Ali a

The Egyptian Rheumatologist, 38: 307-312 (2016)

Aim of the work The aim was to investigate the role of the human leukocyte antigen (HLA) class II alleles in the development of hepatitis C virus (HCV)-related vasculitis. Patients and methods Fifty HCV related vasculitis patients (32 females) with a mean age of 46.78 ± 10.17 years (range 23–74 years) and a control group including 30 age and sex matched HCV infected patients without any extra-hepatic autoimmune manifestations were recruited in this study. Patients with vasculitis were classified into small and medium sized vessel vasculitis according to the type of clinical manifestations. Assessment of HLA class II alleles in leukocytes of peripheral blood of all patients and controls was performed at allele level 4 digit high resolution for DRB1 region. Results Seventeen patients had medium sized vessel vasculitis (group A) and 33 patients had small sized vessel vasculitis (group B). The development of HCV-related medium sized vessel vasculitis is associated with HLADRB1*3 of the 1st allele and HLADRB1*1301 of the 2nd allele-suballele, and the development of small sized vessel vasculitis is associated with HLADRB1*701 of the 1st allele-suballele. Conclusion The results suggest that the development and the type of HCV-related vasculitis can be affected by the host genetic factors.

Keywords: Hla Hcv Vasculitis Medium Vessel Vasculitis Small Vessel Vasculitis

Dept. of Surgery

M-176. Early Weight Recidivism Following Laparoscopic Sleeve Gastrectomy: A Prospective Observational Study

Mohamed H. A. Fahmy, Mohamed D. Sarhan, Ayman M. A. Osman, Ahmad Badran, Amr Ayad, Dalia K. Serour, Hany A. Balamoun and Mohamed E. Salim.

Obesity Surgery, 26: 2654-2660 (2016) IF: 3.346

Background Although weight loss following laparoscopic sleeve gastrectomy (LSG) can be substantial, weight recidivism is still a major concern. The aim of our work is to study early weight recidivism following LSG and to evaluate the role of gastric computed tomography volumetry (GCTV) in the assessment of patients experiencing early weight regain. Methods One-hundred and one morbidly obese patients undergoing LSG were prospectively studied. Patients were followed up for 2 years. Those who presented with weight recidivism were counseled for dietary habits and assessed for the amount of weight regain. Patients who regained weight were scheduled for GCTV. Results Twelve patients were excluded from the study. Weight recidivism was reported in 9/89 patients (10.1 %) [weight loss failure (n = 1), weight regain (n = 8)] and was almost always first recognized 1½–2 years after LSG. The amount of weight regain showed negative correlations with preoperative body weight and body mass index (r = −0.643, P = 0.086 and r = −0.690, P = 0.058; respectively) and positive correlations with the distance between the pylorus and the beginning of the staple line (r = 0.869, P = 0.005), as well as with the residual gastric volume (RGV) on GCTV 2 years after LSG (r = 0.786, P = 0.021). Conclusions in the small group of patients who regained weight, a longer distance between the pylorus and the beginning of the staple line, as well as a higher RGV on GCTV 2 years after LSG, were both associated with increased weight regain. Gastric computed tomography volumetry with RGV measurement holds promise as a useful research tool after LSG.

Keywords: Laparoscopic Sleeve Gastrectomy, Weight Recidivism, Gastric Computed Tomography Volumetry, Residual Gastric Volume

Dept. of Urology Dept

M-177. Mortality of Emergency Abdominal Surgery in High-, Middleand Low-Income Countries

Stephen Tabiri,Olumide Abiodun Elebute,Kithsiri Janakantha Senanayake,Naomi Wright and Hosni K. Salem

British Journal of Surgery, 103(8): 971-988 (2016) IF: 5.596

Background: Surgical mortality data are collected routinely in high-income countries, yet virtually no low- or middle-income countries have outcome surveillance in place. The aim was prospectively to collect worldwide mortality data following emergency abdominal surgery, comparing findings across countries with a low, middle or high Human Development Index (HDI). Methods: This was a prospective, multicentre, cohort study. Self-selected hospitals performing emergency surgery submitted prespecified data for consecutive patients from at least one 2-week interval during July to December 2014. Postoperative mortality was analysed by hierarchical multivariable logistic regression. Results: Data were obtained for 10 745 patients from 357 centres in 58 countries; 6538 were from high-, 2889 from middle- and 1318 from low-HDI settings. The overall mortality rate was 1· 6 per cent at 24 h (high 1· 1 per cent, middle 1· 9 per cent, low 3· 4 per cent; P < 0· 001), increasing to 5· 4 per cent by 30 days (high 4· 5 per cent, middle 6· 0 per cent, low 8· 6 per cent; P < 0· 001). of the 578 patients who died, 404 (69· 9 per cent) did so between 24 h and 30 days following surgery (high 74· 2 per cent, middle 68· 8 per cent, low 60· 5 per cent). After adjustment, 30-day mortality remained higher in middle-income (odds ratio (OR) 2· 78, 95 per cent c.i. 1· 84 to 4· 20) and low-income (OR 2· 97, 1· 84 to 4· 81) countries. Surgical safety checklist use was less frequent in low- and middle-income countries, but when used was associated with reduced mortality at 30 days. Conclusion: Mortality is three times higher in low- compared with high-HDI countries even when adjusted for prognostic factors. Patient safety factors may have an important role. Registration number: NCT02179112 (http://www.clinicaltrials.gov).

Keywords: Mortality of Emergency Abdominal Surgery in High

M-178. More Favorable Pathological Outcomes in Men With Low Risk Prostate Cancer Diagnosed on Repeat Versus Initial Transrectal Ultrasound Guided Prostate Biopsy.

Ahmed ElShafei, Yaw Nyame, Onder Kara, Atef Badawy, Ifeanyi Amujiogu, Khaled Fareed, Eric Klein and J. Stephen Jones*

Journal of Urology, 195(6): 0-0 (2016) IF: 4.7

Purpose: We assessed the pathological outcomes after radical prostatectomy in men with favorable risk prostate cancer diagnosed on first/initial biopsy compared to those of men who were diagnosed on a subsequent/repeat prostate biopsy. Materials and Methods: We identified 422 patients who met National Comprehensive Cancer Network very low (199) and low risk (223) prostate cancer definitions who instead underwent radical prostatectomy. in each risk category we compared adverse pathological outcomes, defined as Gleason score upgrading, extraprostatic extension, seminal vesicle invasion and positive surgical margins, between men diagnosed on initial prostate biopsy vs repeat/subsequent prostate biopsy after a negative biopsy(-ies). Results: There were no significant differences in the baseline clinical and demographic characteristics between the groups. However, men who were diagnosed on initial prostate biopsy demonstrated a higher median maximum cancer percent per single core (p <0.001) and higher median percent of positive cores (p <0.001). Compared to repeat/subsequent prostate biopsy, men diagnosed on initial prostate biopsy had a higher Gleason score upgrade (7 or greater) (57.7% vs 42.1%, p¼0.005) and extraprostatic extension (14.1% vs 5.4%, p¼0.01). on stratified analysis comparing initial prostate biopsy to repeat/subsequent prostate biopsy, very low risk disease was associated with Gleason score upgrade (49.3% vs 31.8%, p¼0.02) and low risk disease demonstrated higher rates of extraprostatic extension (19.9% vs 6.0%, p¼0.02). Conclusions: The likelihood of adverse pathological outcomes at radical prostatectomy is lower in men diagnosed with favorable risk prostate cancer

Keywords: Prostatectomy, Risk, Prostatic Neoplasms, Biopsy, Watchful Waiting

M-179. External Validation of A Pca-3-Based Nomogram For Predicting Prostate Cancer and High-Grade Cancer on Initial Prostate Biopsy.

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The Prostate, 76(11): 0-0 (2016) IF: 3.778

INTRODUCTION: The aim of this study was to externally validate a previously developed PCA3-based nomogram for the prediction of prostate cancer (PCa) and high-grade (intermediate and/or high-grade) prostate cancer (HGPCa) at the time of initial prostate biopsy. METHODS: A retrospective review was performed on a cohort of 336 men from a large urban academic medical center. All men had serum PSA <20 ng/ml and underwent initial transrectal ultrasound-guided prostate biopsy with at least 10 cores sampling for suspicious exam and/or elevated PSA. Covariates were collected for the nomogram and included age, ethnicity, family history (FH) of PCa, PSA at diagnosis, PCA3, total prostate volume (TPV), and abnormal finding on digital rectal exam (DRE). These variables were used to test the accuracy (concordance index) and calibration of a previously published PCA3 nomogram. RESULTS: Biopsy confirms PCa and HGPCa in 51.0% and 30.4% of validation patients, respectively. This differed from the original cohort in that it had significantly more PCa and HGPCA (51% vs. 44%, P = 0.019; and 30.4% vs. 19.1%, P < 0.001). Despite the differences in PCa detection the concordance index was 75% and 77% for overall PCa and HGPCa, respectively. Calibration for overall PCa was good. CONCLUSIONS: This represents the first external validation of a PCA3-based prostate cancer predictive nomogram in a North American population

Keywords: Pca3; Psa; Initial Biopsy; Nomogram; Prostate Cancer Screenin

M-180. Development and Validation of A Quality Assurance Score For Robot-Assisted Radical Cystectomy: A 10-Year Analysis

Ahmed A. Hussein, Shiva Dibaj, Nobuyuki Hinata, Erinn Field, Kathleen O'leary, Boris Kuvshinoff, James L. Mohler, Gregory Wilding, and Khurshid A. Guru

Urology, 97: 124-129 (2016) IF: 2.188

OBJECTIVE To develop quality assessment tool to evaluate surgical performance for robot-assisted radical cystectomy program. METHODS A prospectively maintained quality assurance database of 425 consecutive robot-assisted radical cystectomies performed by a single surgeon between 2005 and 2015 was retrospectively reviewed. Potentially modifiable factors, related to the management and perioperative care of patients, were used to evaluate patient care. Criteria included the following: preoperative (administration of neoadjuvant chemotherapy); operative (operative time <6.5 hours and estimated blood loss <500 cc); pathologic (negative soft tissue surgical margins and lymph node yield ≥20); and postoperative (no high-grade complications, readmission, or noncancer-related mortality within 30 days).The Quality Cystectomy Score (QCS) was developed (1 star: achieving ≤2 criteria or mortality within 30 days; 2 stars: 3 or 4 criteria met; 3 stars: 5 or 6 criteria met; and 4 stars: 7 or all criteria met). Univariate and multivariate Cox proportional hazard regression models were fitted to test for the association between QCS and survival outcomes. RESULTS Most patients (85%) achieved at least 3 stars, and more patients achieved 4 stars with time. High QCS was associated with better recurrence-free, cancer-specific, and overall survival (P values <.05). None of the patients with 1-star were alive at 1 year. Patients with 4 stars achieved the best survival rates (recurrence-free survival [62%], cancer-specific survival [70%], and overall survival [53%] at 5 years) (log rank P < .0001). CONCLUSION Continuous assessment for quality improvement facilitated implementation and maintenance of robot-assisted program for bladder cancer.

Keywords: Robot-Assisted, Cystectomy, Quality, Metrics, Assurance, Outcomes

M-181. Evaluation and Impact of Workflow Interruptions During Robot-Assisted Surgery

Jenna C. Allers, Ahmed A. Hussein, Nabeeha Ahmad, Lora Cavuoto, Joseph F. Wing, Robin M. Hayes, Nobuyuki Hinata, Ann M. Bisantz, and Khurshid A. Guru

Urology, 92: 33-37 (2016) IF: 2.188

OBJECTIVE To analyze and categorize causes for interruptions during robot-assisted surgery. METHODS We analyzed 10 robot-assisted prostatectomies that were performed by 3 surgeons from October 2014 to June 2015. Interruptions to surgery were defined in terms of duration, stage of surgery, personnel involved, reasons, and impact of the interruption on the surgical workflow. RESULTS The main reasons for interruptions included the following: console surgeons switching (29%); preparation of the surgical equipment, such as cleaning or changing the camera (29%) or an instrument (27%); or when a suture, stapler, or clip was needed (12%). The most common interruption duration was 10-29 seconds (47.6%), and the least common interruption duration was greater than 90 seconds (3.6%). Additionally, about 14% of the interruptions were considered avoidable, whereas the remaining 86% of interruptions were necessary for surgery. CONCLUSION By identifying and analyzing interruptions, we can develop evidence-based strategies to improve operating room efficiency, lower costs, and advance patient safety.

Keywords: Prostatectomy, Interruptions, Robotic, Robot-Assisted, Workflow, Interventions, Quality, Operative Time, Safety, Cost

M-182. Primary Cryotherapy For High-Grade Clinically Localized Prostate Cancer: Oncologic and Functional Outcomes From The Cold Registry.

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Journal of Endourology, 30(1): 0-0 (2016) IF: 2.107

Objective: To evaluate the oncological and functional outcomes of primary cryotherapy in men with clinically localized, high-grade prostate cancer. Subjects and Methods: We included all men with biopsy Gleason score ‡8, localized (cT1-2) disease with a serum prostate-specific antigen (PSA) £50 ng/mL from the Cryo On-Line Data (COLD) registry. The primary outcome was biochemical progression free survival (BPFS) as defined by the Phoenix criteria (nadir PSA +2 ng/ mL). Secondary outcomes of continence (defined as strictly no leak) and potency

(able to have intercourse) were patient reported. Factors influencing BPFS were evaluated individually using Kaplan Meier and in a multivariate model using Cox regression. Results: Altogether, 300 men were included for analysis. The median follow-up was 18.2 months (mean 28.4) and median BPFS was 69.8 months. Based on Kaplan-Meier analysis, the estimated 2- and 5-year BPFS rate was 77.2% and 59.1%, respectively. Neoadjuvant hormonal therapy was administered to 41% of men and this tended to occur in men with larger prostates, likely as a technical consideration for downsizing before cryosurgery. At multivariate analysis, the presence of Gleason score 9 or 10 (Hazard Ratio [HR] 1.9) and a posttreatment PSA nadir of ‡0.4 ng/mL (HR 5.7) were the only significant variables associated with biochemical progression using Cox regression. Complete continence was noted in 90.5% of men and potency in 17% of men at the 12-month follow-up. The incidence of rectourethral fistulae and urinary retention requiring intervention beyond temporary catheterization was 1.3% and 3.3%, respectively. Conclusion: Primary cryotherapy appears to be effective and safe in the community setting for high-grade, clinically localized prostate cancer in the short term.
Keywords: Is Cryotherapy Effective in A High-Grade Localized Setting

M-183. Five-Year Biochemical Progression-Free Survival Following Salvage Whole-Gland Prostate Cryoablation: Defining Success With Nadir Prostate-Specific Antigen.

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Journal of Endourology, 30(6): 0-0 (2016) IF: 2.107

Background and Objectives: Salvage prostate cryoablation is an effective treatment for patients with localized prostate cancer relapse following primary radiotherapy. The postsalvage prostate-specific antigen (PSA) nadir that best predicts long-term biochemical progression-free survival (bPFS) is not yet defined. We sought to determine what nadir PSA best predicted success following salvage whole-gland cryoablation. Patients and Methods: We retrospectively reviewed a cohort of 486 hormone-naive patients who underwent salvage whole-gland cryoablation from the Cryo On-Line Database (COLD). Studied variables were age, race, initial PSA, presalvage prostate-specific antigen (psPSA), initial Gleason score, Gleason score at presalvage biopsy, clinical stage, and follow-up PSA values. Kaplan–Meier (KM) analysis was used to calculate 5-year bPFS using the Phoenix criteria. Hazard ratio and relative risk were also analyzed. Differences among the KM estimates, at 5 years, were calculated using the log-rank test. Results: Using group thresholds, KM analysis identified nadir PSA less than or greater than 0.4 ng/mL as the nadir PSA threshold, with the greatest difference in bPFS. The KM estimated 5-year bPFS was 75.5% and 22.1% for nadir PSA <0.4 and ‡0.4 ng/mL, respectively. Stratified by psPSA, the KM estimated 5-year bPFS comparing patients with PSA nadir <0.4 vs ‡0.4 ng/mL was 78.5% and 17.9% (p < 0.0001) for psPSA <4 ng/mL, 77.1% and 15.7% (p < 0.0001) for psPSA 4–10 ng/mL, and 77.8% and 16.8% (p < 0.0001) for psPSA >10 ng/mL, respectively. Conclusion: The best objective indicator of biochemical success following whole-gland salvage cryoablation of the prostate is PSA nadir <0.4 ng/mL.
Keywords: Salvage Prostate Cryoablation

M-184. The Nomogram Conundrum: A Demonstration of Why A Prostate Cancer Risk Model in Turkish Men Underestimates Prostate Cancer Risk in The Usa

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International Urology and Nephrology, 48 (10): 0-0 (2016) IF: 1.292

Purpose The utility of a nomogram is based on the patient population it is designed for—and their inherent properties and biases. Our aim was to demonstrate the variability in predictive model accuracy and utility between different populations. Methods Our model is based on 761 men who underwent initial TRUS biopsy at a single institution in Turkey. Patients were included if they had at least 10 cores on biopsy and PSA level <20 ng/ml. Multivariable logistic regression models were used to develop a new nomogram. External validity was tested with two different cohorts one from another institution in Turkey (N = 136) and cohort from USA (N = 2242). Results Prostate cancer (PCa) and high-grade PCa was diagnosed in 249/761 (32.7 %) and 101/761 (13.3 %) patients from Ankara, Turkey, respectively. Predictors of PCa were age (p < 0.0001, OR 2.11), PSA (p = 0.044, OR 1.44), PV (p < 0.0001, OR 0.38), %fPSA (p = 0.016,OR 0.72), and abnormal DRE (p < 0.0001, OR 2.05). The predictive accuracy (c-index) of our nomogram was 73 %. C-indices of 71 and 70 % were recorded in external validation cohorts from Turkey and the USA, respectively. Virtually ideal calibration was recorded for the internal validated predictive model, and good calibration was recorded when applied to the Istanbul cohort. However, the model/nomogram underestimates PCa risk in the US cohort. Conclusion This is the first nomogram predicting the risk of PCa at initial biopsy in a Turkish population and provides a good risk estimation tool with good predictive accuracy and calibration in the Turkish populations. However, our study demonstrates the poor transferability of predictive tools to widely different populations.
Keywords: Prostate Cancer · Prostate Biopsy · Nomogram

M-185. Internal Versus External Ureteric Stents For Uretero-Ileal Anastomosis After Laparoscopic Radical Cystectomy With Orthotopic Neobladder: A Prospective Comparative Study.

Abdel Hakim MA, Abdalla AA, Saad IR, ElSheemy MS, El Feel AS, Salem HK and Abdel Hakim AM.

Arab Journal of Urology, 14(2):: 136-142 (2016)

Objective: To prospectively compare the use of external ureteric stents with internal JJ stenting of the uretero-ileal anastomosis in patients undergoing laparoscopic radical cystectomy (LRC) with a Y-shaped ileal orthotopic neobladder (ON). Patients and methods: The study included 69 patients undergoing LRC with ON. Patients were grouped according to the type of uretero-ileal stents used. An external ureteric stent was used in Group A (33

patients) and a JJ stent was used in Group B (36). We prospectively compared the duration of hospital stay, the incidence of short- and intermediate-term complications in the two study groups. Results: The mean (SD) follow-up periods were 29.18 (3.94) and 28.19 (3.37) months for patients in Groups A and B, respectively. Perioperative patient characteristics were comparable in the two study groups. The use of JJ stenting was associated with a shorter hospital stay compared with external stenting, at a mean (SD) of 14.63 (3.74) and 6.8 (3.03) days in Groups A and B, respectively ($P < 0.001$). The incidence of urinary leakage was comparable in the two study groups, at 6.1% in Group A vs 8.3% in Group B ($P = 1.0$). Strictures of the uretero-ileal anastomosis

Keywords: (L)Rc, (Laparoscopic) Radical Cystectomy; Asa, American Society of Anesthesiologists; External Ureteral Catheters; Ileal Neobladder; Internal Jj Stents; On, Orthotopic Neobladder; Us, Ultrasonography; Uretero-Ileal Anastomosis; Urinary Diversion

Faculty of Oral Dental Medicine

Dept. of Crowns and Bridges

M-186. The Effect of Diode Laser and Topical Steroid on Serum Level of Tnfalpha in Oral Lichen Planus Patients

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J Clin Exp Dent, 8(5): 0-0 (2016)

Background Oral lichen planus (OLP) is a common chronic inflammatory mucosal disease with a multifactorial etiology. It is a T-cell mediated autoimmune disease in which the cytotoxic CD8+T cells trigger apoptosis of the basal cells of oral epithelium. Various treatment regimens have been employed for management of symptomatic OLP. This study was carried out to evaluate the effect of topical steroids as well as laser on the clinical signs and symptoms detected by reticular, atrophic, erosive score (RAE score) and tumor necrosis factor- α (TNF-α) level in the serum of patients with symptomatic OLP. Material and Methods The study was conducted on twenty-four patients (18 females and 6 males) with symptomatic OLP that were allocated into two groups. Each included twelve patients. The first group treated either with diode laser (970nm SIROLaser Advance class IIIb, SIRONA The Dental Company, Germany) twice weekly with maximum of ten sessions while the second group were treated with topical corticosteroids (0.1% triamcinolone acetonide orabase, Kenacort-A Orabase Pomad, DEVA HOLDING A.Ş, Istanbul, Turkey) for four weeks. Results Corticosteroids group showed less clinical signs and symptoms of reticular, atrophic, erosive RAE score (p=0.02) and TNF-α serum level (p=0.028) than diode laser group with no reported therapy side effects or complications in any of the treated patients. ٩/٢٠١٧ /٩ The effect of diode laser and topical steroid on serum level of TNF-alpha in oral lichen planus patients
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5149093/ 2/7 Go to: Go to: Conclusions Topical steroids reduce pain, reticular, atrophic, erosive RAE score and TNF-α serum level more than laser treatment. Moreover, laser treatment can be used as an alternative treatment when steroids are contraindicated for the treatment of symptomatic OLP.
Keywords: Oral Lichen Planus, Diode Laser, Topical Steroid, Rae Score, Tnf-A.

Dept. of Fixed Prosthodontics

M-187. Effect of Screw-Access Channels on The Fracture Resistance of 3 Types of Ceramic Implant-Supported Crowns

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The Journal of Prosthetic Dentistry, 116: 214-220 (2016) IF: 1.515

Statement of problem. Access channels for retrieving ceramic implant-supported screw-retained crowns may decrease their fracture resistance. Purpose. The purpose of this in vitro study was to evaluate the effect of screw-access channels on 3 types of ceramic implant-supported crowns. Material and methods. Sixty computer-aided designed and computer-aided manufactured (CAD-CAM) ceramic implant-supported screw-retained maxillary premolar crowns were fabricated, 30 with an occlusal screw-access channel and 30 without access channels. Each group was further divided into the following 3 subgroups of 10 specimens each: monolithic zirconia, veneered zirconia, and lithium disilicate. Identical milled titanium implant abutments were fabricated. Crowns were fabricated with standardized thicknesses and subjected to cyclic loading until failure occurred. Data analysis was performed using 1-way analysis of variance test of significance followed by Tukey honest significant difference (HSD) test (a=.05). Results. No significant differences in fracture resistance were found between access channel groups and corresponding groups without access channels (P>.05). Among the subgroups, monolithic zirconia recorded the highest fatigue failure mean load values (2047.8 ±83.2 N for crowns with access channels and 2028.7 ±104.5 N for crowns without access channels), which was significantly higher (P<.05) than values for the lithium disilicate group (605.4 ±37.9 N for crowns with access channels and 615.3 ±76.6 N for crowns without access channels) and the veneered zirconia group (411 ±34.4 N for crowns with access channels and 461.2 ±72.7 N for crowns without access channels), which recorded the lowest fatigue failure load mean values. Conclusions. Screw-access channels did not affect the fatigue failure load of monolithic zirconia, monolithic lithium disilicate, or veneered zirconia ceramic crowns. Monolithic zirconia crowns recorded significantly higher fatigue failure load among the 3 types of crowns tested. (J Prosthet Dent 2016;116:214-220)
Keywords: Access Channels For Retrieving Ceramic Implant-Fracture Resistance Ceramic Implant-Supported Crowns -Cad-Cam) Ceramic Implant-Supported Screw-Retained Monolithic Zirconia Crown- Veneered Zirconia Crown- Lithium Disilicate Crown

Dept. of Operative Dentistry

M-188. Repair Bond Strength of Dual-Cured Resin Composite Core Buildup Materials.

Artificial saliva storage; Bond strength; Core buildup; Dual-cured; Repair and Resin composite

Journal of Advanced Research, 7(2): 263-269 (2016) IF: 3

Abstract The reparability of dual-cured resin composite core buildup materials using a light-cured one following one week or three months storage, prior to repair was evaluated. Two different dual-cured resin composites; Cosmecore™ DC automix and Clearfil™ DC automix core buildup materials and a light-cured nanofilled resin composite; Filtek™ Z350 XT were used. Substrate specimens were prepared (n = 12/each substrate material) and stored in artificial saliva at 37 °C either for one week or three months. Afterward, all specimens were ground flat, etched using Scotchbond™ phosphoric acid etchant and received Single Bond Universal adhesive system according to the manufacturers' instructions. The light-cured nanofilled resin composite (Filtek™ Z350 XT) was used as a repair material buildup. To determine the cohesive strength of each solid substrate material, additional specimens from each core material (n = 12) were prepared and stored for the same periods. Five sticks (0.8 ± 0.01 mm(2)) were obtained from each specimen (30 sticks/group) for microtensile bond strength (μTBS) testing.

Modes of failure were also determined. Two-way ANOVA revealed a significant effect for the core materials but not for the storage periods or their interaction. After one week, dual-cured resin composite core buildup materials (Cosmecore™ DC and Clearfil™ DC) achieved significantly higher repair μTBS than the light-cured nanofilled resin composite (Filtek™ Z350 XT). However, Clearfil™ DC revealed the highest value, then Cosmecore™ DC and Filtek™ Z350 XT, following storage for 3-month. Repair strength values recovered 64-86% of the cohesive strengths of solid substrate materials. The predominant mode of failure was the mixed type. Dual-cured resin composite core buildup materials revealed acceptable repair bond strength values even after 3-month storage.

Keywords: El-Deeb Ha, Ghalab Rm, Elsayed Akah Mm, Mobarak Eh

M-189. Bond Strength Durability of Different Adhesives To Dentin After Aging in Two Different Solutions.

El-Deeb HA, Daifalla LE, Badran OI and Mobarak EH.

Journal of Adhesive Dentistry, 18 (4): 303-309 (2016) IF: 1.594

Abstract PURPOSE: To determine the influence of aging in artificial saliva compared to distilled water on the dentin microtensile bond strength (μTBS) of different adhesive systems. MATERIALS and METHODS: Occlusal enamel and superficial dentin of 42 teeth were removed and roots were sectioned to expose the pulp chamber for connecting the tooth segments to an intrapulpal pressure assembly. According to the tested adhesives, tooth segments were allocated to three groups (n = 14): an etch-and-rinse adhesive (Adper Scotchbond Multi-Purpose, SBMP), a two-step self-etching adhesive (Clearfil SE Bond, CSE), and a singlestep self-etching adhesive (Clearfil S3 Bond, S3). Each adhesive system was applied to the dentin surface according to its manufacturer's instructions, while intrapulpal pressure was simulated. Resin composite (3M ESPE) was built up in two increments of 2 mm each. Each bonded specimen was sectioned to obtain eight sticks (0.8 ± 0.01 mm2). Sticks of each group were divided equally (n = 56) according to the storage solution, either distilled water or artificial saliva. For each storage solution, half of the sticks of each subgroup (n = 28) was stored for 24 h at 37°C and the other half was thermocycled for 10,000 cycles between 5°C and 55°C. Sticks were then subjected to μTBS testing. Data were statistically analyzed using multifactor ANOVA with repeated measures and Bonferroni's post-hoc test ($p < 0.05$). Student's t-test was used for pairwise comparison. Failure modes were determined for all tested sticks using scanning electron microscopy. RESULTS: The decrease in bond strength of the three adhesives was significantly higher in distilled water than in artificial saliva. The predominant failure modes were adhesive and mixed. CONCLUSION: The decrease in bond strength was more pronounced for specimens stored in distilled water than in artificial saliva.

Keywords: Distilled Water, Artificial Saliva, Adhesives, Dentin Bonding Bond Strength, Storage, Microtensile Bond Strength

Dept. of Oral and Maxillofacial Surgery

M-190. Simultaneous Implant Placement With Ridge Augmentation Using An Autogenous Bone Ring Transplant

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International Journal of Oral and Maxillofacial Surgery, 45 (4): 535-544 (2016) IF: 1.563

The severely defective socket, in which implant placement within the remaining bone will result in a significantly off-axis implant position, precludes immediate implant placement and requires bone grafting as an initial surgical intervention. The aims of this study were to evaluate autogenous chin bone ring consolidation after the augmentation of severely defective sockets and the clinical application of these rings in the premolar–molar region with simultaneous implant placement in a one-stage procedure. Ten patients with 12 defective sockets were included. Sockets were prepared with a trephine bur. Bone rings with a tapped implant osteotomy were harvested from the chin with a larger trephine bur. Bone rings were fitted in the prepared sockets. An implant drill was used to prepare the bone apical to the ring through its central osteotomy. Implants were screwed through the rings and the apical bone. Patients were examined clinically and radiographically immediately and at 6 months postoperative. Crestal bone changes were measured and evaluated statistically. All grafted sockets showed bone healing with no significant crestal bone resorption and no infection; only one ring showed dehiscence, which healed during the follow-up period. All implants showed radiographic evidence of osseointegration. The autogenous chin bone ring augmentation technique was found to be a reliable alternative method for the management of severely defective sockets.

Keywords: Ridge Augmentation, Bone Ring, Immediate Implant

Dept. of Oral Medicine and Periodontology

M-191. Gingival Mesenchymal Stem/Progenitor Cells: A Unique Tissue Engineering Gem

KarimM. Fawzy El-Sayed and Christof E. Dörfer

Stem Cells International, 2016: 0-0 (2016) IF: 3.687

The human gingiva, characterized by its outstanding scarless wound healing properties, is a unique tissue and a pivotal component of the periodontal apparatus, investing and surrounding the teeth in their sockets in the alveolar bone. in the last years gingival mesenchymal stem/progenitor cells (G-MSCs), with promising regenerative and immunomodulatory properties, have been isolated and characterized from the gingival lamina propria. These cells, in contrast to other mesenchymal stem/progenitor cell sources, are abundant, readily accessible, and easily obtainable via minimally invasive cell isolation techniques. The present review summarizes the current scientific evidence on G-MSCs' isolation, their characterization, the investigated subpopulations, the generated induced pluripotent stemcells- (iPSC-) like G-MSCs, their regenerative properties, and current approaches for G-MSCs' delivery.The

review further demonstrates their immunomodulatory properties, the transplantation preconditioning attempts via multiple biomolecules to enhance their attributes, and the experimental therapeutic applications conducted to treat multiple diseases in experimental animal models in vivo. G-MSCs show remarkable tissue reparative/regenerative potential, noteworthy immunomodulatory properties, and primary experimental therapeutic applications of G-MSCs are very promising, pointing at future biologically based therapeutic techniques, being potentially superior to conventional clinical treatment modalities.
Keywords: Stem Cells, Gingiva, Review.

M-192. Peripheral Blood Monocytes As Adult Stem Cells: Molecular Characterization and Improvements in Culture Conditions To Enhance Stem Cell Features and Proliferative Potential

Hendrik Ungefroren, Ayman Hyder, Maren Schulze, KarimM. Fawzy El-Sayed, Evelin Grage-Griebenow, Andreas K. Nussler and Fred Fändrich

Stem Cells International, 2016: 0-0 (2016) IF: 3.687

Adult stem or programmable cells hold great promise in diseases in which damaged or nonfunctional cells need to be replaced. We have recently demonstrated that peripheral blood monocytes can be differentiated in vitro into cells resembling specialized cell types like hepatocytes and pancreatic beta cells. During phenotypic conversion, the monocytes downregulate monocyte/macrophage differentiation markers, being indicative of partial dedifferentiation, and are partially reprogrammed to acquire a state of plasticity along with expression of various markers of pluripotency and resumption of mitosis. Upregulation of stem cell markers and mitotic activity in the cultures was shown to be controlled by autocrine production/secretion of activin A and transforming growth factor-beta (TGF-β). These reprogrammed monocyte derivatives were termed “programmable cells of monocytic origin” (PCMO). Current efforts focus on establishing culture conditions that increase both the plasticity and proliferation potential of PCMO in order to be able to generate large amounts of blood-derived cells suitable for both autologous and allogeneic therapies.
Keywords: Pcmo; Review.

M-193. Toll-Like Receptor Expression Profile of Human Dental Pulp Stem/Progenitor Cells.

Fawzy El-Sayed KM, Klingebiel P and Dörfer CE

J Endod., 42(3): 413-417 (2016) IF: 2.904

NTRODUCTION: Human dental pulp stem/progenitor cells (DPSCs) show remarkable regenerative potential in vivo. During regeneration, DPSCs may interact with their inflammatory environment via toll-like receptors (TLRs). The present study aimed to depict for the first time the TLR expression profile of DPSCs. METHODS: Cells were isolated from human dental pulp, STRO-1-immunomagnetically sorted, and seeded out to obtain single colony-forming units. DPSCs were characterized for CD14, CD34, CD45, CD73, CD90, CD105, and CD146 expression and for their multilineage differentiation potential. After incubation of DPSCs in basic or inflammatory medium (interleukin-1β, interferon-γ, interferon-α, tumor necrosis factor-α), TLR expression profiles were generated (DPSCs and DPSCs-i). RESULTS: DPSCs showed all characteristics of stem/progenitor cells. in basic medium DPSCs expressed TLRs 1-10 in different quantities. The inflammatory medium upregulated the expression of TLRs 2, 3, 4, 5, and 8, downregulated TLRs 1, 7, 9, and 10, and abolished TLR6. CONCLUSIONS: The current study describes for the first time the distinctive TLR expression profile of DPSCs in uninflamed and inflamed conditions.
Keywords: Flow Cytometry; Tlr; Polymerase Chain Reaction; Pulp; Stem Cells

M-194. Anterior Maxilla Augmentation Using Palatal Bone Block With Platelet-Rich Fibrin: A Controlled Trial

Mahmoud Moussa, Omnia Abou EL Dahab and Hani El Nahass

The International Journal of Oral & Maxillofacial Implants, 31: 708-715 (2016) IF: 1.859

Purpose:This study was conducted to characterize clinically and radiographically the effect of using platelet-rich fibrin (PRF) autologous graft on the augmentation results of autogenous palatal bone blocks. MATERIALS and METHODS: Patients who suffered from horizontal alveolar bone defects in the anterior maxillary ridge (≤ 4.5 mm) with one or two missing teeth were augmented with autogenous palatal bone blocks 4 months prior to implant placement. PRF was used to cover the block in the test group, while only the block was used in the control. Bone width was measured with a manual caliper preaugmentation (t0), and at 0 (t1) and 4 months (t2). Cone beam computed tomography (CBCT) scans were performed at t0 and t2. Nonparametric tests (Mann-Whitney, Friedman's, and Wilcoxon signed-rank tests) were used for the comparisons. The significance level was set at $P \leq .05$. RESULTS: in the 14 sites (12 patients), all but one autograft (from the control group) integrated successfully after 4 months. No statistically significant difference was found between demographic data in the two groups. There was a statistically significant increase in the buccopalatal bone width in both groups by time as measured by CBCT as well as the manual caliper. The test group showed statistically significantly lower mean graft resorption than the control group (test, 0.8 ± 0.6 mm; control, 1.6 ± 0.9 mm; $P = .006$). CONCLUSION: Autogenous palatal bone block surface resorption is significantly decreased by the use of PRF coverage.
Keywords: Alveolar Resorption, Alveolar Augmentation,Hard Palate, Maxillary Bone, Platelet Rich Fibrin

M-195. Dental Implants Combined With Sinus Augmentation: What Is The Merit of Bone Grafting? A Systematic Review

Nasr S, Slot DE, Bahaa S, Dörfer CE and Fawzy El-Sayed KM

J Craniomaxillofac Surg., 44(10): 1607-1617 (2016) IF: 1.592

PURPOSE: The aim of the present study was to systematically assess the current evidence on the effect of nongrafted compared to graft-assisted maxillary sinus floor elevation on implant survival/failure, endosinus bone gain, crestal bone loss, and bone density around dental implants. MATERIALS and METHODS: MEDLINE-PubMed, Cochrane-CENTRAL, and EMBASE databases were searched up to November 2015 for randomized controlled trials (RCTs) and controlled clinical trials-(CCTs), evaluating dental implants placed in combination with maxillary

sinus elevation without and with bone grafting. Implant survival/failure served as the primary outcome, whereas endosinus bone gain, crestal bone loss, and bone density around dental implants were secondary outcomes. To assess possible bias, the Cochrane risk of bias tool was used. Data were extracted and a meta-analysis performed where appropriate. RESULTS: Independent screening of 3180 papers resulted in six eligible experiments. Heterogeneity was observed among experiments. One experiment showed low, three unclear, and two a high risk of bias. The assessed outcomes showed no significant long-term differences between groups. CONCLUSION: Within the limit of the current systematic review, nongrafted maxillary sinus floor elevation seems to be characterized by new bone formation and high implant survival rate comparable to bone-graft-assisted maxillary sinus floor augmentation. Further long-term studies are needed before definitive conclusions can be made.

Keywords: Bone Grafting; Dental Implant; Meta-Analysis; Sinus Floor Augmentation; Systematic Review

M-196. Palatal Bone Dimensions on Cone Beam Computed Tomography. Implications For The Palate As Autogenous Donor Site: An Observational Study

H. El Nahass and S.N. Naiem

International Journal of Oral and Maxillofacial Surgery, 45: 99-103 (2016) IF: 1.563

This study analyzed cone beam computed tomography (CBCT) records. Radiographic image analysis included: (1) the width and height of the palatal vault, and diameter and location of the incisive foramen; (2) the potential block graft dimensions and their correlation to arch dimensions; (3) the potential graft size and its variation by sex. CBCT scans of 76 patients were included, 42 from female patients and 34 from male patients (mean age 42.3 years). The mean palatal width was 35.2 ± 3.4 mm, while the mean palatal height was 15.2 ± 2.9 mm. The mean diameter of the incisive foramen was 3.1 ± 1.3.mm. The mean potential osteotomy diameter was 7.8 ± 1.5 mm. The mean osteotomy length varied according to site: central incisor region, 5.9 ± 2.0 mm; lateral incisor region, 5.2 ± 2.1 mm; canine region, 4.7 ± 1.9 mm; premolar region, 4.1 ± 1.7 mm. A positive correlation was observed between the osteotomy diameter and the palatal width: a greater osteotomy length was obtained from the more anterior teeth position. Males presented significantly greater osteotomy diameter and length compared to females. The palate represents a potential site for the harvest of autogenous bone block grafts for the reconstruction of ridge defects.

Keywords: Ct Imaging; Clinical Assessment; Diagnosis; Imaging; Radiology

M-197. Tlr Expression Profile of Human Gingival Margin-Derived Stem Progenitor Cells

Karim Fawzy-El-Sayed, Mohamed Mekhemar , Sabine Adam-Klages , Dietrich Kabelitz and Christof Dörfer

Med Oral Patol Oral Cir Bucal., 21(1): 0-0 (2016) IF: 1.087

Background Gingival margin-derived stem/progenitor cells (G-MSCs) show remarkable periodontal regenerative potential in vivo. During regeneration, G-MSCs may interact with their inflammatory environment via toll-like-receptors (TLRs). The present study aimed to depict the G-MSCs TLRs expression profile. Material and Methods Cells were isolated from free gingival margins, STRO-1-immunomagnetically sorted and seeded to obtain single colony forming units (CFUs). G-MSCs were characterized for CD14, CD34, CD45, CD73, CD90, CD105, CD146 and STRO-1 expression, and for multilineage differentiation potential. Following G-MSCs' incubation in basic or inflammatory medium (IL-1β, IFN-γ, IFN-α, TNF-α) a TLR expression profile was generated. Results G-MSCs showed all stem/progenitor cells' characteristics. in basic medium G-MSCs expressed TLRs 1, 2, 3, 4, 5, 6, 7, and 10. The inflammatory medium significantly up-regulated TLRs 1, 2, 4, 5, 7 and 10 and diminished TLR 6 ($p \leq 0.05$, Wilcoxon-Signed-Ranks-Test). Conclusions The current study describes for the first time the distinctive TLRs expression profile of G-MSCs under uninflamed and inflamed conditions.

Keywords: Stem Cells, Tlr, Gingiva, Polymerase Chain Reaction, Facs

M-198. Evaluation of The Effect of Diacerein on Il-1ß and Osteocalcin Levels in Gcf of Chronic Periodontitis Patients: A Non-Randomized Controlled Clinical Trial.

Enji Ahmed , Basma Mostafa, Amera Maged and Olfat Shaker

Journal of International Dental and Medical Research, 9 (2): 98-107 (2016)

This work has been conducted to evaluate the influence of diacerein (a potent anti-inflammatory drug) both clinically and on 1L-β and osteocalcin levels in gingival crevicular fluid (GCF) in patients with chronic periodontitis. The current experiment included forty-five patients allocated to three equal groups: Group I (n=15) included patients with chronic periodontitis who were treated with both scaling and root planing (SRP) only; Group II (n=15) involved patients with chronic periodontitis who were treated with SRP besides systemic diacerein administered orally and Group III (n=15) healthy volunteers with no periodontal disease. PI (plaque index), GI (gingival index), PD (pocket depth), and CAL (clinical attachment level) were recorded. in addition, IL-1β and osteocalcin levels in GCF were measured before treatment and after 1 and 2 months' post-treatment. The results revealed the significant change and improvement of all the measured clinical parameters with the reduction of IL-1β and osteocalcin levels especially in the group in which diacerein was given. Diacerein has a playful therapeutic effect in management of chronic periodontitis.

Keywords: Diacerein, Periodontitis, Il-1ß, Osteocalcin, Gcf.

M-199. Risk-Benefit Assessment For Antibiotic Prophylaxis in Asplenic Dental Patients.

Hussein H and Brown RS.

General Dentistry (Journal of Academy of General Dentistry), July/August: 62-65 (2016)

A review of the published literature revealed that discourse on the topic of antibiotic prophylaxis guidelines for the asplenic dental patient is limited and that guidelines regarding this issue have not been updated for years. The review determined that the professional protocol for the treatment of asplenic dental patients

has changed over the last 30 years, particularly with reference to adult patients. Furthermore, as dentists and physicians now understand that blood-borne bacteremias are produced from everyday occurrences such as chewing and toothbrushing, bacteremias secondary to dental procedures are no longer viewed as seriously as in the past; therefore, the guidelines for antibiotic prophylaxis have changed. Antibiotic prophylaxis is not routinely indicated prior to dental procedures for asplenic adult dental patients without risk factors. However, antibiotic prophylaxis should be considered for young children, immunocompromised patients with underlying causative disease, or any patient during the first 3 years after a splenectomy.

Keywords: Antibiotic Prophylaxis; Asplenic; Dentistry; Splenectomy

Dept. of Oral Pathology

M-200. Evaluation of The Anti-Inflammatory Effect of Locally Delivered Vitamin C in The Treatment of Persistent Gingival Inflammation: Clinical and Histopathological Study

Nermin M. Yussif, Manar A. Abdul Aziz, and Ahmed R. Abdel Rahman

Journal of Nutrition and Metabolism, 2016: 0-0 (2016)

The purpose of this study is to investigate the role and efficiency of the locally injected vitamin C in the treatment of persistent gingival inflammation. Design. Twenty adult patients with persistent chronic gingival inflammation were included in this study. The same dose of sterile vitamin C was injected in gingival tissues after the completion of phase I therapy. Gingival biopsies were taken after total resolution of inflammation.The specimens were examined histologically, using H&E stain. Results. Clinical evaluation revealed great improvement of the injected sites with recall visits. Histopathological results revealed marked decrease in inflammatory cells and epithelial thickness and a higher number of newly formed subbasal capillaries. Conclusions. Vitamin C is an effective adjunctive treatment in reducing various degrees of chronic gingival inflammation.

Keywords: Locally Injected Vitamin C, Chronic Persistent Gingival Inflammation

M-201. Nonneoplastic Tongue Swellings of Lymphatic and Lymphocytic Origin: Three Case Reports

Manar A. Abdul Aziz and Nermin M. Yussif

Case Reports in Dentistry, 2016: 0-0 (2016)

Tongue is formed of a mass of muscles and salivary gland embedded in anterior highly vascular and posterior lymphoid stroma and covered by specialized surface epithelium. Growths from all of these heterogonous components may occur resulting in a wide variation in clinical features and behavior, ranging from self-limiting to aggressive lesions. Therefore, surgical excision is the treatment of choice. The aim of the current study is to report three different lesions that came to the Oral Surgery Department in the Faculty of Oral and Dental Medicine, Cairo University. Following clinical and histopathological examination, the diagnosis of reactive lymphoproliferative lesion, cystic lymphoepithelial lesion, and developmental lymphatic vessel malformation was reached.

Keywords: Tongue Swellings, Oral Lymphoepithelial Cyst, Lymphangioma, Lymphoid Hyperplasia

Faculty of Pharmacy

Dept. of Microbiology and Immunology

M-202. Cell-Intrinsic Barriers of T Cell-Based Immunotherapy

Hazem E. Ghoneim, Anthony E. Zamora, Paul G. Thomas and Ben A. Youngblood

Trends in Molecular Medicine, 22(12): 1000-1011 (2016) IF: 9.292

Prolonged exposure of CD8+ T cells to their cognate antigen can result in exhaustion of effector functions enabling the persistence of infected or transformed cells. Recent advances in strategies to rejuvenate host effector function using Immune Checkpoint Blockade have resulted in tremendous success towards the treatment of several cancers. However, it is unclear if T cell rejuvenation results in long-lived antitumor functions. Emerging evidence suggests that T cell exhaustion may also represent a significant impediment in sustaining long-lived antitumor activity by chimeric antigen receptor T cells. Here, we discuss current findings regarding transcriptional regulation during T cell exhaustion and address the hypothesis that epigenetics may be a potential barrier to achieving the maximum benefit of T cell-based immunotherapies.
Keywords: Dna Methylation.; T Cell Exhaustion; Chimeric Antigen Receptor T Cells; Epigenetics; Histone Modification; Immune Checkpoint Blockade

M-203. Generating Long-Lived Cd8(+) T-Cell Memory: Insights From Epigenetic Programs.

Pranay Dogra, Hazem E. Ghoneim, Hossam A. Abdelsamed and Ben Youngblood

European Journal of Immunology, 46(7): 1548-1562 (2016) IF: 4.179

T-cell-based immunological memory has the potential to provide the host with life-long protection against pathogen reexposure and thus offers tremendous promise for the design of vaccines targeting chronic infections or cancer. in order to exploit this potential in the design of new vaccines, it is necessary to understand how and when memory T cells acquire their poised effector potential, and moreover, how they maintain these properties during homeostatic proliferation. To gain insight into the persistent nature of memory T-cell functions, investigators have turned their attention to epigenetic mechanisms. Recent efforts have revealed that many of the properties acquired among memory T cells are coupled to stable changes in DNA methylation and histone modifications. Furthermore, it has recently been reported that the delineating features among memory T cells subsets are also linked to distinct epigenetic events, such as permissive and repressive histone modifications and DNA methylation programs, providing exciting new hypotheses regarding their cellular ancestry. Here, we review recent studies focused on epigenetic programs acquired during effector and memory T-cell differentiation and discuss how these data may shed new light on the developmental path for generating long-lived CD8(+) T-cell memory.
Keywords: Cd8+ T Cell; Dna Methylation; Epigenetics; Histone Modification; Memory; T-Cell Exhaustion

Dept. of Pharmacognosy

M-204. Pharmacognostical and Genetic Characterization of Tecoma Smithii Will. Wats.

Saleh Naglaa Abdrabou, Ezzat Shahira M, El-kashoury El-sayeda A and Taha Kamilia F

International Journal of Pharmacognosy and Phytochemical Research, 8: 1587-4873 (2016)

Objective: very limited information were traced on the macromorphology of Tecoma Smithii Will. Wats. and nothing was found regarding the micromorphology. Furthermore, there were no reports regarding the genetic profiling of the plant although it is claimed to be a hybrid of two other species. Therefore, the study aims to of find out the diagnostic characters for identification and differentiation of this species. Method: the macro- and micromorphology of the leaves, stems and flowers of the plant cultivated in Egypt were carried out. DNA samples of three species of Tecoma: Tecoma Smithii Will. Wats.; as the hybrid, and the parents: Tecoma mollis Humb. & Bonpl., and Tecomaria capensis (Thunb.) Lindl. were extracted from fresh leaves and Random Amplified Polymorphic DNA (RAPD) analysis was conducted using ten primers of arbitrary sequences. Results: botanical characters of different organs of the plant were identified. on the other hand, the ten primers of arbitrary sequences generated a total of 224 fragments in all of the three species; distributed as 69, 73, and 82 for Tecoma mollis Humb. & Bonpl., Tecoma Smithii Will. Wats., and Tecomaria capensis (Thunb.) Lindl. respectively. A 100% genetic similarity percentage was observed between the three species using the primers OPC-01 and OPE-03, supporting the claim of the hybridization and strong relation between the three species. The highest level of polymorphism was recorded using the primer OPAX-16 thus could be a good tool for differentiation between the three species or each two of them. Conclusion: in the present study, macro and micromorphological characters, as well as DNA fingerprint can be considered as discriminating features to authenticate and differentiate Tecoma Smithii Will. Wats.
Keywords: Tecoma Smithii, Dna Fingerprinting, Botanical Profiling

The National Cancer Institute

Dept. of Clinical Pathology

M-205. Adhesion Molecules Expression in Cll: Potential Impact on Clinical and Hematological Parameters

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Journal of The Egyptian National Cancer Institute, 28(1): 31-37 (2016)

Abstract Background B-cell chronic lymphocytic leukemia (CLL) is marked by the accumulation of CD5+ B lymphocytes within the blood, bone marrow (BM), and secondary lymphoid tissues. Abnormalities in the expression and function of cell adhesion molecules may account for the patterns of intra-nodal growth and hematogenous spread of the malignant cells. Chemokines and integrin-mediated adhesion and trans-endothelial migration (TEM) are central aspects in trafficking and retention of hematopoietic cells in the BM and lymphoid organs. Aim of the work This work was conducted to study adhesion molecules status in CLL and its potential impact on both hematological and clinical parameters. Patients and methods The study included 78 newly diagnosed CLL patients. Immunophenotyping was performed on peripheral blood using the chronic lymphoid panel. Adhesion molecules (CD11a, CD11b, CD49d, CD49C, CD29 and CD38) were tested using monoclonal antibodies and analyzed by Flow Cytometry. Results Positive correlation was encountered between adhesion molecules: CD38 with CD49d ($r = 0.25$, $p = 0.028$), CD11a with CD11b, CD49d and CD29 ($r = 0.394$, $p = 0.001$; $r = 0.441$, $p = <0.01$ and $r = 0.446$, $p < 0.01$ respectively) and CD29 with CD49c and CD49d ($r = 0.437$, $p < 0.01$; $r = 0.674$, $p < 0.01$ respectively). CD49c showed negative correlation with Rai staging ($r = -0.269$, $p = 0.033$). CD11a and CD29 showed a significant relation with splenomegaly ($p = 0.04$ and 0.03 respectively) and CD49d showed a significant relation with lymphadenopathy ($p = 0.02$). Conclusion The level of different adhesion molecules expression in CLL is apparently reflected on the potential migratory behavior of the leukemic cells to different organs.

Keywords: Cll;Adhesion Molecules; Rai Stage

Dept. of Medical Oncology

M-206. Short Androgen Suppression and Radiation Dose Escalation For Intermediate- and High-Risk Localized Prostate Cancer: Results of Eortc Trial 22991

Michel Bolla, Philippe Maingon, Christian Carrie, Salvador Villa, Petros Kitsios, Philip M.P. Poortmans, Santhanam Sundar, Elzbieta M. van der Steen-Banasik, John Armstrong, Jean-François Bosset, Fernanda G. Herrera, Bradley Pieters, Annerie Slot, Amit Bahl, Rahamim Ben-Yosef, Dirk Boehmer, Christopher Scrase, Laurette Renard, Emad Shash, Corneel Coens, Alphonsus C.M. van den Bergh, and Laurence Collette

Journal of Clinical Oncology, 34: 1748-1756 (2016) IF: 20.982

Purpose Up to 30% of patients who undergo radiation for intermediate- or high-risk localized prostate cancer relapse biochemically within 5 years. We assessed if biochemical disease-free survival (DFS) is improved by adding 6 months of androgen suppression (AS; two injections of every-3-months depot of luteinizing hormone–releasing hormone agonist) to primary radiotherapy (RT) for intermediate- or high-risk localized prostate cancer. Patients and Methods A total of 819 patients staged: (1) cT1b-c, with prostate-specific antigen (PSA) $\geq$ 10 ng/mL or Gleason $\geq$ 7, or (2) cT2a (International Union Against Cancer TNM 1997), with no involvement of pelvic lymph nodes and no clinical evidence of metastatic spread, with PSA $\leq$ 50 ng/mL, were centrally randomized 1:1 to either RT or RT plus AS started on day 1 of RT. Centers opted for one dose (70, 74, or 78 Gy). Biochemical DFS, the primary end point, was defined from entry until PSA relapse (Phoenix criteria) and clinical relapse by imaging or death of any cause. The trial had 80% power to detect hazard ratio (HR), 0.714 by intent-to-treat analysis stratified by dose of RT at the two-sided $\alpha = 5\%$. Results The median patient age was 70 years. Among patients, 74.8% were intermediate risk and 24.8% were high risk. in the RT arm, 407 of 409 patients received RT; in the RT plus AS arm, 403 patients received RT plus AS and three patients received RT only. At 7.2 years median follow-up, RT plus AS significantly improved biochemical DFS (HR, 0.52; 95% CI, 0.41 to 0.66; $P < .001$, with 319 events), as well as clinical progression-free survival (205 events, HR, 0.63; 95% CI, 0.48 to 0.84; $P = .001$). in exploratory analysis, no statistically significant interaction between treatment effect and dose of RT could be evidenced (heterogeneity $P = .79$ and $P = .66$, for biochemical DFS and progression-free survival, respectively). Overall survival data are not mature yet. Conclusion Six months of concomitant and adjuvant AS improves biochemical and clinical DFS of intermediate- and high-risk cT1b-c to cT2a (with no involvement of pelvic lymph nodes and no clinical evidence of metastatic spread) prostatic carcinoma, treated by radiation.

Keywords: Prostate Cancer, Radiotherapy, Prostatic Specific Antigen, Combination Therapy

M-207. Systemic Review: Radiation Therapy Alone in Medical Non-Operable Endometrial Carcinoma

E. van der Steen-Banasik, M. Christiaens, E. Shash, A. Casado, F.G. Herrera , P.B. Ottevanger and C. Coens

European Journal of Cancer, 65: 172-181 (2016) IF: 6.163

Background and purpose Radiotherapy is a good option for inoperable and frail patients diagnosed with endometrial cancer. Because of the lack of large multicentre trials, a systematic review was performed in an attempt to get an overview on the feasibility and efficacy of this specific approach. Materials and methods We performed a bibliographic search for articles in English or French which were published in PubMed from the start of this database in January 1969 to identify publications on radiation therapy (RT) as single treatment for localised non-operable carcinoma of the endometrium. The review was completed following the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines. Results Twenty-five reports containing 2694 patients treated with RT as single treatment were identified that fulfilled the selection criteria. Disease-specific survival (DSS) at 5 years was reported for a cohort of 1322 (49.1%) patients. The combined DSS for this group of patients was 78.5% (range: 68.4–92%; 95% confidence interval: 74.5–82.5). External beam radiation therapy (EBRT) combined with brachytherapy (BT) was used in 1278 patients (47.4%), BT alone in 1383 patients (51.3%), and EBRT alone in 33 patients (1.2%). The average occurrence of grade III or worse late toxicity was 3.7% for EBRT + BT, 2.8% for BT alone, and 1.2% for EBRT alone. Conclusions RT is in terms of disease control and toxicity, an acceptable option for non-surgical candidate patients. Prospective multicentre randomised or observational trials are needed to validate these results.

Keywords: Genital Neoplasms, Female; Uterine Neoplasms; Carcinoma, Endometrioid; Endometrial Carcinoma; Radiotherapy; Brachytherapy; Intracavity Radiotherapy

Dept. of Tumor Biology

M-208. In-Silico Screening For Dna-Dependent Protein Kinase (Dna-Pk) Inhibitors: Combined Homology Modeling, Docking, Molecular Dynamic Study Followed By Biological Investigation.

Tarazi H, Saleh E and El-Awady R

Biomedicine and Pharmacotherapy, 83: 693-703 (2016) IF: 2.326

DNA-dependent protein kinase (DNA-PK) is a key enzyme in non-homologous DNA end joining (NHEJ) repair pathway. The targeted inhibition of such enzyme would furnish a valuable option for cancer treatment. in this study we report the development of validation of enzyme homology model, and the subsequent use of this model to perform docking-based virtual screening against a database of FDA-approved drugs. The nominated highest ranking hits (Praziquantel and Dutasteride) were subjected to biological investigation. Additionally, molecular dynamic study was carried-out for binding mode exploration. Results of the biological evaluation revealed that both compounds inhibit the DNA-PK enzymatic activity at relatively high concentration levels with an IC50 of 17.3μM for praziquantel and >20μM for dutasteride. Furthermore, both agents enhanced the anti-proliferative effects of doxorubicin and cisplatin on breast cancer (MCF7) and lung cancer (A549) cell lines. This result indicates that these two hits are good candidate as DNA-PK inhibitors and worth further structural modifications to enhance their enzyme inhibitory effects

Keywords: Dna-Pk; Homology Modeling; Molecular Dynamic; Virtual Screening

Faculty of Physical Therapy

Dept. of Physical Therapy for Neuromuscular Disorder

M-209. The Effect of Schoolbag Weight on Cervical Posture in Schoolchildren

Mohamed Elsayed Khallaf, Eman Elsayed Fayed and Reem Adheem Ashammary

Turkish Journal of Physical Medicine and Rehabilitation, 62: 16-21 (2016).094

Objectives: This study aims to investigate the effects of various schoolbag loads on the cervical posture during stance and after walking. Patients and methods: Between January 2014 and June 2014, a total of 100 schoolchildren (50 boys, 50 girls; mean age 12.05±3.71 years; range 10 to 15 years) were included in the study. The craniovertebral protrusion and side bending angle of the neck were measured using the cervical range of motion instrument in the neutral position and after carrying a schoolbag with weights of 5%, 10% and 15% of body weights during stance and after walking 100 meters. Results: There was a statistically significant relationship between sex, various backpack weights, condition, and the forward/side head postural compensation in schoolchildren. Among female students, 5%, 10% and 15% of body weight loads significantly increased the craniovertebral protrusion and side bending angle of the neck during stance and after walking. Among male students, only 10% and 15% of body weight loads significantly changed the craniovertebral protrusion and side bending angle of the neck during stance and after walking ($p \leq 0.05$). Conclusion: Based on our study results, a schoolbag should not be more than 5% of body weight among the female students and 10% of body weight among male students. Otherwise, it will be a risk factor for postural and musculoskeletal problems either immediately or during adulthood.

Keywords: Cervical Spine; Posture; Schoolbag; Schoolchildren

Dept. of Physical Therapy for Basic Science

M-210. Habitual Use of High-Heeled Shoes Affects Isokinetic Soleus Strength More Than Gastrocnemius in Healthy Young Females

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Foot & Ankle International, 37: 1008-1016 (2016) IF: 1.896

Background: Habitual use of high-heeled shoes (HHS) has been reported to negatively impact different body structures. However, few studies have investigated its effect on plantarflexor performance. The aim of this study was to investigate the effect of habitual wear of HHS and knee joint position (to isolate the function of the gastrocnemius) on the isokinetic performance of the plantarflexors and ankle joint range of motion (ROM). Methods: A high-heel (HH) group included 12 women (25.4 ± 4.8 y) who have been wearing HHS for ≥40 hours/wk and for at least a year. A control group (CTRL) had 12 women (21.3 ± 0.5 y) who have occasionally been wearing HHS for <10 hours/wk. Participants performed isokinetic (60 degrees/s) plantarflexion movements through a range set between 15 degrees dorsiflexion and 30 degrees plantarflexion. Ankle joint ROM and average peak plantarflexion torque and power were recorded in 2 knee joint positions, extension and 90 degrees flexion. Results: Overall, torque was significantly affected by knee position ($P = .04$) and habitual use of HHS ($P < .001$), whereas power was impacted by knee position only ($P < .001$). Within each group, flexing the knee reduced isokinetic measurements. However, the reduction was greater for the HH group (torque: 54 Nm, power: 35.6 W) compared with the CTRL group (torque: 42 Nm, power: 32.5 W). Ankle joint ROM was significantly different between groups in knee flexion only. Conclusion: Flexing the knee limited the plantarflexor muscular performance and the limitation was more significant in habitual users of HHS compared to nonusers. Thus, it is concluded that habitual use of HHS impacts the contractile properties of soleus more than gastrocnemius. Clinical Relevance: The soleus is important for walking and anterior cruciate ligament protection. Thus, HHS users could be susceptible to injury and may need longer and more intensive posttraumatic rehabilitation. Therefore, clinicians should consider knee position when examining the plantarflexors of habitual HHS users.

Keywords: High Heels, Plantarflexors, Knee Position, Torque

M-211. Efficacy of Kinesio-Taping Versus Phonophoresis on Knee Osteoarthritis: An Experimental Study

Dr. Magda Gaid Sedhom

International Journal of Physiotherapy, Vol 3(4): 494-499 (2016)

Background: Osteoarthritis (OA) is the most common type of joint disease. Pain is the most common symptom of knee osteoarthritis. Also it characterized by sign, symptoms of inflammation, pain, stiffness and loss of mobility. This study was conducted to explore the efficacy of kinesio taping (KT) versus Aescin, Diethylamine Salicylate gel phonophoresis (PH) on pain level, range of motion (ROM), and proprioceptive accuracy on mild to moderate knee OA patients. Methods: Forty females with knee OA from Outpatient Clinic of Physical Therapy Faculty participated in the study with mean age (49±5.82) years. They were randomly assigned into 2 equal groups. Group I: received Aescin, Diethylamine Salicylate gel PH with pulsed ultrasound therapy and group II received KT. All patients received hot packs and selected exercise program for four weeks; three sessions per week. Visual analogue scale was used in assessment of pain level. Electronic digital goniometer was used in assessment of knee flexion ROM. Iso-kinetic daynamometer was used in assessment of knee proprioceptive accuracy. Results: There was a significant relieving of pain perception, increasing of knee flexion ROM and improving proprioceptive accuracy in knee joint post-study in both groups. But application of Aescin, Diethylamine Salicylate gel PH had significant relieve of knee pain than KT. Conclusion: Using of Aescin, Diethylamine Salicylate gel PH is more effective than KT application in reliving knee pain in knee osteoarthritic patients.

Keywords: Osteoarthritis- Knee - Kinesio Taping- Phonophoreses- Pain

M-212. Comparison of Different Theraputic Techinques on Hamstring Flexbility in Normal Adults: Randomized Controlled Trial

Doaa I.Amin PhD,PT

International Journal of Physiotherapy, 3: 630-636 (2016)

Background: Hamstring muscles involve a rate of intense musculoskeletal injuries. Hamstring flexibility, shorting, and exhaustion are hazard variables connected with hamstring strain. Enhanced flexibility has for quite some time been viewed as an imperative part in anticipation of musculotendinous strain. Expanding hamstring flexibility can assume a vital part in counteracting lower furthest point injuries. in any case, few research has been performed on the best technique. This study was conducted to correlate the effect of different therapeutic techniques (active release, muscle energy and Mulligan) on increasing hamstring flexibility. Methods: Fifty seven normal healthy male subjects with hamstring tightness were assigned randomly to one of the four study groups: Group (1)13subjects received active release technique. Group (2)15subjects received muscle energy technique. Group (3) 12subjects received Mulligan's technique. Group (4)17subjects did not get any intercession. Popliteal angle (active knee extension test) and sit-reach flexibility test were measured pre and post the intervention period. Results: MANOVA test for active knee extension test and sit-reach test among the four groups for post intervention values there was no significant difference between Group 1 and Group 2 in the post values of AKE with both groups showed significant increases than Group 3. Group 1 versus Group 3: $p < 0.0001$, CI: 3.5-11.8; Group 2 versus Group 3: $p < 0.0001$, CI: 4.6-12.8). Conclusion: It can be reasoned that both active release and muscle energy techniques have similar impact in enhancing hamstring flexibility than Mulligan technique in normal male adults.

Keywords: Active Release Technique - Muscle Energy Technique – Mulligan Technique - Hamstring Flexibility - Active Knee Extension Test – Sit and Reach Test.

M-213. Vacuum Therapy Versus Abdominal Exercises on Abdominal Obesity

Nevein Mohammed Mohammed Gharib and Reham Hussein Diab

International Journal of Physiotherapy, 3: 280-285 (2016)

Background: Obesity is a medical condition that may adversely affect wellbeing and leading to increased incidence of many health problems. Abdominal obesity tends to be associated with weight gain and obesity and it is significantly connected with different disorders like coronary heart disease and type II diabetes mellitus.This study was conducted to investigate the efficacy of vacuum therapy as compared to abdominal exercises on abdominal obesity in overweight and obese women. Methods: Thirtyoverweight and obese women participated in this study with body mass index > 25 kg/m2andwaist circumference ≥ 85 cm. Their ages ranged from 28 - 40 years old.The subjects were excluded if they have diabetes, abdominal infection diseases or any physical limitation restricting exercise ability. They were randomly allocated into two equal groups; group I and group II. Group I received vacuum therapy sessions (by the use of LPG device) in addition to aerobic exercise training. Group II received abdominal exercises in addition to the same aerobic exercisesgiven to group I. This study was extended for successive 8 weeks (3 sessions/ week). All subjects were assessed for thickness ofnthe abdominal skin fold, waist circumference and body mass index. Results: The results of this study showeda significant difference between group I and group II post-interventionas regarding to the mean values of waist circumference and abdominal skin fold thickness ($p<0.05$). Conclusion: It can be concluded that aerobic exercises combined with vacuum therapy (for three sessions/week for successive 8 weeks) have a positive effect on women with abdominal obesity in terms of reducing waist circumference and abdominal skin fold thickness. Keywords: Vacuum therapy, Abdominal Exercises, Aerobic Exercises, Abdominal Obesity, Women, Obesit

Keywords: Vacuum Therapy, Abdominal Exercises, Aerobic Exercises, Abdominal Obesity, Women, Obesity.

M-214. Correlation Between Age, Height and Weightwith Hand Grip Strength.

F. Hatem and M.T. Eldesoky

International Journal of Pharmtech Research, 9: 48-55 (2016)

Back ground: The Hand Grip Strength measurement is clinically used to determine the functional integrity of the hand and the effectiveness of hand rehabilitation programs. Purpose: This study was conducted to find out the relationship between Age, Anthropometric measurements as height and weight and Hand Grip Strength in both right and left hands. Methods: Hand grip strength was measured using Jamar hand –held dynamometer, in 1029 individual, of which 505 were female and 524 were male, with age range from 20 to 85 years old, mean age (42.44 ± 15.727). They were randomly selected from urban, suburban and rural areas. Results: There was inverse significant correlation between age, height and weight with right and left hand grip strength in female, male and all participants as a whole, as ($p < 0.05$). Furthermore, there was significant direct correlation between height and weight with right and left hand grip strength in female, male and all participants as a whole as ($p < 0.05$) except for the correlation between female right hand grip strength and weight which was not significant with ($P>0.05$). Conclusion: Age was inversely correlated with Grip strength for both right and left hands. The height and weight showed significant direct correlation with Grip strength for both right and left hands, except that the weight didn't correlate with female right hand grip strength.

Keywords: Hand Grip Strength, Age, Height, Weight, Dynamometer.

M-215. Effect of Shock Wave Therapy Versus Corticosteroid Injection in Management of Knee Osteoarthritis

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International Journal of Physiotherapy, 3(2): 246-251 (2016)

Background: knee Osteoarthritis is the most common cause of musculoskeletal pain and disability. Shockwaves have been used as an alternative treatment for musculoskeletal disorders; intra-articular injection of steroid is a common treatment for osteoarthritis of the knee. This study aimed to investigate the efficacy of Shock wave therapy versus Corticosteroid intra articular injection in case of knee osteoarthritis. Methods: Sixty

patients were diagnosed mild to moderate knee osteoarthritis; they were included in the study. Their ages were 43:65 years with mean age 50 ± 3.5 years. Patients were divided randomly into three equal groups, group (A) received shock wave therapy, group (B) received two intra-articular injections of corticosteroid at 1-month intervals and group (C) received sham shock wave. The outcome measurements were Western Ontario and McMaster Universities arthritis index (WOMAC) values, knee ROM, and pain severity using the visual analogue scale (VAS) were recorded. The patients were evaluated for these parameters before allocated in their groups then after 1, 2, and 6months later. Results: compared to sham group there were significant improvement of VAS and ROM of shock wave group and corticosteroid injection group than sham (placebo) group ($p<0.000$), ($p<0.006$, and 0.02) respectively. Furthermore there was significant improve of shock wave group than corticosteroid injection group where p was <0.000 for VAS, ROM and (WOMAC). Conclusion: The results of this study suggested that shock wave therapy may provide effective modality for relieving pain, increase Range of motion and improve function in knee osteoarthritis patient than intra articular corticosteroid injection.
Keywords: Keywords: Shock Wave, Corticosteroid, Intra Articular, Injection, Knee Joint, Osteoarthritis.

M-216. Comparison Between The Effect of Endurance and Strengthening Exercises on Plasma Lipoprotein in Central Obese Female Subjects.

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Research Journal of Pharmaceutical, Biological and Chemical Sciences, 7(3): 0-0 (2016)

Obesity is associated with disorders such as hypertension, diabetes, hypercholesterolemia, and liver disease. in comparison with endurance training, less information exists to support resistance training as a modifier of plasma lipids. Studies were often contradictory, with some showing positive benefits of resistance exercise on the lipid profile and others finding no benefits. The present study served to compare the effects of endurance and strengthening exercise training on female central obesity lipid profile. Pretest- posttest design, forty subjects were in included in this study. They were divided equally into two experimental groups, first group performed endurance exercise while the second group performed the strengthening exercise. Each subject in the study was instructed to maintain here usual activities during the experimental period. The program in each group was continued for 8 weeks (three sessions per week); plasma lipoproteins were measured before and after the exercise program for both groups. The dependent paired t-test was utilized to determine the within group changes from pre- to post-test. The independent unpaired t-test was utilized to determine the between-group changes from pre- to post-test. The dependent paired t-test revealed that there were significant reductions of total cholesterol, triglyceride, and LDL in both groups while there was significant improvement of HDL in endurance exercise group only. The unpaired t test for pre exercise measurements revealed that there were no significant difference in total cholesterol, triglyceride ,HDL, and LDL, While for post exercise measurements revealed that there were significant difference in total cholesterol, triglyceride, HDL, and LDL between both groups. The endurance exercises are more effective than strengthening exercises by decreasing total cholesterol, triglyceride, and LDL while increasing HDL-cholesterol.
Keywords: Endurance Exercise, Strengthening Exercise, Plasma Lipoprotein, Central Obesity.

M-217. Efficacy of Neural Mobilization on Low Back Pain With S1 Radiculopathy

Mohamed Taher Mahmoud ELDesoky and Enas ELsayed Mohamed Abutaleb

International Journal of Physiotherapy, Vol 3(3): 362-370 (2016)

Background: A definite conclusion about the effectiveness of neural mobilization on patients with radiculopathy can't be reached because of the lacks of well designed randomized controlled trials. The purpose of the study to investigate the effects of neural mobilization on low back pain subjects with S1 radiculopathy. Methods: Sixty chronic low back pain subjects with S1 radiculopathy participated in this study. The participants were suffering from varying degrees of unilateral pain and paresthesia in the lumbosacral region and lower limb. The causes of radiculopathy were bulged disc, herniated disc or neuroforaminal stenosis at L5-S1 level.The participants were randomly assigned into two equal groups with 30 participants in each group. The experimental group received neural mobilization and conventional rehabilitation program in the form of infrared, ultrasonic and general exercises that involved stretching and strengthening exercises for the back muscles for 6 weeks. The control group received the same conventional rehabilitation program only for 6 weeks. The outcome measures were H-reflex latency, amplitude, and H/M ratio for assessing S1 nerve root function, visual analog scale (VAS) for assessing pain level, and Oswestry Disability Index (ODI) for assessing functional disability. All the participants were evaluated pre and post 6 weeks of treatment. Results: Both groups showed significant improvements in all measured variables after 6 weeks, but neural mobilization showed more beneficial and statistically significant effect in all measured variables than the control group. Conclusion: Neural mobilization technique is an effective intervention for reduction of pain, functional disability and enhancing physiological function of the nerve root in low back pain with lumbosacral radiculopathy.
Keywords: Neural Mobilization, Low Back Pain, Functional Disability, Lumbosacral Radiculopathy,Nerve Root Function, H-Reflex

M-218. Effect of Shoulder Side Pack on Dynamic Postural Stability in Young Healthy Female

Enas ELsayed Mohamed Abutaleb

International Journal of Physiotherapy, 3: 252-257 (2016)

Background: Control of balance is a complex motor skill that involves integration of sensory inputs and the planning and execution of flexible movement patterns. Carrying side packs is famous in our society especially shoulder side packs. Most students carry shoulder side packs and they don't care about the way to carry them to be more balanced. The purpose of the study is to investigate the effect of carrying shoulder side pack on dynamic postural stability and to determine the best way of carrying a shoulder side pack either on the dominant side or non-dominant side that doesn't affect dynamic postural stability in

young healthy female. Methods: Sixty female volunteers aged from 18 to 25 years old participated in the study. Biodex balance system was used to measure the dynamic postural stability in three different occasions (without carrying a shoulder side pack, with carrying a shoulder side pack on the dominant side, and on the non-dominant side) with a rest period in between. Results: Repeated measure analysis of variance (ANOVA) followed by Bonferroni post hoc test were used to compare dynamic posture balance without carrying and during carrying a shoulder side pack on dominant and non-dominant sides. Analysis revealed that overall, anteroposterior and mediolateral stability indexes reduced significantly (P<0.0001) when carrying shoulder side pack on dominant side in comparison with when carrying shoulder side pack on non-dominant side and without carrying bag. Conclusion: It was concluded that carrying a shoulder side pack on the non-dominant side didn't disturb the postural stability when compared to carrying on the dominant side so, we recommend the students to carry shoulder side packs on the non-dominant side.

Keywords: Balance, Biodex Balance System, Dynamic Postural Stability, Shoulder Side Pack, Stability Index, Young Healthy

M-219. Effect of Postural Correction With Different Taping Materials on Scapular Kinematics and Myoelectric Activities of Scapular Rotators in Subacromial Impingement Syndrome A Randomized Placebo-Controlled Trial

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International Journal of Physiotherapy, 3: 337-345 (2016)

Background: Rigid and kinesio tapings are commonly used in the rehabilitation of subacromial impingement syndrome (SIS). Yet; the effect of postural correction with the two taping materials in SIS has not been extensively studied. The purpose of the study is to examine the effect of postural correction with two different taping materials on scapular kinematics and electromyography of scapular upward rotators in patients with SIS. Methods: Twenty female patients with SIS participated in this study. Their age ranged from 30-60 years. Participants were randomly assigned into: Group I (Kinesio tape, n=10) and Group II (rigid tape, n=10). Thoracic and scapular taping with posture correction was applied to both groups. Scapular upward rotation at 0˚, 60˚, 90˚ and 120˚ of shoulder elevation and the activity level of the upper fibers of trapezius (UT), lower fibers of trapezius (LT) and serratus anterior (SA) muscles were measured before and immediately after taping application. Results: Both taping materials significantly increased scapular upward rotation at 60°, 90° and 120° angles (P =.004,.002 and .047 respectively) after the application of tape as compared to the before. in addition, significantly greater muscle activity of the LT and SA muscles (P =.027 and 0.05 respectively) were demonstrated by the kinesio-taping group as compared to rigid taping group during real taping condition. Conclusion: Both taping materials are effective in restoring scapular kinematics. Furthermore, kinesio taping has a facilitatory effect on the LT and SA muscles. Kinesio taping may be considered an alternative to rigid taping in patients with SIS.

Keywords: Electromyography, Subacromial Impingement Syndrome, Scapular Kinematics, Serratus Anterior, Taping, Trapezius

Dept. of Physical Therapy for Cardio Vascular,Respiratory Disorders and Geriatrics

M-220. Postural Instability in Response To Chronic Hyperventilation in Asthmatic Children

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World Applied Sciences Journal, 34 (7): 936-941 (2016)

Abstract: The purpose of this study was to identify the postural stability deficits in response to chronic hyperventilation in asthmatic children. Thirty children were included, their age ranged from 8 to 12 years. Fifteen asthmatic children were referred from the out patient's clinic of the Abo-Elreesh teaching hospital. Fifteen healthy children volunteers were participated to represent the control group; they were matched in age, weight and height to the asthmatic group. Biodex stability system was used to assess dynamic stability level "in the form of overall (SI), anteroposterior (AP) and mediolateral (ML) stability indices" in both groups during standing on both feet with eyes open, then with closed eyes. Results showed that independent t-tests of asthmatic children had significant stability deficits in comparison with healthy children. All children had better stability during opened-eye condition than closed-eye conditions. It had been concluded that asthmatic children have significantly lower stability control than healthy children and that visual feedback improved stability control in asthmatic and healthy children.

Keywords: Hyperventilation-Asthma-Postural Instability

M-221. Comparison Between The Effects of Aerobic and Resistive Training on Immunoglobulins in Obese Women

Gihan S. Mohamed a,b and Mona M. Taha a

Bulletin of Faculty of Physical Therapy, 21(1): 11-16 (2016)

Obesity has adverse consequences on the immune system, causing immunosuppression, and thus increasing the incidence of infections and certain types of cancer in obese individuals. The aim of this study was to compare changes in selected immune system responses after moderate aerobic and resistive training in obese women. Methods in total, 40 obese women (age: 35–45 years) were selected and divided into two equal groups: the aerobic training group (A), in which women received moderate-intensity aerobic training; and the resistive training group (B), in which women received moderate-intensity resistive training. Blood sampling was carried out for immunoglobulin (Ig) M and IgG in the pretest and after the 12th week of training. Results There was a significant increase in IgM and IgG in response to aerobic training, whereas no significant changes occurred in the resistive training group. There were significant differences in IgM and IgG between the two groups after training in favor of the aerobic training group (A). Conclusion Regular moderate aerobic training seems to improve immunity compared with resisted training in obese women.

Keywords: Aerobic Training, Immunoglobulins, Obesity, Resistive Training

M-222. Impact of Aerobic Exercise and Diet-Induced Weight Reduction on Liver Enzymes Among Centrally Obese Egyptian Women

Samah M. Ismail, Magdy M. Ahmed, Mohamed Abdel Haleem Shendy and Ehab Kamal

World Applied Sciences, 1: 35-42 (2016)

Obesity lead to adverse metabolic effects. Obese subjects are at increased risk of liver problems. The incidence of obese patients with fatty liver has increased. This study was conducted to find out the effects of diet restriction and exercise training program on liver enzymes levels (AST and ALT) in centrally obese Egyptian women with fatty liver. Forty eight obese women with BMI30-39.9 Kg/m² and their ages ranged from 45 to 55 years participated in the study. The patients were randomly assigned to two equal groups. Group 1: (n=24) received weight reduction program (healthy lifestyle control), diet-induced weight loss (1200-1300 Kcal/day) and aerobic exercise for 12weeks. The exercise intervention consisted of electronic treadmill for 50 minutes, the patients trained to achieve a heart rate of 60–75% of her maximal heart rate for 3 times /week. Group 2: (n=24) were given general information about healthy food choices and low-caloric diet (1200-1300 kg/day) for the same period. Weight, body mass index (BMI), waist circumference (WC) and Liver enzymes(AST and ALT)levels were measured. Results showed no significant differences between groups at the baseline. After 12 weeks, women in group (1) showed a highly significant reduction in weight (p =0.001), BMI (p = 0.001), waist circumference (p = 0.001), AST (p = 0.001) and ALT (p = 0.001). Women in group (2) also demonstrated significant statistically differences in the mean values of weight (p =0.001), BMI (p= 0.01), waist circumference (p= 0.001), AST (p = 0.001) and ALT (p = 0.001). The reduction in ALT levels in group (1) and group (2) is 50.8% and 18.58%respectively, AST also decreased in group (1) and group (2) by 54.46 % and 25.59 % respectively. It can be concluded that lifestyle modification, exercise training and low caloric diet resulted in weight reduction and improvement of liver enzymes (AST and ALT) in centrally obese Egyptian women with fatty liver but exercise training and low caloric diet is potentially more valuable than diet restriction only.

Keywords: Weight Reduction Aerobic Training Obesity Alt Ast

M-223. Exercise Therapy Improves Planter Pressure Distribution in Patients With Diabetic Peripheral Neuropathy

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International Journal of Pharmtech Research, 9: 151-159 (2016)

Background: Patients with diabetic peripheral neuropathy are at an increased risk for developing foot ulcerations. The purpose of this study was to evaluate the effect of physiotherapeutic intervention including balance and gait training in addition to the stretching and strengthening exercises on planter pressure distribution in patients with diabetic peripheral neuropathy. Subjects and methods: Forty Saudi women with diabetic peripheral neuropathy were divided randomly into two equal groups, Study group: Their mean age (49.40± 3.35)years old and BMI (26.53±2.62) kg/m2.They were treated with physiotherapeutic interventions including stretching and strengthening exercise, balance and gait training beside their medical treatment. Control group: Their mean age (50.25±3.57) years and BMI (27.16±3.79) kg/m2.were treated by their medical treatment only. A capacitance-based pressure platform was used for detecting the pattern of planter pressure and A monofilament to check for sensory disturbance, Results: Within group comparison of the mean values of peak planter pressure and contact areas measured under the heel and metatarsal heads revealed that there is a significant difference between the baseline and follow up measurements ($p<0.05$)compared with control group. Conclusion: Physiotherapeutic intervention may prevent the diabetic foot ulceration in patients with diabetic neuropathy supported by significant changes in peak plantar pressure distribution and foot contact area.

Keywords: Diabetic Peripheral Neuropathy-Foot Ulcer- Planter Pressure- Exercise Therapy.

M-224. Effect of High Intensity Interval Training on Endothelial Function in Postmenopausal Hypertensive Patients Randomized Controlled Trial

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International Journal of Physiotherapy, 3(1): 39-44 (2016)

Postmenopausal hypertension is the most common risk factor of cardiovascular morbidity and mortality. As the exercises training conveys benefits of the setting of secondary prevention of hypertension. High intensity interval training (HIIT) emerged as a new form of physical training and presents as therapeutic alternative to patients and health care professionals. This study aimed to investigate the effect of high intensity interval training on endothelial function in postmenopausal hypertension. Methods: Forty six mildly hypertensive postmenopausal women, their ages ranged from (45-55) years old, were randomly allocated to two groups: HIIT group (group-I; n=23) performed a high intensity interval training 3 times a week for 10 weeks at an intensity of (80-85% HR max) for 40 minutes and control group (group-II; n=23) remains sedentary during this period. Serum nitric oxide (NO), vascular endothelial growth factor levels (VEGF) and blood pressures were measured before and after intervention. Results: A significant reduction in both systolic and diastolic blood pressure values by 9.5% and 7 % respectively, was seen after high intensity interval training which was accompanied by increase in NO and VEGF levels by 43.3% and 15.2 % respectively, while no significant change observed in the control group. Conclusion: High intensity interval training had obvious benefits in improving plasma No, VEGF concentrations and controlling hypertension in postmenopausal women.

Keywords: Interval Training, Endothelial Function, Atherosclerosis, Post Menopause, Hypertension, Prevention.

Dept. of Physical Therapy for Growth and Developmental Disorder

M-225. Walkaide Efficacy on Gait and Energy Expenditure in Children With Hemiplegic Cerebral Palsy: A Randomized Controlled Trial

El-Shamy SM and Abdelaal AAM

American Journal of Physical Medicine & Rehabilitation, 95 (9): 629-638 (2016) IF: 2.064

Objective: The aim of this study was to investigate the effects of WalkAide functional electrical stimulation on gait pattern and energy expenditure in children with hemiplegic cerebral palsy. Design: Seventeen children were assigned to the study group, whose members received functional electrical stimulation (pulse width, 300 μs; frequency, 33 Hz, 2 hours/d, 3 days/week for 3 consecutive months). Seventeen other children were assigned to the control group, whose members participated in a conventional physical therapy exercise program for 3 successive months. Baseline and posttreatment assessments were performed using the GAITRite system to evaluate gait parameters and using an open-circuit indirect calorimeter to evaluate energy expenditure. Results: Children in the study group showed a significant improvement when compared with those in the control group ($P < 0.005$). The gait parameters (stride length, cadence, speed, cycle time, and stance phase percentage) after treatment were (0.74 m,119 steps/min, 0.75 m/s, 0.65 s, 55.9%) and (0.5 m,125 steps/min, 0.6 m/s, 0.49 s, 50.4%) for the study group and control group, respectively. The mean energy expenditures after treatment were 8.18 ± 0.88 and 9.16 ± 0.65 mL/kg per minute for the study and control groups, respectively. Conclusions: WalkAide functional electrical stimulation may be a useful tool for improving gait pattern and energy expenditure in children with hemiplegic cerebral palsy.

Keywords: Walkaide Functional Electrical Stimulation, Cerebral Palsy, Hemiplegia, Gait, Energy Expenditure

M-226. Feasibility of Low Intensity Pulsed Ultrasound To Improve Frax Results in Postmenopausal Osteoporotic Femur

Mohamed Farouk Abdel-Latif, Lilian Albert Zaki, Khaled Ahmed Olama and Hatem Mohamed Al-Azizi

International Journal of Pharm Tech Research, 9: 884-891 (2016)

Objectives: The aim of this study was to investigate the efficacy of low intensity pulsed ultrasound on the results of fracture risk assessment tool (FRAX®)of osteoporotic femoral neck in postmenopausal women. Methods: Thirty six postmenopausal women with low femoral neck bone mineral density ageing between 45 to 75 years with BMI between 28.2 to 45.7 kg/m2 participated in this study. They were assigned randomly into one study group (18Osteopenic subjects: with a T-score between –1.0 and –2.5, and18 Osteoporotic subjects: with a T-score at or below –2.5) as each subject was her control in a single group pretest posttest study design. All participants received the treatment of low intensity pulsed ultra sound (LIPUS) for successive six months. Both 10-years probability of major osteoporotic hip fracture and 10-years probability of hip fracture were assessed by FRAX® desktop individual entry model (version 3.91). The participants were tested twice; before and after the application of LIPUS therapy. Results: The statistical analysis revealed that there was a statistically significant decrease of both 10-years probability of major osteoporotic hip fracture and 10- years probability of hip fracture in the post-treatment condition compared with the pretreatment ($p<0.05$). Moreover, there was a more significant improvement of FRAX® results in osteopenic subgroup compared to FRAX® results in osteoporotic subgroup ($p<0.05$). Conclusions: low intensity pulsed ultrasound therapy may be considered as one of the most helpful methods of physiotherapy in management of low bone mineral density in postmenopausal women.

Keywords: Osteoporosis; Low Intensity Pulsed Ultrasound; Fracture Risk Assessment Tool; Frax®.

M-227. Electroneurography Prognostic Value in Infants With Erb''''s Palsy

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International Journal of Pharm Tech Research, 9: 85-93 (2016)

Abstract : This study aimed to determine prognostic value of electroneurography in infants with Erb's palsy. Thirty infants with Erb's palsy from both genders participated in this study. They were classified into two groups of equal number according to age, group I includes first 3 months of life and group II includes second 3 months of life. in this study, evaluation of biceps brachii was done through observation of its contraction during the child activity; this had been performed by using Toronto Active Movement Scale and Percentage of Nerve Degeneration by using Electroneurography. The scores for biceps contraction and percentage of degeneration were recorded for the two groups. The results revealed that there was strong inverse relation between Percentage of Nerve Degeneration and Active Movement Scale and between Percentage of Nerve Degeneration and the age for both groups. The higher Percentage of Nerve Degeneration, the less Active Movement Scale is. The higher the age, the less the Percentage of Nerve Degeneration and the better prognosis are.

Keywords: Brachial Plexus Injury, Erb'S Palsy, Active Movement Scale, Electroneurography, Percentage of Degeneration, Surgical Interference.

M-228. Effect of Spasticity on Muscle Thickness of Hip Adductors

Ahmed Mohamed Saad Awad1*, Amira Mohamed ElTohamy1 and Hatem Mohamed Elazizi2

International Journal of Pharmtech Research, 9: 198-203 (2016)

Abstract : Background: Spasticity is a widespread problem in cerebral palsy (CP) as it affects function and can lead to musculoskeletal complications. muscle thickness is defined as the perpendicular distance between the deep and superficial aponeurosis. The purpose of this study was to study the effect of spasticity on muscle thickness of hip adductors in spastic children. Subjects and Methods: Thirty five (20 spastic diaplegic and 15 normal) children from both sexes with age ranged from 2 to 5 years and the spastic children were able to stand holding on, participated in this study. Muscle architecture parameters (pennation angle and muscle thickness) were measured by ultrasonography, spasticity was measured by MAS. Results:

There was a significant difference in muscle thickness of left hip adductors between both groups, more in the normal group (p< 0.05), while there was no significant correlation between spasticity and muscle thickness of both right adductors (p= 0.529) and left adductors (p= 0.613). Conclusion: Spasticity has an effect on decreasing the muscle thickness in spastic muscles of spastic children.
Keywords: Spasticity, Muscle Thickness, Diplegic Children.

M-229. Effect of Core Stabilizing Program on Balance in Spastic Diplegic Cerebral Palsy Children

Mostafa Soliman Mostafa Ali1, Faten Hassan Abd Elazem1 and Ghada Mohamed Anwar2

International Journal of Pharmtech Research, 9: 129-136 (2016)

: Balance is a component of basic needs for daily activities and it plays an important role in static and dynamic activities. Core stabilization training is thought to improve balance, postural control, and reduce the risk of lower extremity injuries. The purpose of this study was to study the effect of core stabilizing program on balance in spastic diplegic cerebral palsy children. Subjects and Methods: Thirty diplegic cerebral palsy children from both sexes ranged in age from six to eight years participated in this study. They were assigned randomly into two groups of equal numbers, control group (A) children were received selective therapeutic exercises and study group (B) children were received selective therapeutic exercises plus core stabilizing program for eight weeks. Each patient of the two groups was evaluated before and after treatment by Biodex Balance System in laboratory of balance in faculty of physical therapy (antero posterior, medio lateral and overall stability). Patients in both groups received traditional physical therapy program for one hour per day and three sessions per week and group (B) were received core stabilizing program for eight weeks three times per week. Results: There was no significant difference between the two groups in all measured variables before wearing the orthosis (p>0.05), while there was significant difference when comparing pre and post mean values of all measured variables in each group (p<0.01). When comparing post mean values between both groups, the results revealed significant improvement in favor of group (B) (p<0.01). Conclusion: core stabilizing program is an effective therapeutic exercise to improve balance in diplegic cerebral palsy children. Key words: cerebral palsy, diplegia, balance and core stabilizing.
Keywords: Cerebral Palsy, Diplegia, Balance and Core Stabilizing.

Dept. of Physical Therapy for Gynecology and Obstetrics

M-230. Correlation Between Work Related Low Back Pain in Pregnant Physical Therapists and Lumber Curvature Angle

HebaGhaly1*, AmelYousef1 and SalwaEl-Badry1

International Journal of Pharmtech Research, 6: 27-33 (2016)

Abstract: low back Pain (LBP) considered as a common problem with a high work-related life and point prevalence among physical therapists (PTs). It is clearly affects daily activities so resulting in decreased non-work-related activities, sick leaves, decreased number of working hours and even changing therapists work setting. The aim of the study is to investigation the relation between work related low back pain (WRLBP) in PTs during pregnancy and lumber curvature angle. Fifty one healthy, primgravid pregnant PTs at 20th weeks gestation (WGs) with a single fetus were randomized into two groups. Group A received physical therapy antenatal advices plus preventive strategies for WRLBP. Group B received only physical therapy antenatal advices. Both groups were evaluated at 20, 24 and 32 WGs. The outcome measures were lumber curvature angle, self reported pain intensity, there was no statistical significant difference in lumber curvature angle between mean value of group (A and B) at 24,32 WGs (p =0.247),(p =0.391) respectively. and that there was statistically insignificant difference between group (A and B) at 24 and 32 WGs with (p = 0.408),(p =0.458) respectively in pain intensity. However, there was statistical significant positive correlation between pain intensity measured by McGill pain Questionnaire (MPQ) and lumbar curvature angle at 24 WGs (r=0 .918**, p=.000) and at 32 WGs (r=0.923**, p=.000) for both groups. This study conclude that the lumber curvature angle increase with WRLBP during pregnancy in pregnant PTs.
Keywords: Keywords: Work Related Low Back Pain, Pregnancy Related Low Back Pain, Pregnancy, Lumber Curvature, Physical Therapist.

Dept. of Physical Therapy for Musculoskeletal Disorder

M-231. Effect of Iliotibial Band Myofascial Release on Functional Disability in Patients With Knee Osteoarthritis

Ebtessam Fawzy Gomaa and Lilian Albert Zaky

Advances in Environmental Biology, 10: 221-230 (2016)

Background: Knee osteoarthritis is a heterogonous disease that needs comprehensive assessment and treatment techniques to address specific problems such as iliotibial band myofascial trigger points; creating undue joint stress & pain. Purpose: The purpose of this study was to investigate the effect of iliotibial band myofascial release technique on functional disability in patients with knee osteoarthritis. Design and methods: Parallel group randomized controlled trial; comprising four weeks intervention period. Subjects: Thirty-six knee osteoarthritis patients aging between 50-59 years; were randomly distributed into two groups: Group A (control): 17 patients which were treated by exercise program, Group B (experimental): 19 patients which were treated by exercise program in addition to iliotibial band myofascial release technique. Intervention: two techniques were used in combination; the ischemic compression (IC) technique and neuromuscular technique (longitudinal strokes). Outcomes: Functional performance was assessed using step up test, timed up & go test (TUG) and WOMAC index. Results: Both groups showed a significant improvement (P-value <0.05) in all evaluated measures to the favor of experimental group (B). Conclusion: The proposed exercise program alone or in combination with ITB, MFR technique has a significant effect in improving functional disability in patients with KOA
Keywords: Knee Osteoarthritis – Iliotibial Band – Myofascial Release – Ischemic Compression- Neuromuscular Technique – Exercise.

Dept. of Physical Therapy of Surgery

M-232. Serological Response and Polymerasechain Reaction To Low Intensity Laser Therapy Versus Polarized Light in Genital Herpes.

Zakaria Mowafy Emam Mowafy1 Ashraf Hassan Mohamed1 Hamed Abd Allah Hamed2 and Eman Abdalla1

International Journal of Pharmtech Research, 9, No.9,: 179-188 (2016)

Purpose: to evaluate the efficacy of low intensity laser versus polarized light therapy on serological response and polymerase chain reaction in genital herpes. Methods of evaluation (Measurement of serological tests (IgG and IgM) as well as the polymerase chain reaction). Methods:- Forty five patients (15 male and 30 female) suffering from genital herpes simplex infection type II and their ages ranged from 20 to 45 years. They were divided into three groups. Group (A) composed of 15 patients received the LILT for 10 minutes (for the area with cutaneous manifestations) in addition to the topical acyclovir cream 5% twice / day through the treatment period. Group (B) received the BLT for 10 minutes (for the area with cutaneous manifestations) in addition to the topical acyclovir cream 5% twice / day through the treatment period (day after day for 2 months). Group (C) received the topical Acyclovir cream 5% twice / daily throughout the treatment period only. Results and conclusion:- Results showed that application both the LILT and BLT in addition to the topical acyclovir cream 5% were effective than application of the topical acyclovir cream 5% alone in improving the genital herpes pain and cutaneous manifestations. But LILT was more beneficial than BLT in improving the genital herpes pain and cutaneous manifestations as evidenced by the highly significant decreases in IgG, IgM and PCR.

Keywords: Key Words: (Herpes Simplex Virus Type Ii, Serological Tests, Low Intensity Laser Therapy, Polarized Light Therapy, Polymerase Chain Reaction and Acyclovir Cream 5%).

M-233. Effect of Monochromatic Infrared Energy on The Neuropathic Median Nerve Post Burn

Zakaria Mowafy Emam Mowafy1*, Ashraf Hassan Mohammed1, Ibrahim Mohamed Ibrahim Zoheiry2, Khowailed Abd-Elhalim Khowailed3 and Mohamed Gamal El-Saied1

International Journal of Pharmtech Research, 9, No.6: 107-114 (2016)

Purpose: to evaluate the efficacy of monochromatic infrared energy on the neuropathic median nerve post burn. Method of evaluation (Measurement of the median nerve motor conduction velocity in meter/ second). Methods:- Thirty patients (18 males and 12 females) ranging in age from 20 to 35 years, they were selected from the out-clinics of Kasr-El- Aini (Cairo University hospitals) and Om-Al-Misrieen hospital (Ministry of Health). They were divided into two groups; One experimental group and one control group) the experimental group formed of 15 patients to which the monochromatic infrared energy in addition to the traditional physical therapy program (rest, ice and pulsed ultrasound therapy) were applied, while the control group was formed of 15 patients to which only the traditional physical therapy program was applied. Every patient was relaxed in a comfortable supine position with two therapy pads of the monochromatic infrared energy (MIRE) unit were applied for the experimental group as follow; one therapy pad was positioned on the cubital fossa (elbow level) and the other therapy pad was placed on motor point (middle of the muscle) of the abductor pollicis brevis (APB). Each session of the monochromatic infrared energy (MIRE) was done for 20 minutes 3 times per week for 2 months as a total period of treatment. Measurements were conducted before starting the treatment as a first record and at the end of the second month of treatment as a second (final) record. Results and conclusion:- Results showed that application of the monochromatic infrared energy had a valuable improving effects on the neuropathic median nerve post burn as evidenced by the highly significant increases in the median nerve motor conduction velocity in meter/ second.

Keywords: Key Words (Monochromatic Infrared Energy, Neuropathic Median Nerve Post Burn and Motor Conduction Velocity).

M-234. Effect of Low-Intensity Laser on The Neuropathic Common Peroneal Nerve Post Burn.

Z.M.E. Mowafy and I.M.I. Zoheiry

International Journal of Pharmtech Research, 9 No8: 33-39 (2016)

: to determine the effect of low intensity laser therapy (LILT) on the neuropathic common peroneal nerve postburn. Methods of evaluation: Measurement of the motor conduction velocity(MCV) of the common peroneal nervein meter/ second. Methods:- Thirty patients (20 males and 10 females) ranging in age from 20 to 35 years, they were selected from the out-clinics of Kasr-El-Aini (Cairo University hospitals) and Om-Al-Misrieen hospital (Ministry of Health),patients were notfamiliar with the technique LILT and suffering from burns of chronic phase (post-hospitalization period), affecting lower limbs, with the percentage of total body surface area (TBSA) ranging from 20% to 30% and their early diagnosis was a burn of 2nd or 3rd degree and complicated with peripheral mononeuropathy affecting the common peroneal nerve. They were randomly divided into 2 equal groups in number, one study group (A) and a control one (B). the study group formed of 15 patients to which the LILT was applied (20 minutes in each session 3 times per week for 2 monthsas a total period of treatment), while the control group was formed of 15 patients to which the placebo LILT was applied. Measurements were conducted before starting the treatment as a first record and at the end of the second month of treatment as a second (final) record. Results and conclusion:- Results showed that application of the LILT had a valuable improving effects on the neuropathic common peroneal postburn as evidenced by the highly significant increases in the common peroneal nerve motor conduction velocity in meter/ second.

Keywords: (Low Intensity Laser Therapy, Neuropathic Common Peroneal Nervepostburn and Motor Conduction Velocity)

M-235. Response of Male Pudendal Neuralgia To Two Different Pulsed Electromagnetic Field Therapy Programs

Z.M.E. Mowafy and K.A.-E. Khowailed

International Journal of Pharmtech Research, 9 No6: 66-73 (2016)

to evaluate the efficacy of two different pulsed electromagnetic field therapy programmes on male pudendal neuralgia. Methods of evaluation: Measurement of the serum cortisol level (SCL), naproxen medicament intake (NMI) and the visual analogue scale (VAS). Methods:- Sixty male patients who had chronic pudendal neuralgia were participated in the study, their ages ranged from 30 to 50 years, they were randomly divided into 3 equal groups in number; 2 experimental groups (A) and (B) and a control one (C). Group (A) received a programme of strong impulses, stimulating South polarity of the magnetic pulses with frequency Fluently changing from 12.5-50 Hz, with buttons 1, 3 and 6 up while buttons 2, 4 and 5 down in addition to the traditional physical therapy and medical care. Group (B) received a programme of mild impulses, soothing North polarity of the magnetic pulses with frequency of 12.5Hz with buttons 1,2,4 and 5 down while buttons 3 and 6 up, in addition to the traditional physical therapy and medical care. Group (C) received the traditional physical therapy and medical care only for 4 months. The pulsed electromagnetic field therapy (PEMF) was applied once daily, three times per week for 4 months as a total period of treatment, each session was conducted for 20 minutes in the form 10 minutes over the perineal area between anus and scrotum on the centrum tendineum with the patient in comfortable supine hook-lying position with abducted hips, while the other 10 minutes were applied over the buttocks medially at the level of the ischial spines (medial to the ischial spines bilaterally) (5 minutes for each side), with the patient in comfortable prone-lying position. Results and conclusion:- Results showed a highly significant reduction in SCL, NMI and VAS at the end of the treatment program in groups (A) and (B). So both programmes of strong impulses and mild impulses in groups (A) and (B) were effective in improving the male pudendal neuralgia as manifested by the highly significant decrease in SCL, NMI and VAS. But programme of mild impulses was more fruitful and beneficial than the strong impulses programme.

Keywords: (Pulsed Electromagnetic Field Therapy, Pudendal Neuralgia,Serum Cortisol Level, Naproxen Medicament Intake and The Visual Analogue Scale).

M-236. Effect of Polarized Light Therapy on Hair Regrowth in Alopecia

Z.M.E. Mowafy and H.A.A. Hamed

International Journal of Pharmtech Research, 9 No10: 40-47 (2016)

: Purpose: to determine the effect of polarized light therapy on hair regrowth in alopecia. Methods of evaluation: Measurement of the global photographs via the 7- point assessment scale and hair counting. Methods:- Thirty patients (male and female) with ages ranging from 25-40 years suffering from alopecia (alopecia areata and androgenic alopecia).They were selected randomly from Cairo University hospitals, they were randomly divided into 2 equal groups in number, one study group (A) and a control one (B). the control group (B) who not received the polarized light therapy (Bioptron light therapy) or any treatment as minoxidil, finastride or corticosteroids and they were instructed about their nutrition, the study group (A) who received the polarized light therapy (Bioptron light therapy) for 10 minutes every session, application was done 3 times per week for 3 months as a total period of treatment. Measurements were conducted before starting the treatment as a first record and at the end of the third month of treatment as a second (final) record. Results and conclusion:-Result showed that the polarized light therapy was effective and fruitful in increasing hair regrowth in alopecia as evidenced by the highly significant increase in the 7- point assessment scale and hair counting. Conclusion: - polarized light therapy is beneficial in improving hair regrowth in alopecia.

Keywords: (Polarized Light Therapy, Alopecia and Hair Regrowth)

M-237. Cellulite Grading Scale and Skin Fold Changes in Response To Shockwave Versus Bipolar Radiofrequency

International Journal of Pharmtech Research, 9 No.7: 1-11 (2016)

The purpose of this study was to compare between the efficacies of both the shock wave therapy versus bipolar radiofrequency on cellulite in females. Methods of evaluation: (Measurement of the cellulite grading scale and the thigh skin fold). Thirty female patients with cellulite grade ≥ 2 at their thighs were participated in this study. Their ages were ranged from 25 to 45 years; they were divided into two groups. Group (A) received the shock wave therapy. Group (B) received the bipolar radiofrequency; duration of treatment was 15 minutes applied 2 times per week for 4 weeks. Results and Conclusion: - Results showed that both shock wave therapy and bipolar radiofrequency had valuable effects on cellulite in females, but bipolar radiofrequency was more effective than the shock wave therapy as evidenced by the highly significant decrease in the cellulite grading scale and thigh skin fold.

Keywords: (Shock Wave Therapy, Bipolar Radiofrequency and Cellulite).

M-238. Response of Interleukin-6To Two Different Aerobic Training Programs After Renal Transplantation: A Pilot Randomized Controlled Trial

International Journal of Pharmtech Research, .9, No.8: 22-30 (2016)

Interleukin-6 (IL-6) is an inflammatory cytokine that plays a role in transplant rejection. Appropriate dose of physical training represent a useful, safe and nonpharmacologic contribution to renal transplants treatment.Purpose: to compare between the effect of walking and stationary bicycle as physical therapy approaches in decreasing of interleukin 6 in patients after renal transplantation. Method: Forty' patients of both sexes who undergone renal transplantation with age ranged from 30 to 45 years old participated in this study. They were recruited from Educational Cairo university hospitals. They were assigned into

two groups equal in number: Group A included 20 patients who received aerobic exercise in the form of walking for 30 minutes 3 times per week for 12 week.Group B included 20 patients who received aerobic exercise on stationary bicycle for 30 minutes 3 times per week for 12 week. Interleukin 6 was measured before and after training program. Results: Statistical analysis revealed a significant improvement in interleukin 6 in both groups A and B and nonsignificant difference between group A and group B after aerobic exercise training. Conclusion: Regular aerobic exercise in the form of walking and bicycles are an effective low cost treatment that reduces levels of interleukin-6 (IL-6) in renal transplant's patients. Accordingly, patients who undergone renal transplantation are advised to perform regular aerobic activities
Keywords: Walking, Stationary Bicycle, Interleukin 6, Renal Transplantation

M-239. Effect of Transcutaneous Electrical Nerve Stimulation on Interstitial Cystitis/Painful Bladder Syndrome

Z.M.E. Mowafy and A.A.-E. Moharam

International Journal of Pharmtech Research, 9, No.6: 59-65 (2016)

to determine the effect of transcutaneous electrical nerve stimulation (TENS) on interstitial cystitis/painful bladder syndrome. Methods of evaluation: Measurement of the visual analogue scale (VAS) and estimation of the clomipramine medicament intake (CMI). Methods:- Thirty male patients who had interstitial cystitis/painful bladder syndrome were participated in the study. They recruited from the urology department of Cairo university hospitals, their ages were ranged from 30 to 50 years, they were randomly divided into 2 equal groups in number, one study group (A) and a control one (B). All patients in the 2 groups (A) and (B) received the same traditional physical therapy and home exercises in the form of pelvic floor exercises. Also all patients received the same medical care and medications. Group (A): received the transcutaneous electrical nerve stimulation in addition to the traditional physical therapy and medical care for 4 months. Control group (B): received only the traditional physical therapy and medical care for 4 months, each treatment session was conducted for 15 minutes, two electrodes were positioned suprapubically, while the other two electrodes were applied under the lower back (T10-L1) with the patient in comfortable supine hook-lying position with abducted hips. Results and conclusion:- Results showed a highly significant reduction in VAS and CMI at the end of the treatment program in groups (A) only. So TENS was effective in improving the interstitial cystitis/painful bladder syndrome as manifested by the highly significant reduction in VAS and CMI..
Keywords: (Interstitial Cystitis/Painful Bladder Syndrome, Transcutaneous Electrical Nerve Stimulation, Visual Analogue Scale (Vas) and Clomipramine Medicament Intake).

M-240. Percutaneous Electrical Stimulation For Management of Monosympatomatic Nocturnal Enuresis

Ashraf H. Mohamed1, Ibrahim M. Zoheiry2 and Somaia A. Hamed2,

International Journal of Pharmtech Research, 9, No.5: 81-85 (2016)

The purpose of this study was to examine the effect of Percutaneous electrical stimulation therapy on children suffering from monosympatomatic nocturnal enuresis Subject: Thirty children ranging in age from 7 to 17 years. They received Percutaneous electrical stimulation on the sacral roots for 12weeks Methods: The wet nights were evaluated by bladder diary performed pre and post treatment. Patients were reevaluated one, three and six months after the last session. To evaluate the effectiveness of the method, the treatment response was scored according to the ICCS guidelines Results: After 6 months follow-up, 7 (23.3 %) patients presented 100% improvement of wet nights, 12 (40%) patients showed 90-99 % improvement, 3 (10%) patients showed partial improvement (50-89 %), and 8 (26.6 %) patients showed none response (0-49 %). Conclusion: Percutaneous electrical stimulation therapy has got clear effect in treatment of monosympatomatic nocturnal enuresis.
Keywords: Nocturnal Enuresis, Electrical Stimulation

M-241. Efficacy of Extracorporeal Shock Wave in The Treatment of Heterotopic Ossification in Burned Patients

Z.M.E. Mowafy and K.A.-E. Khowailed

International Journal of Pharmtech Research, Vol.9, No.5: 46-52 (2016)

Abstract: Purpose: to determine the effect of extracorporeal shock wave therapy (ESWT) in the treatment of heterotopic ossification in burned patients. Methods of evaluation (Assessment of pain via the visual analogue scale and size of heterotopic ossification measurement via the computed tomography). Methods:- Thirty patients male and female with post burn heterotopic ossification participated in this study, their ages ranged from 30 to 50 years old, they were divided randomly into two equal groups (A and B) .Group (A) received extracorporeal shock wave therapy plus medical treatment every two weeks for three sessions, while group (B) received traditional medical treatment only. Both groups were assessed by visual analog scale to measure the level of pain and C.T to assist the size of heterotopic ossification before and after treatment. Results and conclusion:- Results showed that application of the extracorporeal shock wave therapy had a valuable effects on heterotopic ossification in burned patients as evidenced by the highly decreases of pain via the visual analogue scale and size of heterotopic ossification measurement via the computed tomography. Key words (Extracorporeal shock wave therapy, Heterotopic ossification in burned patients , Visual analogue scale and Computed tomography).
Keywords: (Extracorporeal Shock Wave Therapy, Heterotopic Ossification in Burned Patients , Visual Analogue Scale and Computed Tomography

M-242. Ultrasonographic Response To Low-Intensity Laser Therapy in Chronic Prostatitis

Z.M.E. Mowafy and A.A.-E. Moharam

International Journal of Pharmtech Research, 9: 51-58 (2016)

Purpose: to detect the ultrasonographic and prostatitis-symptom severity index responses to low intensity laser as an adjuvant therapy in chronic bacterial prostatitis in the presence of urogenital chlamydiasis. Methods of evaluation: Measurement of the prostatitissymptom severity index (PSSI) and the ultrasonographic prostatic volume (UPV) in CC. Methods:- forty five patients who had chronic bacterial prostatitis in the presence of urogenital chlamydiasis were participated in this study, their ages ranged from 35 to 50 years, they were randomly divided into 3 equal groups in number, groups (A), (B) and group (C). Group (A) received the traditional physical therapy treatment in addition to the low-intensity laser on the prostatic gland (over the perineal trigger points) 3 times/week for 2 months plus the Ciprofloxacin HCL 500 mg tablets as an antibacterial therapy in a dose 500 mg twice a day. Group (B) received the traditional physical therapy treatment plus the Ciprofloxacin HCL 500 mg tablets as an antibacterial therapy in a dose 500 mg twice a day. Group (C) received only the traditional physical therapy treatment. Results and conclusion:- Results showed a highly significant reduction in PSSI and UPV at the end of the treatment program in both groups (A) and (B), with non-significant difference in group (C) at the end of the treatment program. So programmes of treatment in groups (A) and (B) were effective in improving the chronic bacterial prostatitis in the presence of urogenital chlamydiasis as manifested by the highly significant reduction in PSSI and UPV. But addition of low intensity laser as an adjuvant therapy in chronic bacterial prostatitis in the presence of urogenital chlamydiasis to the ciprofloxacin HCL in group (A) was more fruitful and beneficial than the ciprofloxacin HCL alone in group (B).

Keywords: (Low Intensity Laser, Chronic Bacterial Prostatitis, Urogenital Chlamydiasis, Prostatitis-Symptom Severity Index, Ciprofloxacin Hcl and The Ultrasonographic Prostatic Volume).

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4-1 Faculty of Economics and Political Science
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Faculty of Economics and Political Science

Dept. of Economics

Dept. of Political Science

S-243. The Muslims in Russia: Between Historical Legacy and Contemporary Problematics

Ahmed Abdel and Hafez Fawaz

Contemporary Arab Affairs, 9: 365-382 (2016)

Czarist Russia, the Soviet Union and Post-Soviet Russia had a history of relations with their Muslims that varied between integration or coexistence and resistance or conflict. Russia had perpetually reaffirmed that its war in Chechnya in the 1990s was not against Muslims per se, but rather against terrorist groups that were attempting to disseminate their radical ideas in the Muslim Chechen Republic as well as throughout the other republics of the North Caucasus. From their standpoint Chechen fighters described the struggle as a new round of Russian efforts to bury Chechen demands for independence. Nevertheless, this historical experience of struggle also coincided with periods of peaceful coexistence witnessed in other regions such as the Volga and Ural River Basin. Thus, the question remains: what of the contemporary challenges faced by the Muslims of Russia in their relations with the state and their relations among themselves? This research seeks to answer the following questions: How is it that religious and sectarian tolerance came to predominate in Tatarstan but regressed in Chechnya and Dagestan? Why have relations between Sufis and Salafists been subject to increasing tensions in the North Caucasus? Do the tensions witnessed in Dagestan and Chechnya reflect a genuine sectarian struggle or is the matter more complicated than that? How has the Russian media impacted – positively or negatively – ethnic and sectarian relations within the state?

Keywords: Islam in Russia; Russian Muslims; North Caucasus; Tatarstan; Salafism; Sufism; Sectarianism; Ethnicity

Dept. of Public Administration

S-244. Reconsidering Elitist Duality: Persistent Tension in The Turkish–Egyptian Relations

Shaimaa Magued

Digest of Middle East Studies, 25: 285-314 (2016).06

Since the Muslim Brotherhood's ouster in July 3, 2013, tension has escalated between Turkey and Egypt and gained media attention as an unprecedented incident in bilateral relations. However, disagreement has characterized bilateral relations since the declaration of the Egyptian Republic and the launch of diplomatic relations with Turkey in the 1950s. By tracking the history of both countries' bilateral relations, this study contends that, according to the elitist duality thesis, Turkish–Egyptian relations were an exception to the Turkish–Arab relations, as they were not influenced by the ruling elite. It argues that regardless of the ruling elite identity, tension has disrupted the normal course of relations. By relying on extensive interviews conducted with members of the Justice and Development Party, and academicians and staff members in the Turkish ministries of economy and foreign affairs, the study analyzes the unaddressed tension in the Turkish–Egyptian relations since the 1950s until 2013 and provides policy recommendations to improve bilateral relations.

Keywords: Elitist Duality, Turkish-Egyptian Relations, National Role, Middle East Politics

Dept. of Statictics

S-244. An Efficient Two-Stage Randomized Response Model Under Stratified Random Sampling

Sally Abdelfatah and Reda Mazloum

Mathematical Population Studies: An International Journal of Mathematical Demography, 23: 222-238 (2016).444

A two-stage randomized response model is extended to stratified random sampling in order to find out more efficient estimators of proportions built from sensitive questions, which respondents may not answer truthfully, in a population divided into homogeneous subgroups. in each subgroup, the respondents who have not answered the sensitive question in the first stage are requested in the second stage to either answer the sensitive question (second attempt then) or to draw a card indicating "yes" or "no". in the latter case, they are required to report the outcome. Such extension provides a more efficient estimator of the proportion of the population having a given sensitive attribute than its counterpart in simple random sampling. The extended two-stage randomized response model is more efficient than the stratified randomized response model, where respondents must answer the sensitive question either in the first or in the second stage. Moreover, it increases the respondents' cooperation. When strata weights are unknown, they are estimated by the double sampling method.

Keywords: Double Sampling, Estimation of Proportion, Randomized Response, Relative Efficiency, Stratified Random Sampling, Two-Stage Procedure

Faculty of Commerce

Dept. of Business Administration

S-245. Customer Relationship Building: The Role of Brand Attractiveness and Consumer–Brand Identification

Alaa M.Elbedweihy, Chanaka Jayawardhena, Mohamed H.Elsharnouby and Tamer H.Elsharnouby

Journal of Business Research, 69(8): 2901-2910 (2016) IF: 2.129

Building enduring relationships with consumers is a key marketing objective for most firms, but how can they develop such relationships? Drawing on social identity and self-verification theories, this research postulates that value congruence and customer-to-customer similarity drives consumer–brand identification directly and indirectly through brand attractiveness, which in turn paves the way for the development of deep relationships with brands (captured through brand loyalty and resilience to negative information). The findings show that (1) brand identification extends to both private and public consumption settings, but the respective drivers of identification markedly differ; (2) the similarity–attraction paradigm helps explain why consumers are attracted to some brands and not others; (3) identified consumers tend to ignore negative information they receive about the brand. Findings suggest that managers should identify the salient determinants for enhancing identification and create the highest possible congruence between the values of the target market and the brand.

Keywords: Identification; Social Identity Theory; Value Congruence; Customer Similarity; Brand Loyalty

S-246. Users' Engagement on Facebook: A Cluster Analysis

Rania S. Hussein and Abeer A. Mahrous

International Journal of Business and Emerging Markets, 8: 426-445 (2016)

The paper discusses Facebook users' engagement in Egypt. The paper used cluster analysis to segment Facebook users into three clusters. The results provide significant insights about the marketing implications of Facebook users' engagement in an emerging market.

Keywords: Facebbok, Customer Engagement, Egypt

S-247. Determinants of Egyptian Banks Profitability Before and After Financial Crisis

Osama A. El-Ansary & Mohamed Ismail Megahed

Corporate Ownership and Control, 14: 360-372 (2016)

One of the most important instruments of the financial system that reveals the future of the economy in any country is the profitability of the banking sector. Starting from 2008, Egypt was banged by consecutive shocks, both globally and locally, started with global financial crisis in Sep., 2008. The essential objective of the current study is to investigate factors that affect Egyptian banks' profitability before and after financial crisis using Generalized Method of Moments (GMM) through Eviews. The sample period covers from 2004 to 2013, return on assets and return on equity were used as proxy for banks' profitability. The explanatory variables which effect profitability are deposits to total assets ratio, operating income to asset ratio, credit quality, capital adequacy, loans rate, equity growth minus loan growth rate, asset share ratio and Egyptian banks' total assets to Egyptian gross domestic product (GDP).The empirical findings suggested that Egyptian banks with higher capital strength, asset share, and efficient management exhibit higher profitability level, whilst Egyptian banks with higher credit risk and loans intensity exhibit lower "Determinants of Egyptian Banks Profitability Before and After Financial Crisis" + PDF + Corporate Governance and Control

Keywords: Bank'S Profitability, Capital Adequacy, Credit Quality, Gmm

International Publications Awards

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5-2 Faculty of Archaeology
5-3 Faculty of African Research and Studies

Faculty of Arts

Dept. of English Language and its Literature

S-248. on Translating Shakespeare""s Sonnets Into Arabic

Mohamed Enani

Critical Survey, 20(3): 119-132 (2016)

In this autobiographical article, the celebrated Egyptian theatre critic, scholar and Shakespeare translator Mohamed Enani reflects on some of the challenges—and some of the unexpected felicities of translating Shakespeare's complete sonnets into Arabic.

Keywords: Arabic Translation, Mohamed Enani, Shakespeare, Sonnets.

Faculty of Archaeology

Dept. of Conservation

S-249. Biomineralization Consolidation of Fresco Wall Paintings Samples By Bacillus Sphaericus

Fatma M. Helmi, Hemdan R. Elmitwalli, Sherif M. Elnagdy & Abeer F. Elhagrassy

Geomicrobiology Journal, 33(7): 625-629 (2016) IF: 1.402

Bacterial-induced mineralization has been explored for protection and consolidation of degraded limestone, concrete and plaster by precipitation of calcium carbonate. It is the first time that Bacillus sphaericus was used for consolidating the nonsterilized decayed wall paintings samples by immersing them in sterile nutritional media. The B. sphaericus used in this study produced urease, which catalyzes the hydrolysis of urea (CO(NH2)2) into ammonium (NH4) and carbonate (CO3 ¡2) leading to the precipitation of calcium carbonate. The effect of B. sphaericus on wall paintings was determined by recording the evolution of culture media chemistry and examining the treated wall paintings under a scanning electron microscope to show the structural and morphological evolution of calcium carbonate that was investigated in wall paintings models.
Keywords: Bacillus Sphaericus; Bioconsolidation; Biomineralization; Calcium Carbonate; Fresco Wall Paintings; Ureolytic Bacteria

S-250. Analytical Study of The Materials Used In Mural Paintings In The Love Chamber of El Sakakeny Palace

Kholod Khairy Salama , Mona Fouad Ali and Abubakr Mohamed Moussa

Conservation Science In Cultural Heritage, Vol 16 (2016): 127-136 (2016)

The 19th century is considered to be the most important period in Egyptian art, and is distinguished by the great paintings produced by foreigners in the country at that time. During this century, several mural paintings were executed on the ceilings and walls of several rooms in a style that differed from the usual oriental one used in Egypt .

S-251. Experimental Study On The Cleaning of Foxing Spots On The Old Paper Manuscripts Using Natural Products

Nadia Zaki Shaban, Sawsan Said Darouish and Taha Ayman Salah

International Journal of Conservation Science, Volume 7, Issue 4: 1023-1030 (2016)

Many manuscripts and historical books contain a form of deterioration known as foxing or fox spots, a brownish stain which has the effect of altering aesthetic and visual appeal. The aim of this work is to study the role of the extracts of Water Cantaloupe (CE) and Water melon (WE) separately as natural products in removing foxing spots in various modern and old papers. Old papers and three types of modern papers made from cotton, linen and a mixture of cotton, linen and wood (1:1:1) were used for this purpose. Each type was divided into two groups, one of them was infected with foxing and the other was left as control (uninfected). Infected papers were treated with CE, WE and 2% sodium hypochlorite (as a traditional chemical bleaching) separately. Fourier Transform Infrared Spectroscopy (FTIR), Atomic Absorption Spectroscopy, Scanning Electron Microscopy equipped with Energy-Dispersive X-ray spectroscopy (SEM-EDX) in addition to some optical and mechanical properties were carried out to evaluate the Cantaloupe Extracts (CE) and Water Melon Extracts (WE) use in removing foxing stains compared to sodium hypochlorite. The results showed that CE removed foxing in different studied papers at pH = 7.4. In contrast, WE could not remove these foxing at any studied pH values.
Keywords: Foxing; Natural Products; Cantaloupe; Water Melons; Paper; Cleaning

S-252. Authentication and Conservation of Marine Archaeological Coins Excavated From Underwater of The Red Sea, Saudi Arabia

Omar Abdel-Kareem1, Awad Al-Zahrani2 and Aljouhara Al-Sadoun3

Mediterranean Archaeology And Archaeometry, Vol.16, No.2: 107-118 (2016)

The present work aims to develop and establish conservation processes for cleaning marine archaeologi-cal silver coins - the Shoiba Hoard Coins in Red Sea, Shoiba Port, near Jeddah, Saudi Arabia. To help the ar-chaeologists study and date these coins, it was necessary to reveal the impeded decorations and the inscrip-tions on these coins. Before establishing the experimental work to evaluate the selected conservation pro-cesses, various tests were performed on different types of the selected coins to assess their statement and condition. XRD analysis was used to characterize the coins. Also scanning Electron Microscope (SEM) attached with energy- dispersive x-ray analyzer (EDX) was used to identify and analyze the corrosion products on the surface of the coins. In this study 5 cleaning methods within various conditions were tested for cleaning the current coins. The efficacy of the combined use of alkaline Rochelle salt and reduction cleaning techniques were evaluated. To evaluate the usefulness of the suggested conservation processes used in this study for cleaning the hoard coins, the coins before, during and after the cleaning processes were investigated by vari-ous techniques. SEM with EDAX and XRD techniques were used to characterize the coins after the final con-servation. The results showed that the best method that can be used safely and successfully for cleaning of the studied coins is as the following a) initially the corroded coins have to be treated with alkaline Rochelle salt, b) then treated with alkaline dithionite reduction technique or electrolytic reduction technique, finally c) the coins should be rinsed, dried and followed by isolation. The conservation processes developed in this study can be used effectively, safely, and successfully for cleaning of corroded marine archaeological silver coins in this treasure and the simulated marine archaeological coins. The archaeological study of the decora-tions and inscriptions that appeared on the surface of the coins after their conservation confirms that these coins belong to the Rasulids (Banu Rasul) Dynasty and date back to 1229 to 1454 A.D.
Keywords: Marine Archaeological Silver Coins, Corrosion Products, Conservation Processes, Alkaline Rochelle Salt,

Alkaline Dithionite Reduction Technique, Electrolytic Reduction Techniques, Sem-Edx, Xrd

S-253. Authentication and Conservation of Corroded Archaeological Qatabanian And Himyarite Silver Coins

Omar Abdel-Kareem a, Awad Al-Zahrani b and Mounir Arbach c

Journal of Archaeological Science: Reports, 9: 565-576 (2016)

To help the archaeologists study and date the archaeological silver coins excavated from burial soil, al-Ukhdoud castle, Najran, Saudi Arabia, it was necessary to reveal the impeded decorations and the inscriptions on these coins. For that it was necessary to remove the soiled deposits, encrustations, and corrosion layers covering these coins. To succeed in developing and establishing conservation processes for these coins, various tests were performed on the coins to assess their statement and condition. XRD analysis was used to characterize the coins. Also, scanning Electron Microscope (SEM) attached with energy- dispersive X-ray analyser (EDAX) was used to identify and analyse the corrosion products on the selected coins. Various selected cleaning processes that were suggested to remove the soiled deposits, encrustations, and corrosion layer covering these coins were tested. Mechanical cleaning, alkaline Rochelle salt, alkaline dithionite reduction technique, and electrolytic reduction techniques were tested. To evaluate the suggested cleaning processes used in this study, the coins before, while, and after the cleaning processes were investigated by various methods. SEM with EDAX and XRD techniques were used to characterize the coins before and after the final conservation. The results showed that the most adequate method that can be used safely and successfully for cleaning of the studied coins is as the following. In the beginning, the loosely corrosion layer on the coins has to be removed mechanically. Then, the coins should be treated with alkaline Rochelle salt technique. Finally, after finishing the treatments, the coins should be rinsed, dried, and isolated. The conservation processes used in this study can be applied effectively, safely, and successfully for cleaning and removing the soiled deposits, encrustations, and corrosion layers covering the coins in this treasure and the simulated archaeological coins. The archaeological and historical study of the decorations and inscriptions that appeared on the surface of the coins after their conservation process confirms that these coins belong to kingdoms of Qataban and Ḥimyar. The revealed decorations and inscriptions confirm that a part of the coins belong to Qataban kingdom which returns back to the first century BCE until the middle of the first century CE. The other part of the coins belongs to Ḥimyar kingdom which returns back to the first century BCE until the second century CE. The study confirms that the coins of this hoard date back to the period between last quarter of 1st century BCE-from the ruling time of the Ḥimyarite king, Shamnar Yuhan'im, to the end of the 2nd century CE-from the ruling time of the Himyarite king, Tha'ran Ya'ub. This study can be a guide for the conservators who seek to cleaning processes for simulated coins. Also this study provides archaeologists and historians with very important materials that can help them interpret many questions, mysteries, missing information, a lot of historical facts, and secrets about the economic and technical developments during the ancient times in Najran city.

Keywords: Saudi Arabianajransouth Arabian Kingdomsḥimyarite And Qatabanian Coinscorroded Archaeological Silver Coinssoiled Depositsencrustations And Corrosion Layersconservation Processesmechanical Cleaningchemical Cleaning,Sem-Edaxxrdbone Samplesradiocarbon Dating

Dept. of Egyptian Archaeology

S-254. The Votive Stela of The "Overseer of The Singers of The King" Nfr-Rnpt

Ahmed M. Mekawy Ouda

Le Bulletin De L'institut Français D'archéologie Orientale, 116: 1-13 (2016)

This article republishes a Ramesside votive stela of Nfr-rnpt at the Egyptian Museum Cairo TR 14.6.24.17. It presents a new facsimile, a transcription, a transliteration, a translation, and a comment on the inscriptions and the titles of the owner.

Keywords: Neferrenpet, Amenwahsu, Overseer of The Singers of The King, Chamberlain, Abydos, Osiris, Isis, Horus, Wepwawet, Anubis, Werethekau, Threat Formula.

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S-255. Antimicrobial Activities of Essential Oil of Eight Plant Species From Different Families Against Some Pathogenic Microorganisms

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Research Journal of Microbiology, 11: 28-34 (2016)

The beneficial effect of many types of plant extract used as seasoning agents in foods have been claimed for centuries. The purpose of this study was conducted to investigate the antibacterial activity of essential oils from i.e., ginger, thyme, coriander, marjoram, mustard, chamomile, licorquorice and nigilla against some bacterial strains of food borne pathogen (Bacillus cereus, Staphylococcus aureus, Salmonella typhimurium and E. coli). Two different methods named the optical density assay and the well diffusion method were applied in the present study. The antibacterial effect of the essential oils coriander, thyme and ginger gave the highest antibacterial effect on all strains with inhibition percentages ranged from 90-99% and their inhibition zone ranged between 80-90 mm in diameters for both method used. While, marjoram, mustard and chamomile were moderate effect with inhibition percentages values ranged from 60-89% with inhibition zone between 50-70 mm. The lowest inhibitory effects were recorded for licorquorice and nigilla with inhibition percentages ranged from 33-65 and their inhibition zone of 8-45 mm. Bacillus cereus and Staphylococcus aureus were more resistant than Salmonella typhimurium and E. coli with all the examined essential oils. The results of this study revealed that these essential oils possesses some antibacterial properties as antibiotics, therefore, they can be used as a potential source of active ingredients for food preservatives.

Keywords: Essential Oils, Antibacterial Activity, Well Diffusion Method, Optical Density Assay, Food Borne Pathogen

Authors' Index

Appendix

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