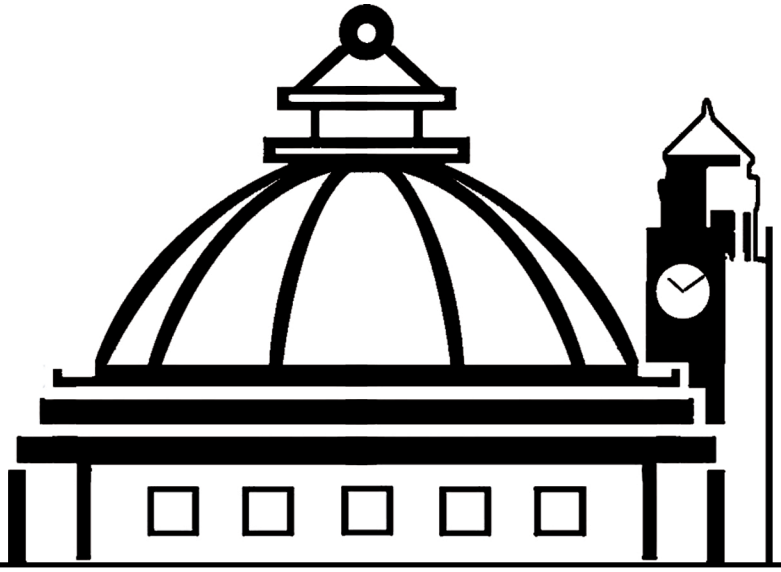

International Publications Awards

Cairo University

Vol. 6 Issue 2

Oct. 2012

Issue	I	II	III A, B	IV A, B	V	VI A, B	VII	Vol. 5(1)	Vol. 5(2)	Vol. 6(1) A, B, C
Year	Sep. 2007	Dec. 2007	Oct. 2008	May 2009	Oct. 2009	May 2010	Oct. 2010	May 2011	Oct. 2011	May 2012

Dear colleagues,

We are pleased to introduce vol. 6(2) 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 Cairo University 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 2011 and wish them all the best for their future endeavors.

Lastly, the top 50 eminent authors of Cairo University were tabulated in front of this issue. Their ranking was extracted from both Scopus and Thomson data-bases according to their number of published articles, number of citations and h-index.

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

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Prof. Gamal Esmat

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

Prof. Hossam Kamel

President
Cairo university

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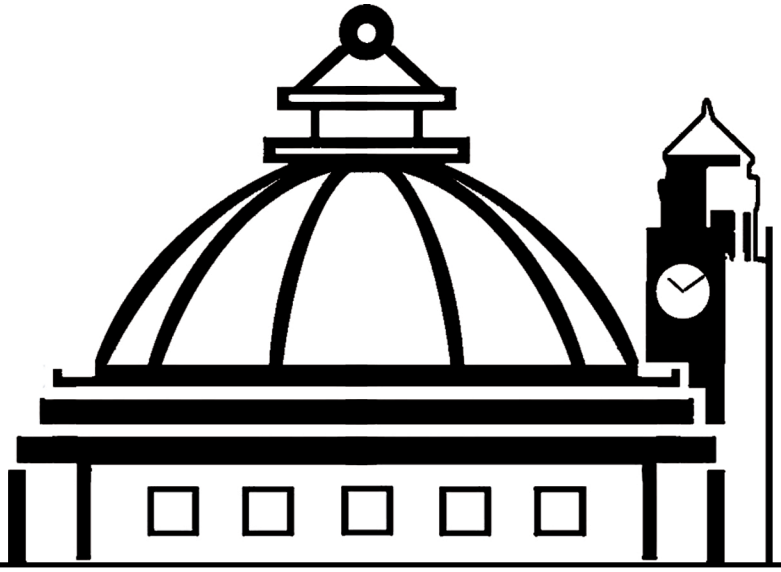


(1)
Basic Sciences Sector

1-1 Faculty of Science

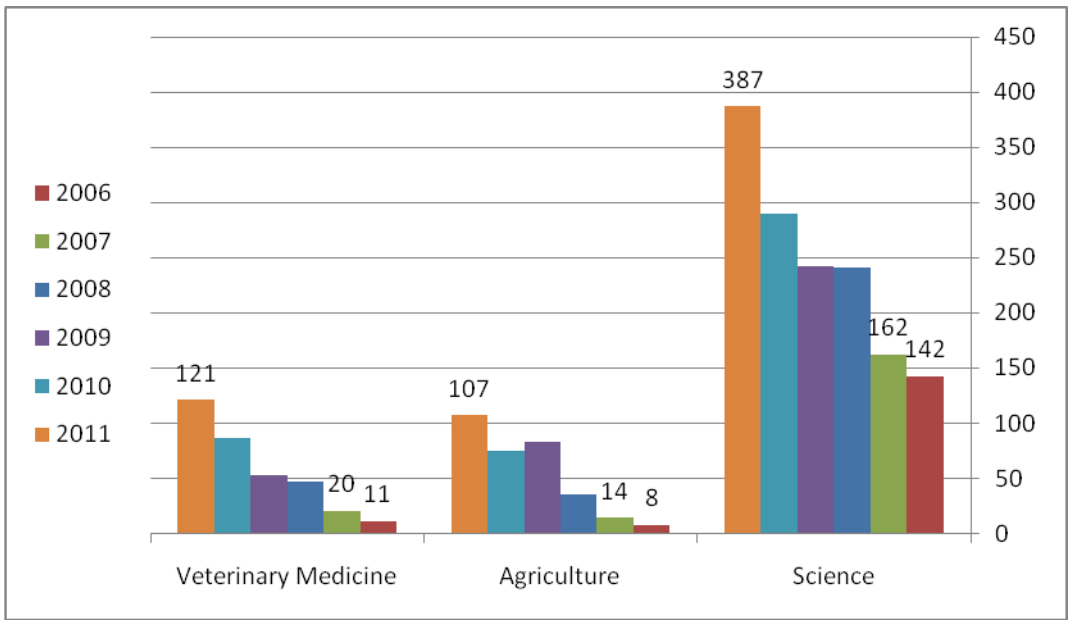
1-2 Faculty of Agriculture

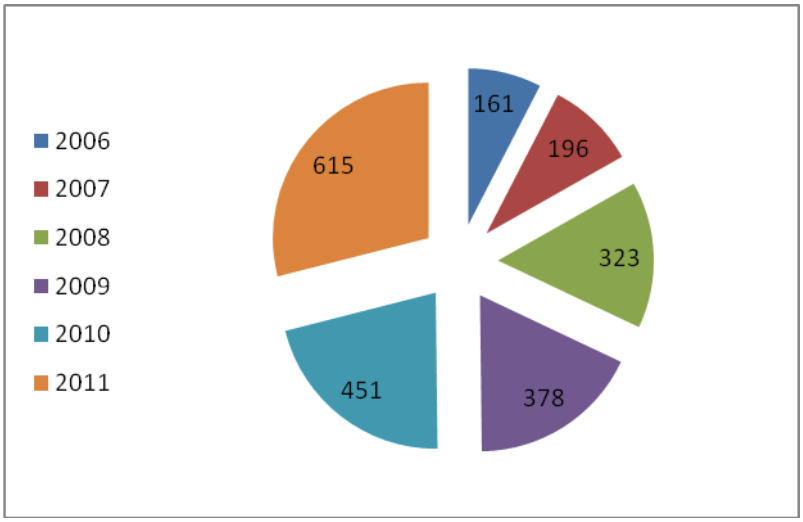
1-3 Faculty of Veterinary medicine

1-4 National Institute of Laser Enhanced Sciences

Total No. of Publication for Basic Sciences Sector

Faculty	2006	2007	2008	2009	2010	2011	Total
Science	142	162	241	242	290	387	1464
Agriculture	8	14	35	83	75	107	322
Veterinary Medicine	11	20	47	53	86	121	338
Total	161	196	323	378	451	615	2124





Faculty of Science

Dept. of Astronomy and Meteorology

1. An Ap-Structure with Finslerian Flavor Ii: Torsion, Curvature and Other Objects

M.I.Wanas and Mona M. Kamal

Mod. Phys. Lett. A, A26: 2065-2078 (2011) IF: 0.99

An absolute parallelism (AP-) space having Finslerian properties is called FAP-space. This FAP-structure is wider than both conventional AP and Finsler structures. In the present work, more geometric objects as curvature and torsion tensors are derived in the context of this structure. Also second order tensors, usually needed for physical applications, are derived and studied. Furthermore, the anti-curvature and the W-tensor are defned for the FAP-structure. Relations between Riemannian, AP, Finsler and FAP structures are given.
These relations facilitate comparison between results of applications carried out in the framework of these structures. We hope that the use of the FAP-structure, in applications may throw some light on some of the problems facing geometric field theories.
Keywords: AP-Geometry; Finsler Geometry; W-tensor; Anti-curvature tensor.

Dept. of Botany

2. Evaluation of Ozone for Preventing Fungal Influenced Corrosion of Reinforced Concrete Bridges Over the River Nile, Egypt

Neveen S. I. Geweely

Biodegradation, 22: 243–252 (2011) IF: 2.017

Fungal influenced corrosion (FIC) of some corroded sites in three selected bridges [Embaba bridge (E-bridge), Kasr al-Nile-bridge (K-bridge) and University bridge (U-bridge)] located over the River Nile in Egypt were investigated. Six fungal species, belong to 12 fungal genera, were isolated. Fourier transform infrared spectroscopy (FTIR) was screened for the most dominant fungal species (Fusariumoxysporium) that indicated the presence of amine group accompanied with polysaccharides contents. Evaluation of ozone for preventing FIC of the K-bridge was carried out. No mycelial growth with 100% IE was observed at 3 ppm ozone concentration after 120 min exposure time. The total intracellular and extracellular proteins of F. oxysporium were run on sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) indicated the increasing of the supernatant protein on the expense of the cellular protein bands with extending ozone exposure time (0–80 min).
Keywords: Fungi; Corrosion; Ozone; Bridges.

3. Accumulation and Soil-to-Plant Transfer of Radionuclides in the Nile Delta Coastal Black Sand Habitats

A. K. Hegazy and M. H. Emam

International Journal of Phytoremediation, 13: 140-155 (2011) IF: 1.936

The radionuclide content was estimated in the soil of three black sand habitats in the Mediterranean coast of Egypt, namely, sand mounds and coastal sand planes and dunes. In addition, a total of 14 heavy minerals found in the soils were characterized. The soil to plant transfer of uranium and thorium was tested on three black sand species, namely, Cakile maritimaScop. Senecioglaucus L. and Rumex Pictus Forssk. The transfer of thorium and uranium radionuclides from the soil to plant is complex process that is subjected to many variables; among which are the organic matter and clay content of the soil, the type of radionuclides and plant species. The study revealed a strong negative relationship between uranium and thorium uptake by S. glaucus and R. pictus and the clay and organic matter content of soil. Concentration of thorium in the soil has a negative correlation with soil-toplant transfer factor. The study results suggest the possibility of using black sand species for phytoremediation of soils contaminated with radioactive elements. The potentiality of S. glaucus as phytoremediator of radionuclides polluted soils is greater than R. pictus which in turn outweigh C. maritima.
Keywords: Uranium; Thorium; Transfer factor; Phytoremediation; Mediterranean; Egypt.

4. Size- and Season-Related Sex Expression and Reproductive Performance in Gynodioecious Ochradenus Baccatus Delile (Resedaceae), at Wadi Degla, Egypt

A.K. Hegazy, Jon Lovett-Doustb and H.A. El Adawy

Facial Plast Surg, 1002-1011(2011) IF: 1.066

Reproductive performance and phenology in gynodioeciousOchradenusbaccatus was investigated at WadiDegla, in Egypt's arid Eastern Desert. Between January and December 2005, plants representing a series of size classes were identified from two populations, located ca. 7.5 km apart. A total of 94 individuals were marked and classified according to sex expression and overall size/canopy volume. Reproductive phenology was monitored across the year. Plants presented an extended reproductive phenology having two peaks, in spring and autumn. Plant size was a significant factor influencing reproductive output and phenology. Fruit number, seeds-per-fruit and seed mass all varied significantly among the size classes of both female and hermaphrodite plants, during both spring and autumn phenophases. Numbers of fruit and seeds-per-fruit were greater in spring than autumn, and female forms had greater fruit numbers, seed mass and percent germination, and fewer seeds-per-fruit than hermaphrodites. Numbers of fruits, seeds-per-fruit and seed mass were all significantly positively correlated with plant size. Seeds produced at the larger downstream population had greater seed germination

rates than those from the upper site. Results are discussed in terms of plant size and directed seed dispersal patterns.
Keywords: Reproductive phenology; Size-related; Season-related; Frugivory; Bird-dispersal; Population; demography; Eastern Desert.

5. Vegetation and Species Altitudinal Distribution in Al-Jabal Al-Akhdar Landscape, Libya

A. K. Hegazy, L. Boulos, H. F. Kabiel and O. S. Sharashy

P Acad Nat Sci Phila, 43 (4): 1885-1898 (2011) IF: 0.964

Cyrenaica is the largest phytogeographical region in Libya. The region holds Al-Jabal Al-Akhdar (the Green Mountain) landscape with the richest vegetation and highest species diversity in the country. Field study of the vegetation was carried out in the different habitat types representing the mountainous landscape. Data were analyzed by Detrended Correspondence analysis (DCA) and Canonical Correspondence Analysis (CCA) against the environmental variables. Vegetation and species richness varied with altitude from the sea level, through mid elevation slope vegetation in wadis, to herbaceous and lowshrub- vegetation towards the mountain top. Vegetation is classified into three major groups: (1) coastal and low altitude vegetation dominated by shrubs and trees which constitute about 60% of the plant life forms; (2) mid altitude and wadi vegetation with the highest species richness and dominated by shrubs and trees which constitute over 60% of the plant life forms; and (3) mountain top vegetation dominated by herbs and few low shrubs constituting up to 90% of the plant life forms. The altitude, aspect and soil parameters do not explain the majority of variance in the obtained data which reveal that other diverse local conditions and habitat types seem to be the main determinant of vegetation variation in Al-Jabal Al-Akhdar landscape.
Keywords: Al-Jabal Al-Akhdar; Vegetation; Altitudinal gradient; Environmental variables.

6. Genetic Diversity in Coastal and Inland Desert Populations of PeganumHarmala L. (Peganaceae)

R. El-Bakatoushi, A. K. Hegazy, H. Saad and M. Fawzy

African Journal of Biotechnology, 10 (71): 15883-15890 (2011) IF: 0.57

This study compared the genetic diversity within and among six naturally growing coastal and inland populations of Peganumharmala by using random amplified polymorphic DNA (RAPD) technique. Seven primers generated a total of 63 RAPD bands (loci) of which 60 (95.24%) were polymorphic across all individuals. The genetic diversity of P. harmala at the population level and species level were percentage polymorphic loci (PPL) = 42.59%, Nei's gene diversity (h) = 0.1892, Shannon information index (I) = 0.1 and PPL = 95.24%, h = 0.3116, I = 0.4723, respectively. The value of differentiation (the coefficient for gene divergence, Gst = 0.3925) and analysis of molecular variance (AMOVA) indicated that there was a relatively high genetic differentiation within populations, and about one-six of the genetic variations occurred among populations. Analysis of fixation indices (FST) = 0.15500, $p < 0.00196$ showed low degree of differentiation among populations. The genetic variation in the coastal populations was higher than the variation in the inland populations. The present study suggests that the gene drift may play an important role in the differentiation of P. harmala populations. The in situ conservation of the species should focus on establishing more sites to protect the natural populations and their habitats, while the ex situ conservation needs to focus on enhancing the exchange of seeds and seedlings among populations to facilitate gene flow, exchange and recombination.
Keywords: Random amplified polymorphic DNA (RAPD); Gene diversity; Soil factors; Arid lands; Egypt.

7. Growth and Reproductive Attributes of Radionuclide Phytoremediators in the Mediterranean Coastal Black Sands

A. K. Hegazy, M. H. Emam and A. A. Alatar

African Journal of Biotechnology, 10 (74): 16781-16792 (2011) IF: 0.57

Growth and resource allocation of three black sand plants namely Cakilemaritima, Senecioglaucus and Rumexpictus were investigated in a greenhouse experiment. The effect of absorbed radionuclides on the plant growth was monitored at different growth stages including seedling, juvenile, flowering, fruiting and senescing stages. The study reveals that growth attributes including relative growth rate, net assimilation rate, leaf are index and specific leaf area, dry matter allocated to stem and leaves and number of reproductive organs decreased with the increase of radionuclide content of the plant, while the dry matter allocated to root and reproductive organs and root to shoot weight ratio were associated with high level of radionuclides. Because of their tolerance to high levels and accumulation of radionuclides, the species C. maritima, S. glaucus and R. pictus could be potential candidate plants for radio-phytoremediation of soils contaminated with uranium and thorium.
Keywords: Uranium; Thorium; Plant growth; Resource allocation.

8. Enhancement of Fungal Degradation of Starch Based Plastic Polymer by Laser-Induced Plasma

Neveen S. Geweely and Salama A. Ouf

African Journal of Microbiology Research, 5 (2): 3273-3281 (2011) IF: 0.533

Fourteen fungal species (Alternaria alternata, Aspergillus-candidus, Aspergillus flavus, Aspergillus niger, Aspergillus-ochrochus, Botrytis cinerea, Chaetomium globosum, Fusarium moniliforme, Fusarium oxysporum, Fusarium solani, Penicillium chrysogenum, Penicillium funiculosm, Penicillium italicum and Phanerochaete chrysosporium) belonging to Ascomycete, Basidiomycete and Deuteromycete groups were isolated from composted soil in Egypt. The ability of laser induced plasma as a new technique to enhance fungal

degradation efficiency of starch based plastic polymer was tested. The maximum significant plastic degradation activities for all isolated fungal species were showed after the lowest exposure time (5 min) to laser induced plasma. The highest efficient fungal degraded starch based plastic polymer was A. niger, where the initial appearance of clear zone was recorded only after two days accompanied with the highest significant amylotic activities. The evaluation of changes in starch based plastic polymer degraded by A. niger compared with uninoculated and non plasma treated A. niger degraded starch based plastic polymer was observed by scanning electron microscope (SEM). The maximum degradation efficiency accompanied with the highest loss of tensile strength (90 and 80.7%, respectively) was observed in the plasma treated A. niger degrading starch polymer. Four low molecular weight sugars were detected by HPLC in plasma and non plasma treated A. niger degrading plastic polymer.

Keywords: Fungi; Plastic; Degradation; Laser.

9. Amelioration of Salinity Effect in *Zea Mays* (Single Cross 124) by Cynaobacterial Extracellular Products

Sekina T. A. Tantawy

j. food agriculture& Environment, 9 (2): 714-717 (2011)
IF: 0.425

Salt stress in one of the most serious factors limiting the productivity of *Zea mays*. The aim of this work was to evaluate the effect of the cyanobacterium *Nostoc muscorum* extracellular products on the growth of salt sensitive Zea mays (Sc. 124) seedlings inhibited by sodium chloride. Growth parameters (length and weight of the seedlings) and pigments content were evaluated. Salt exposure negatively affected all growth parameters and pigment contents. Extracellular products nullified the salt effect on shoot dry weight (from 37% to 5% decrease); partially counteracted the effect on shoot length (from 55% to 39% decrease), root dry weight (from 56.7% to 40% decrease) and had no effect on root length. Salinity decreased chlorophyll contents of the seedlings, reduction was 60%, but application of cyanobacterial extracellular products had a distinct effect on salinity alleviation as evident from recovery in the pigment contents. This improvement in chlorophyll contents was 40%.

Keywords: Salinity stress; Zea mays; Nostocmuscorum; Growth parameters.

10. Biological Potential of Cynobacterial Metabolites Against Some Soil Pathogenic Fungi

Sekina T.A. Tantawy

J. food agriculture & Enviroment, 9 (1): 663-666 (2011)
IF: 0.425

The aim of the present study was to evaluate the biological potential of three cyanobacterial strains (Nostocmuscorum, Spirulinaplatensis and Anabaena flos-aquae) against soil pathogenic fungi. The different exudates were prepared at concentrations of 25, 50, 75 and 100% and their effects on two soil pathogenic fungi (Fusariumoxysporum and Rhizoctoniasolani) were studied. Results revealed high efficiency of the algal culture filtrates in suppressing the fungal mycelial growth diameter. The best results were obtained by Spirulinaplatensis and Nostocmuscorum. The antifungal activity of the algal culture filtrates may contribute to the presence of bioactive compounds, i.e. total phenolic compounds, IAA and protease enzyme.

This study can provide potential candidates for the development of biocontrol agents against these soil pathogenic fungi.

Keywords: Cyanobacteria; Soil pathogenic fungi; Biocidal efficacy.

11. Investigation of the Optimum Condition and Antimicrobial Activities of Pigments from Four Potent Pigment-Producing Fungal Species

Geweely, N. S. and Ouf, S. A.

Journal of Life Sciences, 5 (9) : 697-711 (2011)

Soil samples were collected from three sites (Wadi-El-Natrun, Kafr-El-Sheekh and Mallahat Road) located in Cairo-Alexandria Agriculture Road, Egypt. The total fungal counts allover the road was 755 colonies, constituting ten fungal species (Alternaria alternata, Aspergillusflavus, Aspergillusnidulans, Aspergillusniger, Aspergillusterreus, Fusariummoniliforme, Penicillium chrysogenum, Penicill-iumpurpurogenum, Phomaherbarum and Rhizopusoryzae). The most potent fungal species producing pigments along the road were A. nidulans, F. moniliforme, P. purpurogenum and P. herbarum. Comparative sensitivity to different light wave lengths and radiation (laser, *gamma* and ultraviolet rays) on growth and pigment production in the four selected fungal species was estimated. Optimization of physical and nutritional factors on growth and pigment production was carried out. A steady increase in the antioxidant activities was showed in all four tested pigments producing species with raising the phenol contents. The extracellular pigment of P. purpurogenum was found to be more effective against some pathogenic microbes and might have a potential role in pharmaceutical drug industry. The identification of the structure of unknown P. purpurogenum pigment was detected using UV and FTIR spectra, and indicated that it is an phenolic compound and has broad stretching OH, C=C and C-H groups of the aromatic ring.

Keywords: Fungi; optimum condition; Antimicrobial; Pigment; Antioxidant; Phenol.

12. Alteration of Protein Patterns in Callus Cultures of CitrullusColocynthis in Relation to Plant Growth Regulators

Amal A. Mohamed, Farouk K. El-Baz, Sami I. Ali, Mahmoud M. Saker and Ahmad K. Hegazy

Insight Biotechnology,1 (1): 1-6 (2011)

Callus and cell culture could not only be an alternate continue source of proteins, but could also be a useful and important model system to study their regulation and biosynthesis so, the present study aimed to investigate the

effect of different combinations of 2,4 dichlorophenoxy acetic acid (2, 4-D) with kinetin (kin) and Benzyl Adenine (BA) with ?-Naphthalene Acetic Acid (NAA) on: (1) the percentage of callus frequency and (2) protein profiles of Citrulluscolocynthis stems, leaves and roots derived callus cultures. The present results reported that the highest percentage of callus frequency (98.9%) was obtained from stem callus grown on MS media supplemented with (1.0 mg L-1) 2, 4-D + (1.0 mg L-1) kin. Sodium Dodecyl Sulfate (SDS) Polyacrylamide Gel Electrophoresis (PAGE) analysis of total soluble protein revealed expression of new protein band (65 kDa) only in stem derived callus cultured on MS media supplemented with (6.0 mg L-1) 2, 4-D + (2.0 mg L-1) kin. Leaf derived callus cultured on MS media supplemented with (2.0 mg L-1) 2, 4-D + (1.0 mg L-1) kin showed new protein bands with molecular weight 112 kDa. Moreover, the root derived callus revealed expression of new protein band (82 kDa) with MS media supplemented with (6.0 mg L-1) 2, 4-D + (2.0 mg L-1) kin. However, MS media supplemented with (0.01 mg L-1) BA + (1.0 mg L-1) NAA exhibit new protein band (72 kDa) in the root derived callus.
The present results concluded that changes in the protein pattern appear to correlate with colocynth callus percentage and different combinations of plant growth regulators.
Keywords: Colocynth; Callus culture; Plant growth regulators; Protein profiles; PAGE-electrophoresis.

13. Cytotoxicity and Mutagenic Effects of Soil Radionuclides on Some Black Sand Plant Species

M.S.A. Soliman, A.K. Hegazy, S.K. Goda , M.H. Emam and A.A. Al-Atar

Journal of Mediterranean Ecology, 11: 5-20 (2011)

Three plant species (Cakilemaritima Scop., Senecioglaucus L. and RumexpictusForssk) were selected from three black sand habitats along the Mediterranean coast in Egypt for cytogenetic studies and to recognizes the mechanism by which plants withstand high concentration of the absorbed radionuclides through determination of the electrophoratic banding pattern of protein and amino acid profiles. The study showed that exposure of the study plant species to soil radionuclides causes decrease in the percentage of prophase and prophase to metaphase ratio, while the percentage of anaphase and telophase increases with soil radioactivity. The results revealed chromosomal aberrations, e.g., C-metaphase, star metaphase, chromosome stickiness at metaphase stage, C-anaphase and chromosomal breaks at the different mitotic stages with fluctuation in the index of mitotic phases. High radionuclide content of plants causes alterations in the bands relative mobility and intensities, expression of new proteins and suppression of some proteins.
Study of amino acid profile of plants indicated that radioactive elements stimulate the biosynthesis of some amino acids e.g. proline, cysteine, serine and thereonine while inhibit some other amino acids such as arginine. Aspartic acid is the most abundant amino acid in the three study species.
Keywords: Black sands; Mediterranean; Chromosomal aberrations; Proteins; Amino acids; Uranium; Thorium.

Dept. of Chemistry

14. Electrochemical Behaviour Of Ti–6Al–4V Alloy And Ti In Azide And Halide Solutions

F. El-Taib Heakal, A.A. Ghoneim, A.S. Mogoda and Kh. Awad

Corrosion Science, 53: 2728-2737(2011) IF: 3.265

Electrochemical techniques including open circuit potential measurement, potentiodynamic polarization and electrochemical impedance spectroscopy (EIS) were used to evaluate the corrosion and passivation behaviour of Ti–6Al–4V alloy in sodium azide (NaN3) solutions compared to the behaviour of its pure base metal Ti.
The results showed that increasing azide concentration increases the rate of corrosion (icorr) and shifts negatively the rest potential (Ef), as well as decreases the spontaneous thickening rates of the inner and outer layers constituting the passive oxide film on each sample. These effects are more accentuated for the alloy than for the metal.
Moreover, the electrical resistance (Rox) and the relative thickness (1/Cox) of the oxide films on the two samples exhibit an almost linear decrease vs. NaN3 concentration. The results suggested that addition of Al and V to Ti, although improves its achinability, yet it decreases the performance of its surface oxide film to protect the degradation of the metal.
The alloy was found to be more susceptible to corrosion than its base metal, since Ti expresses higher apparent activation energy (Ea) for the corrosion process than Ti–6Al–4V. Electrochemical behavior of Ti in azide medium was also compared with that in various halide solutions. It was found that Ti has a stronger propensity to form spontaneous passivating oxide layers in bromide more than in azide and other halide media, where the positive shift in the value of Ef and the simultaneous increase in the oxide film resistance (Rox) follow the sequence: Br -> N3- >Cl -> I-> F-.
Keywords: Titanium; Ti–6Al–4V; NaN3; Halides; EIS; Passivation.

15. Ligational Behaviour of Lomefoxacin Drug Towards Cr(III), Mn(II), Fe(III), Co(II), Ni(II), Cu(II), Zn(II), Th(Iv) and Uo_2(Vi) Ions: Synthesis, Structural Characterization and Biological Activity Studies

Hanan F. Abd El-Halim, Gehad G. Mohamed, Maher M.I. El-Dessouky and Walaa H. Mahmoud

SpectrochimicaActa (PArt A), 82: 8-19 (2011) IF: 2.09

Nine new mononuclear Cr(III), Mn(II), Fe(III), Co(II), Ni(II), Cu(II), Zn(II), Th(IV) and UO2(VI) complexes of lomefloxacin drug were synthesized. The structures of these complexes were elucidated by elemental analyses, IR, XRD, UV–vis, ^{1}H NMR as well as conductivity and magnetic susceptibility measurements and thermal analyses. The dissociation onstants of lomefloxacin and stability constants of its binary complexes have been determined spectrophotometrically in aqueous solution at 25 ±1 °C and at 0.1 M KNO_3 ionic strength. The discussion of the outcome data of the prepared complexes indicate that the

lomefloxacin ligand behaves as a neutral bidentate ligand through OO coordination sites and coordinated to the metal ions via the carbonyl oxygen and protonated carboxylic oxygen with 1:1 (metal:ligand) stoichiometry for all complexes. The molar onductance measurements proved that the complexes are electrolytes. The powder XRD study reflects the crystalline nature for the investigated ligand and its complexes except Mn(II), Zn(II) and UO2(II). The geometrical structures of these complexes are found to be octahedral. The thermal behaviour of these chelates is studied where the hydrated complexes lose water molecules of hydration in the first steps followed by decomposition of the anions, coordinated water and ligand molecules in the subsequent steps. The activation thermodynamic parameters are calculated using Coats–Redfern and Horowitz–Metzger methods. A omparative study of the inhibition zones of the ligand and its metal complexes indicates that metal complexes exhibit higher antibacterial effect against one or more bacterial species than the free LFX ligand. The antifungal and anticancer activities were also tested. The antifungal effect of almost metal complexes is higher than the free ligand. LFX, $[Co(LFX)(H_2O)_4]\cdot Cl_2$ and $[Zn(LFX)(H_2O)_4]\cdot Cl_2$ were found to be very active with IC50 values 14, 11.2 and 43.1, respectively.
While, other complexes had been found to be inactive at lower concentration than 100 g/ml.
Keywords: Lomefloxacin; Metal complexes; Spectroscopy; Thermal analyses; Biological activity; Anticancer activity.

16. Enaminones as Building Blocks for the Synthesis of Substituted Pyrazoles with Antitumor and Antimicrobial Activities

Sayed M. Riyadh

Molecules, 16: 1834-1853(2011) IF: 1.988

Novel N-arylpyrazole-containing enaminones **2a,b** were synthesized as key intermediates. Reactions of **2a,b** with active methylene compounds in acetic acid in the presence of ammonium acetate afforded substituted pyridine derivatives **5a-d**. Enaminones **2a,b** also reacted with aliphatic amines such as hydrazine hydrate and hydroxylamine hydrochloride to give bipyrazoles 8a,b and pyrazolylisoxazoles **9a,b**, respectively. On the other hand, treatment of **2a,b** with a heterocyclic amine and its diazonium salt yielded the respective [1,2,4]triazolo[4,3-*a*] pyrimidines **12a,b** and pyrazolylcarbonyl [1,2,4] triazolo[3,4-c] [1,2,4] triazines **14a,b**. Moreover, 2-thioxo-2,3-dihydro-1*H*-pyrido[2,3-*d*]pyrimidin-4-one (**17**) was prepared via reaction of enaminone **2a** with aminothiouracil (**15**). Cyclocondensation of **17** with the appropriate hydrazonoyl chlorides **18a-c** gave the corresponding pyrido[2,3-d][1,2,4]triazolo[4,3-a]pyrimidin-5-ones **21a-c**. The cytotoxic effects of compounds **2b**, **14a** and **17** against human breast cell line (MCF-7) and liver carcinoma cell line (HEPG2) were screened and in both lines they showed inhibition effects comparable to those of 5-fluorouracil, used as a standard. The antimicrobial activity of some products chosen as representative examples was also evaluated.
Keywords: (dimethylamino) acryloylpyrazole; Hydrazonoyl chlorides; Antitumor activity; Antimicrobial activity.

17. 5-Aminouracil as A Building Block in Heterocyclic Synthesis: Part IV. One-Pot Synthesis of 1*H*-Pyrrolo[2,3-*d*]Pyrimidine-2,4(3*H*,7*H*)-Dione Derivatives using Controlled Microwave Heating

Raafat M. Shaker, Kamal U. Sadek, Ebtisam A. Hafez and Mohamed AbdElrady

Zeitschrift for Naturforschung, 66b: 843-849 (2011)
IF: 0.816

An efficient and direct procedure for the synthesis of pyrrolo [2,3-d]pyrimidine-2,4-dione derivatives using controlled microwave heating has been described. The products were characterized by elemental analyses, IR, 1H NMR, ^{13}C NMR and MS spectra.
Keywords: 5-Aminouracil; Dimedone; Barbituric Acid; Thiobarbituric Acid; Controlled Microwave Heating; One-pot Synthesis; Pyrrolo[2;3-d]pyrimidine-2;4-dione.

18. A Convenient Method for Synthesis of Bis-2,2?-(1,3,4-Thiadiazole) and Bis-3,3?-(1,2,4-Triazole) Derivatives

Ahmad S. Shawali, Abdelwahed R. Sayed and Mohie M. Zayed

Journal of Sulfur Chemistry, 32 (4): 311–314 (2011)
IF: 0.75

Reactions of the bis-hydrazonoyl chloride 1 with ketene N,S-acetal 2 and the active methinethioanilides 4 and 6 provide a new convenient site-selective synthetic strategy to functionalized bis-3,3_-(1,2,4-triazoles) 3 and bis-2,2_-(1,2,4-thiadiazoles) 5 and 7.1. Introduction.
In continuation of our research in the chemistry of nitrilimines and their precursors (1–5) and our recent study of the reaction of hydrazonoyl halides with acyclic ketene aminals (6), it was thought worthwhile to study the reactions of the bis-hydrazonoyl chloride 1 with ketene N, S-acetal 2 and the active methinethioanilides 4 and 6 which have not been reported hitherto (Scheme 1) to shed light on their site selectivity and to explore their utility in the synthesis of the title ring systems.
As outlined below, the studied reactions proved to be site-selective and appear to develop a new convenient synthetic strategy to functionalized n, n-bis(azoles) namely 3,3-bis(1,2,4-triazoles) 3 and 2,2-bis(1,2,4-thiadiazoles) 5 and 7 (Schemes 1 and 2).
Keywords: Ketene N; S-acetal; Hydrazonoyl chlorides; Thioanilides; Heterocycles; Dithiocarbamates.

19. Bis-Enaminones as Precursors for Synthesis of Novel 3,4-Bis (Heteroaryl) Pyrazoles and 3,6-Bis-(Heteroaryl)-Pyrazolo[3,4-D]Pyridazines

Ahmad S. Shawali and Adel J. M. Haboub

Journal of Chemical Research, 341-345 (2011) IF: 0.55

Coupling of bis-enaminones with benzenediazonium chloride and 3-diazo-1,2,4-triazole proved to be convenient

routes for the synthesis of novel 3,4-bis(pyrazol-3-yl) pyrazoles and 3,6-bis(heteroaryl)pyrazolo[3,4-d] pyridazines which have not been reported previously. The structures of the products were elucidated on the basis of their spectral properties, elemental analyses and, wherever possible, by alternate synthesis.

Keywords: Hydrazonoyl halides; Heterocycles; Enaminones; Pyrazoles.

20. Role of Phosphoric Acid on the Corrosion Performance of Pb-1.7%Sb Grid of Lead-Acid Batteries

H.A. Abd El-Rahman, S.A. Salih and A. A. Mokhtar

Afinidad, (2011) *:* IF: 0.233

The corrosion behavior of a commercial Pb-1.7%Sb grid of lead-acid batteries under open circuit conditions in 5 M H_2SO_4 in the presence of phosphoric acid is studied by electrochemical impedance spectroscopy and cyclic voltammetry. Dependence of corrodibility of the alloy on H_3PO_4 concentration is weak up to 0.7M. After days of corrosion, the corrosion rate in the presence of H_3PO_4 is slightly higher than in its absence, due to retardation of the growth of an insulating $PbSO_4$ layer that acts as an effective diffusion barrier of the corrosive species. The electronic and diffusion properties of the passive layer formed in the presence of H_3PO_4 are substantially inferior. Cyclic voltammetry indicates a decrease in amounts of $PbSO_4$ and Sb_2O_3 formed in the presence of H_3PO_4 and with increasing its concentration. Also, the amount of PbO formed beneath the $PbSO_4$ layer increases with increasing H_3PO_4 concentration on the expense of the amount of $PbSO_4$.

Keywords: Lead-Antimony alloys; Lead-acid cell; Phosphoric acid; acid corrosion.

21. Utility of Ion-Associate Formation Reactions for the Spectrophotometric Determination of Sildenafil Citrate in Pure Form and in Virecta Tablets

Eman Y.Z. Frag, Gehad G. Mohamed and Hana M.S. Alelaiwi

Pharmaceutica Analytica Acta, 2-6 (2011)

A simple, rapid and sensitive extractive spectrophotometric method has been developed for the assay of sildenafil citrate (SILC) in pure and pharmaceutical formulations (Virecta tablets). This method is based on the formation of chloroform soluble ion-pair of SILC with bromothymol blue (BTB) and methylene chloride soluble ionpair of SILC with bromophenol blue (BPB) and eriochrome blue black R (EBBR) in borax buffer of pH 3 and volume 1mL for BTB while acetate buffer of pH 3 and volume 1mL for BPB and universal buffer of pH 2 and volume 1.5 mL for EBBR with absorption maximum at 415, 420 nm and 510 nm for BTB, BPB and EBBR reagents, respectively.

Reaction conditions were optimized to obtain the maximum colour intensity. The absorbance was found to increase linearly with the increase in SILC concentration, which was corroborated by the calculated correlation coefficient values (0.9909, 0.9901 and 0.9917 for BTB, BPB and EBBR reagents, respectively). The systems obeyed Beer's law over the concentration range of 1-40, 1-50 and 3-70 µg mL^{-1} for BTB, BPB and EBBR, respectively. Various analytical parameters have been evaluated and the results have been validated by statistical data. No interference was observed from common excipients present in pharmaceutical formulations.

Keywords: Virecta tablets; Extractive spectrophotometric; Determination; Ion-association complex.

22. Potentiometric Determination of KetotifenFumarate in Pharmaceutical Preparations and Urine using Carbon Paste and Pvcmembrane Selective Electrodes

Eman Y. Z. Frag, Gehad G. Mohamed, Mohamed M. Khalil and Mohammad M. A. Hwehy

International J. of Analytical Chemistry, (2011)

This study compares between unmodified carbon paste (CPE; the paste has no ion pair) and polyvinyl chloride (PVC) membrane selective electrodes that were used in potentiometric determination of ketotifenfumarate (KTF), where sodium tetraphenylborate (NaTPB) was used as titrant.

The performance characteristics of these sensors were evaluated according to IUPAC recommendations which reveal a fast, stable, and linear response for KTF over the concentration range of 10^{-7} to 10^{-2} mol L^{-1}.

The electrodes show Nernstian slope value of 52.51±0.20 and 51.51±0.25mV $decade^{-1}$ for CPE and PVC membrane electrodes at 30°C, respectively. The potential is nearly stable over the pH range 3.0–6.0 and 2.0–7.0 for CPE and PVC membrane electrodes, respectively.

Selectivity coefficient values towards different inorganic cations, sugars, and amino acids reflect high selectivity of the prepared electrodes. The electrodes responses at different temperatures were also studied, and long operational lifetime of 12 and 5 weeks for CPE and PVC membrane electrodes, respectively, were found. These are used for determination of ketotifenfumarate using potentiometric titration, calibration, and standard addition methods in pure samples, its pharmaceutical preparations (Zaditen tablets), and biological fluid (urine).

The direct potentiometric determination of KTF using the proposed sensors gave recoveries % of 98.97 ± 0.53 and 98.62 ± 0.74 with RSD 1.42 and 0.63% for CPE and PVC membrane selective electrodes, respectively. Validation of the method shows suitability of the proposed sensors for use in quality control assessment of KTF. The obtained results were in a good agreement with those obtained using the reported spectrophotometric method.

23. Effect of Some Organic, Inorganic and Natural Compounds on Removal of Biogenic Amine Using Spectrophotometric Method

Gehad Genidy Mohamed, Azza Kamal Abd El-Hameed, Abd El-Mohsen Mahmoud, Lara Abd El-Mohsen and Mahmoud Mahmoud Nezam El-Din

Acta Pharmaceutica Sciencia, 53: 295-307(2011)

A number of common foods contain appreciable levels of amines, such as serotonin, epinephrine, tyramine, tryptamine, histamine and dopamine. These compounds are referred to collectively as pressor amines because they act as potent vasoconstrictors and thereby elevate the blood pressure. So, this work has been carried out to investigate the conditions which lead to removal of the biogenic amines through the model system. Biogenic amines; histamine and tyramine, from some foods such as tomato, strawberry, banana and mango are removed in order to prevent their allergy effect. Histamine and tyramine have been affected by pyrogallol, catechol, starch, ascorbic and chlorogenic acids at different levels with different conditions. Some natural additives showed an effective effect on disappearance of histamine and tyramine.

Keywords: Biogenic amines; Histamine; Tyramine; TLC; Spectrophotometric method; HPLC.

Dept. of Mathematics

24. New Basins of Attraction of Two Recursive Sequences

Alla E. Hamza and A. M. Sayed

J. of Difference Equations and Applications, (2011)

IF: 0.951

In this paper, new basins of attraction of the unique equilibrium point $x = \alpha + I$ of the difference equations

$$x_{n+1} = \alpha + \frac{x_n}{x_n - 1}, \quad n = 0,1, \ldots$$

$$x_{n+1} = \alpha + \frac{x_n}{x_n - 1}, \quad n = 0,1, \ldots$$

are obtained. Here, α and the initial conditions $x21$ and x0 are negative numbers. By way of illustration, we give two examples with different values of α.

Keywords: Difference equations; Equilibrium point; Asymptotic stability; Basin of attraction.

25. Numerical Solution of Fractional Wave Equation using Crank-Nicholson Method

N. H. Sweilam and A. M. Nagy

World Applied Sciences Journal,(13) 71-75 (2011)

In this paper, Crank-Nicholson method for solving fractional wave equation is considered. The stability and consistency of the method are discussed by means of Greschgorin theorem and using the stability matrix analysis. Numerical solutions of some wave fractional partial differential equation models are presented. The results obtained are compared to exact solutions.

Keywords: Crank-Nicholson method; fractional wave equation; stability condition; stability matrix analysis; Greschgorin theorem.

Dept. of Physics

26. Single Spin Asymmetries in Charged Pion Production from Semi-Inclusive Deep Inelastic Scattering on A Transversely Polarized 3He Target At Q^2=1.4?2.7 Gev^2

X. Qian, K. Allada, C. Dutta, J. Huang, J. Katich, et al.

Phys. Rev. Lett., (2011) IF: 7.622

We report the first measurement of target single spin asymmetries in the semi-inclusive 3He (e, $e'\pi^{\pm}$) X reaction on a transversely polarized target. The experiment, conducted at Jefferson Lab using a 5.9 GeV electron beam, covers a range of 0:16<x<0:35 with 1:4<Q^2 < 2:7 GeV^2. The Collins and Sivers moments were extracted from the azimuthal angular dependence of the measured asymmetries. The $\pi^{\pm}$ Collins moments for ^{3}He are consistent with zero, except for the $\pi^{\pm}$ moment at x = 0:35, which deviates from zero by 2:3σ While the Sivers moments are consistent with zero, the π^{+} Sivers moments favor negative values. The neutron results were extracted using the nucleon effective polarization and measured cross section ratios of proton to ^{3}He, and are largely consistent with the predictions of phenomenological fits and quark model calculations.

27. Probing the High Momentum Component of the Deuteron at High Q^2

W. U. Boeglin, L. Coman, P. Ambrozewicz, K. Aniol, et al.

PHYS. REV. LETT., (2011) IF: 7.622

The ^{2}H (e, $e'p$) n cross section at a momentum transfer of 3:5 $(GeV/c)^2$ was measured over a kinematical range that made it possible to study this reaction for a set of fixed missing momenta as a function of the neutron recoil angle θ_{nq} and to extract missing momentum distributions for fixed values of θ_{nq} up to 0:55 GeV=c. In the region of $35^{\circ} \leq \theta_{nq} \leq 45^{\circ}$ recent calculations, which predict that final-state interactions are small, agree reasonably well with the experimental data. Therefore, these experimental reduced cross sections provide direct access to the high momentum component of the deuteron momentum distribution in exclusive deuteron electrodisintegration.

28. Measurement of Energy Flow at Large Pseudorapidities in Pp Collisions at $\sqrt{s}$ = 0.9 and 7 TeV

S. Chatrchyan

Journal of High Energy Physics, 84 (5): (2011) IF: 6.049

The energy flow, dE/dη, is studied at large pseudorapidities in proton-proton collisions at the LHC, for centre-of-mass energies of 0.9 and 7 TeV. The measurements are made in the pseudorapidity range 3.15 < |η| < 4.9, for both minimum

bias events and events with at least two high-momentum jets, using the CMS detector. The data are compared to various pp Monte Carlo event generators whose theoretical models and input parameter values are sensitive to the energy-flow measurements. Inclusion of multiple-parton interactions in the Monte Carlo event generators is found to improve the description of the energy-flow measurements.

29. Polarization Observables in Deuteron Photodisintegration Below 360 Mev

J. Glister, G. Ron, B.W. Lee, R. Gilman, A.J. Sarty, S. et al.

Phys Lett B,: 194-198 (2011) IF: 5.255

High precision measurements of induced and transferred recoil proton polarization in d ($\acute{Y}, \acute{P}$) have been performed for photon energies of 277–357 MeV and θ_{cm} = 20°–120°. The measurements were motivated by a longstanding discrepancy between meson–baryon model calculations and data at higher energies.

At the low energies of this experiment, theory continues to fail to reproduce the data, indicating that either something is missing in the calculations and/or there is a problem with the accuracy of the nucleon– nucleon potential being used.

Keywords: Deuteron photodisintegration; Polarization; Meson–baryon model.

30. Nucleus-Nucleus Total Reaction Cross Sections and the Nuclear Interaction Radius

Badawy Abu-Ibrahim

Phys Rev C, 83, 044615: (2011) IF: 3.416

We study the nucleus-nucleus total reaction cross sections for stable nuclei, in the energy region from 30AMeV to about 1A GeV, and find them to be in proportion to

$$(\sqrt{\sigma^{tot}_{pp}Z_1^{2/3} + \sigma^{tot}_{pp}N_1^{2/3}} + \sqrt{\sigma^{tot}_{pp}Z_2^{2/3} + \sigma^{tot}_{pp}N_2^{2/3}})^2$$

in the mass range 8 to 100. Also, we find a parameter-free relation that enables us to predict a total reaction cross section for any nucleus-nucleus within 10% uncertainty at most, using the experimental value of the total reaction cross section of a given nucleus-nucleus.

The power of the relation is demonstrated by several examples. The energy dependence of the nuclear interaction radius is deduced; it is found to be almost constant in the energy range from about 200A MeV to about 1A GeV; in this energy range and for nuclei with $N = Z$, $R_1(A) = (1.14 \pm 0.02)A^{1/3}$ fm.

31. Proton-Nucleus Total Reaction Cross Sections in the Optical Limit Glauber Theory

Iida, K., Oyamatsu, K., Abu-Ibrahim, B. and Kohama, A.

Prog Theor Phys, 126 (6): 1091-1100 (2011) IF: 2.553

We calculate the proton-nucleus total reaction cross sections at different energies of incident protons within the optical limit approximation of the Glauber theory. The isospin effect has been taken into account. The nucleon distribution is obtained in the framework of macroscopic nuclear models in a way depending on the equation of state of uniform nuclear matter near the saturation density. We find that at an energy of order 40 MeV, the reaction cross section calculated for neutron-rich isotopes significantly increases as the parameter L characterizing the density dependence of the symmetry energy increases, while at energies of order 300 and 800 MeV, it is almost independent of L.

This is a feature of the optical limit Glauber theory in which an exponential dependence of the reaction cross section on the neutron skin thickness remains when the total proton-neutron cross section is small enough.

32. Radiative Plasma Parameters for Several Levels of Cu I

A.I. Refaie

International Journal of Pure and Applied Physics, 7 (3): 209-218 (2011)

Energy levels, spontaneous radiative decay rates and electron impact collision strengths are calculated for Cu I with the Relativistic Dirac-Fock (RDF). method.

Collision strengths are calculated at the incident energies 7, 8, 9, 10, 11 and 30 eV by using the plane wave Born approximation. Electron impact excitation and de-excitation rate coefficients have been evaluated for 15 excited atomic states for Cu I at different plasma temperatures KT_e. The electron densities N_e corresponding to KT_e have also been calculated from the experimental measurements.

These coefficients have been determined at an incident electron excitation temperature in the range between 1.07 to 2.29 eV and the corresponding electron densities varying from 0.95 to 3.1 $\times 10^{16}$ cm^{-3}.The population densities have also been calculated at the considered KT_e and the corresponding N_e.

The calculations have been performed using the coupled rate simultaneous equation where the quadrupole transition has been introduced in the calculations in addition to the dipole transition. A good fitting has been obtained between the present result and available ones in literatures.

Keywords: Radiative transitions; Collision strength; Cu I.

33. Electron Impact Collision Strengths for Fe Xvi

A.I. Refaie and A.A. Farrag

International Review of Physics (IREPHY), 5 (6): 358-364 (2011)

The energy levels and electron impact collision strengths have been calculated for N*a*- like irron. The MCDFGME package has been used in generating the relativistic wave functions and in calculating the energy levels and the plane wave Born (PWB) cross sections for the impact excitation.

The energies of the lowest 21 levels of ($1s^2 2s^2 2p^6$) 3s, 3p, 3d, 4s, 4p, 4d, 4f, Ss, Sp, Sd, Sf, and Sg configurations are tabulated and the electron impact excitation collision strengths have been calculated among the considered 21 levels for electron energies K = S 0,100 and 200 Rydbergs. A comparison has been performed between the present

calculations and the available data in literature showing a good agreement.
Keywords: Electron impact excitation; Collision strength.

Dept. of Zoology

34. Bioassay of Two Pesticides on Bulinus Truncatus Snails With Emphasis on Some Biological and Histological Parameters

Wafaa S. Hasheesh and Ragaa T. Mohamed

Pesticide Biochemistry and Physiology, 100: 1-6 (2011)
IF: 1.503

The present work was carried out to evaluate the molluscicidal activity of two pesticides (Chlorpyrifos and Profenophos) against Bulinustruncatus snails. Also, the effect of these pesticides on the survival rate, egg production, growth rate and hermaphrodite gland of B. truncatus snails was carried out. In addition, the effect of these pesticides on the infection of B. truncatus with Schistosomahaematobium as well as on free living stages of S. haematobium (miracidia and cercariae) was studied. Exposure of B. truncatus to these pesticides reduced ($P < 0.001$) their survival rate, egg production and growth rate. This was confirmed by histological examination that showed a severe damage in the hermaphrodite gland cells of treated snails. The results obtained also showed that infection of B. truncatus with S. haematobium miracidia was greatly reduced by exposure to LC_{25} of these pesticides and also, the total number of shedding cercariae per snail and the period of cercarial shedding were decreased. The mortality rates of miracidia and cercariae were elevated gradually by increasing the concentration of the testes pesticides. It is concluded that Chlorpyrifos and Profenophos may be helpful in schistosomiasis control as they interfere with the snails' biology and their production of the infective stage (cercariae).
Keywords: Bulinus truncatus; Schistosoma haematobium miracidia and cercariae; Chlorpyrifos and Profenophos pesticides.

35. Effect of Different Stocking Densities on Hematological and Biochemical Parameters of Silver Carp, *Hypophthalmichthys Molitrix* Fingerlings

Salah M. Kamal and Wael A. Omar

Life Science Journal, 8 (4): 580-586 (2011) IF: 0.158

The impact of rearing silver carp, *Hypophthalmichthys molitrix* to the fingerling stage under three different stocking densities was investigated depending on the hematological and biochemical parameters as indicators of general health state of fish. The present study was carried out for 12 weeks to determine the most optimum stocking density for rearing silver carp. Fish were cultured in duplicates of cement ponds under stocking densities of 3, 6 and 9 fish/m^3 as T_1, T_2 and T_3 respectively. The ponds were fertilized weekly with organic fertilizer at rate of 50 g/m^3. Results of hematological analyses showed significant increase in T_1 for values of RBCs count, hemoglobin, hematocrit and mean corpuscle volume (MCV) while the lowest values were recorded in T3 for all these parameters. Changing the stocking density had non-significant effect on values of WBCs count, mean corpuscle hemoglobin (MCH) and mean corpuscle hemoglobin concentration (MCHC). Plasma biochemical analyses showed that increasing the stocking density caused significant increase in values of plasma glucose, total protein, albumin (A) and globulin (G) associated with significant decrease in values of cholesterol and triglycerides.The highest values of A/G ratio were recorded non-significantly in T_1 and T_3 while the lowest values were recorded significantly in T_2. Meanwhile T_1 showed a significant decrease in values of alkaline phosphatase (ALP), aspartate aminotransferase (AST), alanine aminotransferase (ALT) and uric acid. Values of creatinine showed non-significant increase among treatments. The findings suggest that the most optimum condition was detected in T_1 (3 fish/m^3) where most of the studied hematological and biochemical parameters were essentially normal and within the range consistent with good fish health.
Keywords: Silver carp; Hypophthalmichthys molitrix; Stocking density; Hematology; Biochemical parameters.

36. Ecological Monitoring of Mediterranean *Solea Aegyptiaca* Transplanted Into Lake Qaroun, Egypt

Khalid H. Zaghloul, Wael A. Omar, Amr A. Abdel-Khalek and S. Abo-Hegab

Australian Journal of Basic and Applied Sciences, 5 (7): 851-862 (2011)

Solea aegyptiaca was successfully transplanted into Lake Qaroun from the Mediterranean sea to improve the yield of its original strain in the lake and this process continued at different time intervals. Salinity of the lake increases during summer season due to high evaporation rates and changes in the inflow regime. The deterioration of water resources in the lake during the summer season is considered as a serious threat to the aquatic life. Therefore, this study was carried out during summer and beginning of autumn seasons where fish are exposed to severe alterations in the aquatic environment. Water quality indices of Lake Qaroun showed significant differences and the studied water heavy metals (Cu^{+2}, Zn^{+2}, Mn^{+2} and Pb^{+2}) were in accordance with values of residual heavy metals in tissues, the bioaccumulation process showed also specificity to fish tissues. Histological sections in gills, liver and kidneys of S. aegyptiaca collected during June showed much more improvement than samples collected during other months. Histopathological alterations and clear damages were obvious in samples collected during late summer and beginning of autumn (July, August and September) generally in accordance with the results of residual heavy metals in water and tissues. Moreover, the results revealed significant differences in values of growth indices, meat quality, blood parameters and plasma constituents of S. aegyptiaca collected from Lake Qaroun. Generally, the values were deteriorating during late summer and showed much more improvement during June and September.
Keywords: Soleaaegyptiaca; Lake Qaroun; Fish transplantation; Heavy metals; Bioaccumulation.

37. Impact of Methanol Extract of *Adenium Obesum* Plant on some Biochemical and Biological Parameters of *Bulinus Truncatus* Snails

Fayez A. Bakry, Ragaa T. Mohamed and Wafaa S. Hasheesh

Journal of Evolutionary Biology Research, 3 (6): 87-94 (2011)

The effect of methanol extract of *Adenium obesum* on reproduction, hatchability of eggs of *Bulinus truncatus* snails was studied. In addition, total protein contents and the activities of the transaminases (AST and ALT) and phosphatases (ACP and AKP) enzymes in hemolymph and tissues of snails treated with tested plant were determined. The present results showed that the molluscicidal activity of methanol extract of A. obesum plant was increased as the temperature was increase and the pH 7 was most promising results of the plants tested as molluscicides. It was found that, the effect of continuous exposure (4 week) to LC_{25} of the tested plant completely inhibited egg production after 2 weeks while LC_{10} of the tested plant stopped snails' egg lying after 3 weeks. All tested concentrations induced marked increases in the percentage of abnormal laid eggs compared to controls. The exposure of B. truncatus snails to such plant extract had led to a significant reduction in egg laying production and hatchability of eggs. The activities of the aminotransaminases [aspartate aminotransferase (AST) and alanine aminotransferase (ALT)], acid phosphatase and alkaline phosphatase enzymes increased while protein content showed a decrease in hemolymph and the digestive gland-gonad (DGG) complex of the experimental snails than that of control snails. It was concluded that the application of sublethal concentration of methanol extracts of A. obesum may be helpful in snail control as it interferes with the snails' biochemistry and physiology.

Keywords: *Bulinus truncatus* snails; *Adenium obesum*; Plant mollucicides; Transaminases; Phosphatases enzymes.

Faculty of Agriculture

Dept. of Agricultural Biochemistry Section

38. Hepatoprotective Effects of Vitamin E/Selenium Against Malathion-Induced Injuries on the Antioxidant Status Andapoptosis-Related Gene Expression in Rats

Mourad A. M. Aboul-Soud, Abdulaziz M. Al-Othman, Gaber E. El-Desoky,Zeid A. Al-Othman, Kareem Yusuf, Javed Ahmad and Abdulaziz A. Al-Khedhairy

Journal of Toxicological Sciences, 36, (3): 285-296 (2011) IF: 1.893

The present study is undertaken to evaluate the protective effect of vitamin E (α-tocopherol) and selenium (Se) against malathion (MTN)-induced oxidative stress and hepatic injuries in experimental rats. Male rats were randomly divided into eight groups comprised of 10 rats each. The 1st group served as a negative control (C_N), whereas the 2nd was supplemented with a combination of α-tocopherol (100 mg kg^{-1} body weight, b.w.)/Se (0.1 mg kg^{-1} bw). The 3rd, 4th and 5th groups were respectively administered with increasing doses of MTN equivalent to $_{1/50}$ LD_{50} ($M_{1/50}$), $_{1/25}$ LD_{50} ($M_{1/25}$) and $_{1/10}$ LD_{50} ($M_{1/10}$), respectively. The 6th, 7th and 8th groups were administered the same doses of MTN as in the 3rd, 4th and 5th groups with a concomitant supplementation with α-tocopherol/Se. Subchronic exposure of rats to MTN for 45 days resulted in statistical dose-dependent decrease in acetylcholinestrase (AChE) activity, increase in oxidative stress marker lipid peroxidation (LPO) and reduction in reduced glutathione (GSH) level. Moreover, the levels of glutathione persoxidase (GPx), superoxide dismutase (SOD) and catalase (CAT) were significantly decline in response to MTN exposure in a dose-dependent fashion. Furthermore, histopathological studies of liver in the rats which received MTN exhibited, moderate to severe degenerative and necrotic changes in the hepatocytes. Notably, the administration of α-tocopherol/Se protected the liver of rats exposed to MTN as evidenced by the appearance of normal histological structures, significant attenuation of the decline in all antioxidant enzymes tested (i.e. GPx, SOD and CAT), significant recovery in the GSH level and statistical reduction in LPO, as compared to the experimental rat.

The effect of α-tocopherol/Se supplementation on transcriptional activity of three key stress and apoptosis-Related genes (i.e., Tp53, CASP3 and CASP9), in response to MTN exposure in rats, was investigated.

Results revealed a significant concentration-dependent up-regulation in the level of expression for the three genes examined, in response to MTN exposure, compared with the control. Interestingly, the supplementation of MTN-treated rats with α-tocopherol/ Se modulates the observed significant dose-dependent up-regulation in the level of expression for three selected genes, indicative of an interfering role in the signaling transduction process of MTN-mediated poisoning. Taken together, these data suggest that the administration of α-tocopherol/Se may partially protect against MTN-induced hepatic oxidative stress and injuries.

Keywords: Malathion; Antioxidant enzymes; Oxidative damage; α-Tocopherol; Selenium; Apoptosis-related genes; Real-time PCR.

39. Mosquito Vectors Survey in the Al-Ahsaa District of Eastern Saudi Arabia

Ashraf M. Ahmed, Essam A. Shaalan, Mourad A. M. Aboul-Soud, Frédéric Tripet and Abdulaziz A.Al Khedhairy

Journal of Insect Science, 11: (2011) IF: 1.014

The present study aimed to identify the mosquito vectors distributed throughout AL-Ahsaa district situated in the eastern region of Saudi Arabia. Mosquito larvae were collected seasonally for one year (October 2009 to September 2010) from different breeding sites in seven rural areas utilizing long aquatic nets. Salinity and pH of these breeding sites were also measured seasonally.

The survey revealed the presence of five mosquito species, *Aedes caspius* Pallas (Diptera: Culicidae),

Anopheles multicolor Cambouliu, *Culex perexiguus* Theobald, *Culex pipiens* L., and *Culex pusillus* Macquart, representing three genera; four of them (*Ae. caspius, An. multicolor, Cx. perexiguus, and Cx. pipiens*) are important vectors of diseases. *Ae. caspius* is the most common vector followed by *Cx. pipiens and then Cx. perexiguus*. Mosquitoes in AL-Ahsaa are prevalent in both winter and spring seasons, rarely encountered in summer, and are found in moderation during the autumn months. These results are compared with results of other regions in the Kingdom of Saudi Arabia.

Keywords: Aedescaspius; Anopheles multicolor; Culexperexiguus; Culexpipiens; Culexpusillus; Mosquito larvae; Seasonal abundance.

40. Evaluation of the Anti-Inflammatory and Anti-Arthritic Effects of some Plant Extracts

N. M. Abdel-Moein, E.A. Abdel-Moniem, D.A. Mohamed and E.A. Hanfy

Grasas Y. Aceites, 62 (4): 365-374 (2011) IF: 0.748

El objetivo de la presente investigación ha sido estudiar La actividad anti-inflamatoria de flores de albahaca dulces, hojas de eucalipto, hojas de apio y salvia. Se ha estudiado el efecto sobre la inflamación aguda de extractos metanólicos de apio, salvia y eucalipto y sobre la artritis inducida en ratas. Se han evaluado los efectos de los extractos metanólicos de apio, salvia y eucalipto sobre los parámetros bioquímicos determinados en la artritis inducida y su seguridad en las funciones del hígado y el riñón. Se han estudiado los ácidos grasos, hidrocarburos y fitoesteroles de todas las plantas objeto De la investigación. Los resultados han revelado una actividad antiinflamatoria de los extractos de las plantas estudiadas con diferentes grados entre un 47 y un 62%. Los extractos metanólico de apio, de salvia y de eucalipto han mostrado una mejoría de los niveles de malondialdehído en plasma, factor de necrosis tumoral α y de ácido úrico, también se muestra una mejoría significativa en el peso corporal y en la ingesta total de alimentos. Los extractos metanólicos de apio, de salvia y de eucalipto han mostrado una total seguridad sobre la función hepática y renal. Los ácidos α-linolénico y linoleico estaban presentes en todas las plantas estudiadas así como los esteroles Estigmasterol y β-sitosterol.

Keywords: Anti-arthritic; Anti-inflammatory; Celery; Eucalyptus; Sage; Sweet basil.

41. The Gene Expression of Caspasses is Up-Regulated During the Signaling Response of Aedes Caspius Against Larvicidal Bacteria

Abdulaziz A. Al-Roba, Mourad A. M. Aboul-Soud, Ashraf M. Ahmed and Abdulaziz A. Al-Khedhairy

African Journal of Biotechnologyces, 10: 225-233 (2011) IF: 0.573

Our current knowledge on the key molecular mechanisms and cognate signaling transduction, by the dendotoxin-mediated mosquitoticidal effects, associated with exposure to Bacillus thuringiensis (Bt) and Bacillus sphaericus (Bs), is limited. Moreover, this observed mosquitocidal activity that is related to program cell death is largely unknown. Therefore, in an attempt to answer this question, the current study was primarily sought to provide evidence as to the molecular mechanism of mortality in Bt/Bs infected Aedescaspius mosquito larvae. Thus, the impact of Bt and Bs treatment on the expression of some selected apoptosis-related caspase genes in A. caspius mosquito larvae was investigated, via quantitative reverse-transcriptase PCR (qRT-PCR). Mosquito larvae were collected from natural water niches. Larvae were grown to adult stage and were subsequently identified as A. caspius at Natural History Museum, London, UK. Remarkably, light and transmission electron microscopy studies of the midgut epithelial tissues revealed that both Bt and Bs brought about significant histopathological effects. Moreover, this treatment resulted in severe destruction at the sub-cellular organelle level for the mitochondria. Interestingly, qRT-PCR studies revealed that the treatment of A. caspius mosquito larvae with both Bt and Bs caused a significant up-regulation in the transcription level of all caspase genes under study, namely: CASPS17, CASPS18, CASPS19, CASPS20 and CASPS21. The results are discussed in the light of our current understanding of the signaling transduction pathway of apoptosis in insects and mosquitoes and the putative role of caspases gene expression in response to the treatment of A. caspius mosquito larvae with larvicidal bacteria.

Keywords: Aedescaspius; Bacillus thuringenesis; Bacillus sphaericus; Apoptosis; Caspase; Larvicidal bacteria.

42. Protection of α-Tocopherol and Selenium Against Acute Effects of Malathion on Liver and Kidney of Rats.

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African Journal of Pharmacy and Pharmacology, 5 (10): 1263-1271 (2011) IF: 0.5

Protection from effects of the organophosphate insecticide, malathion on the liver and kidney of male Wistar albino rats by α-tocopherol and selenium was investigated. Significantly greater ($P<0.01$) mean concentrations of malondialdehyde (MDA) and lesser concentrations ($P<0.01$) of reduced glutathione (GSH) and tissues total proteins were observed in liver and kidney of rats exposed to malathion. Activities of the antioxidant enzymes, superoxide dismutase (SOD), catalase (CAT) and glutathione peroxidase (GPx) were less in livers and kidneys of rats exposed to malathion. These effects caused by exposure to malathion were reversed when rats were subsequently treated orally with 100 mg/kg b.w. tocopherol and/or 0.1 mg selenium/kg b.w. Both tocopherol and selenium (Se) reduced the concentration of MDA, and increased concentration of

total proteins and reduced glutathione and mean activities of SOD, CAT and GPx, to levels that were not significantly different from unexposed, control rats, previous to exposure to malathion.
Selenium was significantly (P<0.05) more effective at recovering activities of SOD and GPx in liver and kidney of malathion treated rats than was α - tocopherol, whereas, α-tocopherol was significantly (P<0.05) more effective at recovering activities of CAT in liver and kidney than was Se. Both α -tocopherol and Se were effective in alleviating oxidative damage in liver and kidney of rats caused by malathion.
Keywords: Oxidative stress; Antioxidant enzymes; Lipid peroxidation; Vitamin E; Selenium.

43. Biochemical and Histopathological Effects of Administrationvarious Levels of Pomposia (*Syzygium Cumini*) Fruit Juice as Natural Antioxidant on Rat Health

Ayman M. El-Anany and Rehab F. M. Ali

J. Food Sci Technol, 13197- 11-37: 2-6 (2011 IF: 0.477

The aim of the current investigation was to evaluate the effects of administration various levels (400, 800 and 1,200 ppm) of pomposia extracts as natural antioxidant in comparison with BHT as synthetic antioxidant on some biochemical activities and histopathological examination of rats.
Some of biochemical tests i.e. Alkaline phosphatase, transaminases] Aspartate transferase (AST) and alanine transferase (ALT) [,bilirubin, urea and uric acid were conducted. Histopathological examinations were carried out on the liver and kidney tissue of rats administrated tested substances.
The biochemical results indicated that the administration of polyphenolic compounds present in pomposia juice did not cause any significant (p≥0.05) changes in the biochemical parameters whereas the administration of BHT at 200 ppm caused significant (p≥0.05) increase in the activities of enzymes relevant to the functions of liver and kidney.
Microscopically examinations of liver and kidney of rat administered various levels of pomposia juice had the same character as that of control rats (this means that the polyphenolic compounds present in pomposia juice did not cause any adverse affect in liver and kidney), in contrast the administration of 200 ppm of BHT caused marked pathological changes in liver and kidney of rats. The results of the current investigation suggest using pomposia juice as safe food grade substance.
Keywords: Pomposia fruits (Syzygium Cumini); Sunflower oil; Liver and kidney function tests; Microscopic examination.

44. Efficiency of Milk Species Identification by -Capillary Electrophoresis (Ce), Fast Protein Liquid -Chromatography (Fplc) and Sodium Dodecyl Sulfate Polyacrylamide Gel Electrophoresis (Sds-Page)

Abd El-Moneim M.R. Afify

Advances in Food Sciences, (2011)

The main objective of this investigation is to differentiate between different milk species (donkey, horse, sheep, goat, cow, buffalo; camel and human milk) by protein profiles using 3 different methods of protein identification: FPLC, CE and SDS-PAGE. SDS-PAGE proved the presence of protein profiles: lactoferrin (84 KDa), serum albumin (67 KDa), secretory immunoglobulin A (sIgA; heavy chain (HC): 30 KDa and light chain (LC): 27 KDa), lysozyme,15 KDa) and ?-lactalbumin (14 KDa) in human milk. The relative percentages of the above proteins were 13.00±2.7, 7.40±0.36, 3.6±0.153, 4.33±1.609, 1.5± 0.20 and 22.36±2.61, respectively. CE showed that the main proteins in human milk were α -lactalbumin, lysozyme, lactoferrin as well as casein subunits (αs1, β-casein, κ-casein) beside immumoglobulin fractions. CE technique had the advantage to identify 3 unknown protein fractions as F1, F2 and F3 in camel milk, identified between bovine serum albumin and lactoferrin and approved by SDS-PAGE. FPLC for protein profiles indicated that the major whey proteins identified in different milk species were α-lactalbumin, serum albumin, β-casein and lysozyme. The results of the 3 methods (FPLC, CE and SDS-PAGE) should be taken into consideration during milk species identification depending on the main purpose of the investigation.
Keywords: β-lactoglobulin and α-lactalbumin; Human; Cow.

45. Effect of Potato Flakes as Fat Replacer on the Quality Attributes of Low-Fat Beef Patties

Rehab F. M. Ali, A. M. El-Anany and A. M. Gaafar

Advance Journal of Food Science and Technology, 3 (3): 173-180 (2011)

The objective of this study was to evaluate the chemical, physical and sensory characteristics of lowfat beef patties formulated by replacing different levels (25, 50, 75 and 100%) of fat with hydrated potato flakes. Uncooked and cooked beef patties formulated with potato flakes had higher (p≤0.05) moisture, carbohydrate and ash content and lower (p≤0.05) fat contents than that of the control. Caloric values of beef patties was lower (p≤0.05) than control by between 7 and 57%, cholesterol content of patties decreased as level of potato flakes increased. Cooking yield, Water Holding Capacity (WHC) as well as moisture and fat retention were increased significantly (p≤0.05) with increasing the levels of potato flakes. Overall acceptability values for beef patties formulated with potato flakes were higher (p≤0.05) than the control samples. Beef patties formulated with 75% potato flakes

as fat replacer had significantly ($p \leq 0.05$) the highest score of overall acceptability. Hydrated potato flack could be an excellent replacement for fat in beef patties maintaining acceptable and desirable sensory properties.
Keywords: Beef burger; Caloric value; Cholesterol; Colour; Flakes; Sensory.

46. Antioxidative Effects of Pomposia Extract, on Lipid Oxidation and Quality of Ground Beef During Refrigerated Storage

Ali, R.F.M.

American Journal of Food Technology, 6 (1): 52-62 (2011)

The aim of the current investigation was to investigate the effect of pomposia juice and extracts compared to BHT as synthetic antioxidant on lipid oxidation and quality of ground beef during refrigerated storage at 0± 0.5°C for up to 10 days. Two varieties of pomposia were evaluated the first one is Rajamun, the second one is known as Kaatha. In the present investigation based on the antioxidant and free radical scavenging activities results, the highest antioxidant and free radical scavenging activities was shown by the crude juice of Kaatha, therefore 0.5, 0.75 and 1% of either crude juice of Kaatha and BHT were added to minced meat to evaluate it's effects on the lipid peroxidation of ground beef during storage process. TBA test as quality assurance test was conducted at the beginning of the experiment and after 2, 4, 6, 8 and 10 days of storage experiment. The results of this study showed that the crude juice and ethanolic extract of Kaatha variety had significantly ($p<0.05$) the highest levels of total polyphenols and antioxidant activity. The most effective radical scavenging activity was showed by crude juice of Kaatha was 85.22% while the least effective was the aqueous extract of Rajamun. Control samples had significantly ($p = 0.05$) the highest TBA value was 1.98 mg malondialdehyde (MDA) kg-1, while beef samples mixed with 1% of pomposia juice had significantly ($p = 0.05$) the lowest TBA values was 0.79 mg (MDA) kg-1 at the end of the storage period. All samples showed good overall acceptability; in all cases the values were higher than 6. However samples mixed with 0.75 and 1.00 of crude juice of Kaatha had significantly ($p = 0.05$) the highest scores of over all acceptability were 8.59 and 8.48, respectively.
The obtained results indicated that polyphenolic compounds present in pomposia juice and ethanolic extract of pomposia (Kaatha) had high antioxidative effect in reducing the formation of hydroperoxides during refrigerated storage, in the same time the results of sensory evaluation suggests that the crude juice of pomposia (Kaatha) can be successfully used as natural antioxidant and colourant for meat products.
Keywords: Minced meet; Natural antioxidant; Oxidation; Polyphenols; Refrigerated storage; Sensory evaluation.

Dept. of Agricultural Botany

47. Influence of ArbuscularMycorrhizae on Yield, Nutrients, Organic Solutes, and Antioxidant Enzymes of Two Wheat Cultivars Under Salt Stress

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Journal of Plant Nutrition and Soil Science, 174: 283-291(2011) IF: 1.969

The efficacy of arbuscularmycorrhizae (AM) on nutrients, organic solutes, and antioxidant enzymes of wheat under salt stress was investigated and related to root colonization and plant productivity. The mycorrhizal inoculation increased N, P, K, Ca, and Mg uptake, soluble sugars, free amino acids, and proline accumulation, as well as peroxidase and catalase activities under saline conditions as compared to nonmycorrhizal plants. On the other hand, Na concentration was lower in mycorrhizal than in nonmycorrhizal plants grown under saline conditions. Arbuscularmycorrhizae protected wheat against the detrimental effects of salinity and stimulated its productivity. Hence, mycorrhizal colonization can play a vital role in the mitigation of the adverse effects of salinity by improving the wheat osmotic adjustment response, enhancing its defense system, and alleviating oxidative damage to cells. Arbuscularmycorrhizae are able to alter plant physiology in a way that empowers the plant to grow more efficiently on salt-affected lands.
Keywords: Arbuscular mycorrhiza; Nutrient acquisition; Organic solutes; Salinity; Productivity.

48. Re-Sequencing of *Vrs1* and *Int-C* Loci Shows that *Labile* Barleys (*Hordeum VulgareConvar. Labile*) Have A Six-Rowed Genetic Background

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Genet Resour Crop Ev, 0-0 (2011) IF: 1.538

Labile-barleys (*Hordeum vulgare* L. convar. labile (Schiem.) Mansf.) Are found in the highlands of Ethiopia, Eretria and North India-Pakistan districts. They represent a distinct spike form showing row-type alterations even within individual spikes of the same genotypes. Variation at the six-rowed spike 1 (*vrs1*) locus is sufficient to control barley lateral spikelet fertility, which is also modified by alleles at the intermedium-c (*int-c*) locus. This study aimed at re-sequencing these two loci to investigate whether labile-barleys have a two-rowed genetic background, resulting in increased lateral spikelet fertility, or show reduced lateral fertility if they possess a six-rowed genetic background. The Vrs1 re-sequencing results of 221 supposedly labile-barley accessions from Ethiopia revealed 13 accessions with two novel vrs1.a1 haplotypes. Following the current nomenclature of vrs1 haplotypes, the new haplotypes were named as haplotypes 66 and 67. Re-sequencing at the int-c locus

showed that 118 of the labile-barleys possessed the previously described Int-c.a allele but only one accession was found having a novel Int-c.a haplotype in the homozygous state (termed Int-c.a haplotype1; Hap_1). Interestingly, 101 labile-barleys carried the Int-c.a allele and Int-c.a haplotype1 simultaneously, suggesting maintained heterozygosity or recent gene duplication at this locus. Only one accession had a two-rowed haplotype (Vrs1.b3, int-c.b1) and one accession possessed the Vrs1.t (deficiens) and Int-c.a alleles (six-rowed). These two accessions were considered as misclassified labile genotypes and not included in further analysis. Thus, these results confirmed that all of the 219 labile accessions studied in this work showed six-rowed alleles at vrs1 but reduced lateral spikelet fertility. This reduction is most likely caused by the recessive labile (lab) locus which we are in the process to characterize further.

Keywords: Hordeum vulgare convar; Labile; Int-c; Labile-barleys; Lateral spikelet fertility; Novel haplotype; Vrs1.

49. Molecular Markers Associated with Salt Tolerance in Egyptian Wheats

Reda E. A. Moghaieb, Abdel-Hadi A. Abdel-Hadi and Neveen B. Talaat

African Journal of Biotechnology, 10 (79): 18092-18103 (2011) IF: 0.57

Salinity affects plant growth by the osmotic stress of the salt around the roots, as well as by toxicity caused by excessive accumulation of salt in leaves. In the present study, seven common (*Triticum aestivum*) and two durum (*T. turgidum ssp. Durum*) wheat genotypes were subjected to salt stress for 2 weeks. Salt stress decreased leaf osmotic potential in all cultivars. The difference in osmotic adjustment between the cultivars was correlated with the concentrations of minerals examined such as Na^+ and K^+. The salt tolerance in the T. aestivum cultivar Gemmiza 10 and in T. durum cultivars Sohag and BeniSweif was due to higher ability to maintain osmotic potential of the cells than the other cultivars by increase in osmoticum concentration under salt stress. The genetic variation and relationships among different wheat genotypes with different responses to salt stress were also investigated by RAPD and SSR analyses. 82 out of 118 RAPD markers detected were polymorphic (69.5%) and 42 out of 59 SSR alleles were polymorphic (71%), and can be considered as useful markers for the wheat cultivars tested. 18 random amplified polymorphic DNAs (RAPD) markers and 13 simple sequence repeats (SSR) markers generated were found to be genotype-specific. Seven markers distinguished the cultivar BeniSweif, six markers for the cultivar Sohag and two markers for the cultivar Gemmiza 10. These markers can be verified as being genetic markers associated with salt tolerance in the three wheat genotypes and help in marker-assisted selection breeding program.

Keywords: Osmotic adjustment; RAPD and SSR marker; Salt tolerance; Wheat genomes.

Dept. of Agricultural Zoology and Nematology

50. Pathogenicity of Meloidogyne Incognita on Pepper and Impact of Some Control Measures

H. H. Kesba

International Journal of Nematology, 21 (2): 203-209 (2011)

The growth response of pepper (*Capsicum annuum*) cv. Balady and M. incognita reproduction in relation to different levels of nematode inocula and the impact of some organic and inorganic materials (compost, neem, two commercial products, β-humex® and A-three® and nematicide, Nemathorin® 10%G) was determined under greenhouse conditions. By increasing the nematode density from 4000 and up to 16000 J_2/pot, significant reductions either in plant fresh or dry weights were detected with no significant differences among levels. The highest plant growth reduction was achieved with a nematode density of 8000 J_2/pot. Most inoculation levels reduced plant content of N and P with no correlation with increasing nematode density. An increase in plant content of K was obtained using 4000 J_2/pot. The highest nematode reproduction was achieved using 4000 J_2/pot. The nematode build-up decreased by increasing the nematode density. Compost and neem at the higher doses succeeded significantly in improving the plant fresh and dry weights. The most abundant significant increase of plant parameters was noticeable using the A-three® doses; moreover the higher dose achieved the most incremental increase. Nemathorin® and β-humex® (at all doses) had lesser values of plant parameters than the plant nematode control. There was a negative response in N content in all treatments except Nemathorin® and compost at higher doses. There were no significant differences among treatments in plant content of P except at the higher dose of A-three® which achieved a 26.7% increase in P levels. The least increase of K plant content was found in the A-three® treatments. Nemathorin® surpassed all treatments in reducing all nematode criteria followed by compost and A-three® as organic and inorganic materials.

Keywords: Control; *Meloidogyne incognita*; NPK organic and inorganic materials; Pathogenicity; Pepper.

Dept. of Animal Production

51. Effects of Thirty-Minute Mobile Phone Irradiation on Morphological and Physiological Parameters and Gene Expression in Pregnant Rats and Their Fetuses

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Afr J Biotechnol, 10 (26): 19670-19680 (2011) IF: 0.573

We investigated the potential effects of 30 min irradiation from a mobile telecommunication system. 60 Pregnant rats divided to three groups; the first serve as

the control (G1, n = 20), the second (G2, n = 20) and third (G3, n = 20) were exposed to electromagnetic fields (EMF) from 1st to 20th (G2) and from 7th to 16th (G3) day of gestation respectively. The implantation sites, corpora lutea, living, dead and reabsorbed fetuses were counted and recorded.

Liver of pregnant rats and their fetuses were used to isolate a total RNA for quantification of Msx1 and Cx43 genes. Our result shows that abortion and partial abortion rate increased in G2 (30 and 25%) and G3 (10 and 20%) compared to 5 and 0% in G1. The body weights and fetal body length of fetuses were decreased in treated groups. Skeletal system abnormalities included short and curved tails absent of 13th rib and wavy ribs and absent of caudal vertebrae were observed in G2 and G3 compared to G1. The lowest relative expression of Ms x 1 and Cx43 (0.6 and 0.2) were found in from exposed mothers. Slight difference was found in the expression level between the exposed mothers (G2 and G3) compared to the control group (G1). This study suggests that exposure to EM fields during pregnancy could alter some morphological and physiological parameters and gene expression in pregnant rats and their fetuses.

Keywords: Mobile signals; Pregnancy; Rats; Fetus; Physiological parameters; Reproduction; Skeletal system.

Dept. of Economic Entomology and Insecticides

52. Morphometry and Number of Spermatozoa in Drone Honeybees (Hymenoptera: Apidae) Reared Under Different Conditions

Mazeed, A. M.

Eur J. Entomol, 108 (4): 673-676 (2011) IF: 0.945

The effects of three factors operating during pre-emergence development period on some of the characteristics of drones were studied. Weight of newly emerged drones, length of forewing, length of tibia, length of femur, length and width of basitarsus and number of spermatozoa in drones from colonies in which the workers had access to drone brood (A), the size of brood cells differed (B) or the colony had a queen or was queenless (C), were determined.

For this purpose, 9 colonies were chosen at random from a test apiary and prepared so that each contained one empty Langstroth frame with six small sub-frames containing drone combs, three of which were used to test the effect of one level and the other three the other level of each factor.

The results showed that, colony status had a greater effect on the parameters measured than either the size of the brood cells or whether the workers had access to sealed brood cells. Most of the parameters were significantly different in C, whereas only a few in B and non in A were significantly different. The distance between discriminant scores in each experiment enhanced the previous results, as it was highest in C, followed by B and then A. Optimal drone characteristics were recorded for colonies in which the queens were induced to lay unfertilized eggs in newly built drone combs, and then removed and the drone brood reared in a queen less colony.

Keywords: Hymenoptera; Apidae; Drones; Drone brood; Morophometrical characters; Number of spermatozoa.

53. Quality and Quantity of Honeybee Queens as Affected by the Number and Distribution of Queen Cells Within Queen Rearing Colonies

Al-Fattah, M.A.A., Mazeed, A.M. and Al-Hady, N. A.

J APIC SCI, 55 (2): 31-43 (2011) IF: 0.489

The effect of the number of introduced queen cells (15, 24, 48, 66), cell bar level (upper, middle, lower) and queen cell position within a grafted frame (middle, peripheral) on the percentages of sealed queen cell and queen emergence, the development time, and the weight of newly emerged queens, were observed during the spring and summer seasons.The results indicated the percentage of sealed queen cells was affected by the number of introduced queen cells, but not by the level bar or position in the rearing frame, during the two seasons. The percentage of queen emergence in spring was significantly affected by the three factors, but in the summer - only by the number of queen cells. Also, both development time and weight of emerged queens were affected by the three factors. Queen quality, based on queen weight, was also investigated. In spring, only heavy queens (190-200 mg) appeared when 15 queen cells were introduced, but heavy queens appeared in low percentages when 24 or 48 cells were introduced, and heavy queens completely disappeared with the introduction of 66 queen cells. Queens emerged from cells on the middle rearing bars and the middle positions of each bar had a high frequency of heavy weight in comparison with those reared on the upper or lower bars and located at the peripheral of the bars.

Keywords: Queens; Weight; Development time; Percentage of emergence; Queen cell number; Location.

54. An Economically Modified Semi-Synthetic Diet for Mass Rearing the Egyptian Cotton Leaf Worm *Spodoptera Littolaris*

M.A. Sorour, O. Khamiss, A. S. Abd El-Wahab, M. A.K. El-Sheikh and S. Abul-Ela

Academic Journal of Entomology, 4 (3): 118-123 (2011)

This work was aimed to evaluate a simplified semi-synthetic diet based on combination of starch/agar for mass rearing of *Spodoptera littoralis*. Two modified semi-synthetic diets (A & B) proved successful in maintaining the culture of S. *littoralis* for five successive generations without apparent adverse effects throughout the insect stages. The mean values of tested biological parameters were determined on the reared insects fed on either of the modified diets. The results showed a higher larval weight, pupal weight, adult emergence, fertility and development index as compared to the agar-based standard diet of Shorey and Hale (1965). Whereas,

percentage pupation, survival, fecundity and sex ratio were non-significantly different in the tested treatments. Moreover, the cost of ingredient reduced by 45.6% and 33.3% per one liter of diets A and B, respectively as compared to the agar-based standard diet. The obtained results provide an economically viable diet for mass rearing, thus promising for large-scale production of S. *littoralis laboratory* culture.

Keywords: Eeconomical semi-synthetic diet; Biological parameters; Spodopteralittolaris.

55. Field Evaluation of Some Biological Formulations Against ThripsTabaci (Thysanoptera: Thripidae) in Onion

Sayeda S. ahmed and mohamed M. el-mogy

World Applied Sciences Journal, 14 (1): 51-58 (2011)

Two biological formulations, neem (Nimbecidine) &Beauveriabassiana (Bio-Power) and jojoba oil were used for control onion thrips, T. tabaci in onion field. Also, vegetative characteristics and yield and germination of onion seeds were considerable. The evaluation was conducted in onion field at 2007/2008 season and repeated at 2008/2009 season. Two rates for each formulation, oil and a recommended rate of Malathion (reference insecticide) were sprayed three times for each season while the control was sprayed with distilled water. The first and second sprayings were carried out during the growing period while the third spray was during the flowering period. Results showed that all tested products revealed significant reduction in thrips populations on both growing and flowering periods. Bio-Power exhibited the highest effective on the growing period (2nd spray) followed by jojoba oil, Nimbecidine and Malathion at 2007/2008 season, while Malathion was the highest with the same spray on the growing period followed by jojoba oil, Nimbecidine and Bio-Power at 2008/2009 season. On the flowering period, Nimbecidine and Malathion were more effective on thrips population at 2008/2009 season as well as they gave the highest significant seed yield. Vegetative characteristics and seed germination were also improved. In conclusion, it can be use Bio-Power and Jojoba oil on growing period and Nimbecidine on flowering period in integrated pest management of onion crop.

Keywords: Beauveriabassiana; Control; Insecticide; Neem.

Dept. of Horticulture Pomology

56. Effect of Potassium Nitrate on Yield, Fruit Quality and Nutritional Status of Olive Cv. "Picual"

E.S. Hegazi, Samira M. Mohamed, M.R.El-Sonbaty, S.K.M. Abd El-Naby and T.F. El-Sharony

Journal of Horticultural Science and Ornamental Plants, 3 (3): 252-258 (2011)

The present investigation was carried out during two successive seasons 2009 and 2010 to study the effective concentration and application time of potassium nitrate (KNO_3) on vegetative growth, nutritional status, yield and fruit quality of Picual olive trees under sandy soil conditions. The obtained results showed that, foliar application of potassium nitrate at 4 % after final fruit set or pit hardening improve the vegetative growth, nutritional status especially in the second season and the productivity in both seasons. While sprays potassium nitrate at 4 % after pit hardening gave the best values of fruit quality and flesh oil content of Picual olive fruit in both seasons of the study.

Keywords: Olive; Potassium nitrate; Yield; Fruit quality; Nutritional status.

57. Growth, Flowering And Fruiting of Manzanillo Olive Trees as Affected by Benzyladenine

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Journal of Horticultural Science and Ornamental Plants, 3 (3): 244-251(2011)

This investigation was carried out to evaluate the effect of foliar application of benzyladenine (BA) at concentration 10, 20, 30 and 40 ppm on growth, photosynthetic pigments, mineral status, total carbohydrates content, flowering, fruiting characteristics, yield/tree and oil content of Manzanillo olive trees. The experiment was performed during seasons 2009 and 2010 in a private orchard located at Cairo – Alexandria, desert road (about 50 Km from Cairo). Different concentrations of benzyladenine (BA) were applied twice at the stage of swelling buds and six weeks later. Results obtained showed that all the applied treatments significantly increased vegetative growth characteristics (leaf area, leaf dry weight and specific leaf weight) compared to the control trees in both seasons of the study. Application of benzyl adenine (10, 20, 30 and 40 ppm) caused significant increase in photosynthetic pigments in leaves (chlorophyll a, chlorophyll b and total chlorophyll). BA application significantly increased leaf P, K and Mg content, whereas leaf N % was not significantly affected in both seasons. Total carbohydrate contents were significantly increased with BA.

The highest total carbohydrates content was resulted from the higher concentration (40 ppm) in the two successive seasons. All studied parameters of flowering characteristics were significantly increased by spraying (BA), at all investigated rates over the control. Similarly significant improvements were attained in fruit characteristics as a result of the applied treatments. Results are presented for the studied fruit characteristics which comprised of average weight, size, length, diameter, pulp/seed ratio and fruit moisture content as a result of the applied treatments during the two studied seasons. Increasing concentration of benzyl adenine from 10 to 40 ppm was accompanied with significant increase in yield (Kg/tree). Foliar application of benzyl-adenine (BA) significantly increased the oil content in the two seasons compared with the control.

It can be recommended from the present study that the application of different concentrations of benzyl adenine on Manzanillo olive trees caused significant improvement in growth, photosynthetic pigments concentrations, mineral status, total carbohydrates content, fruit set, yield and most of the studied fruit characteristics and oil content. However, most of the previous characteristics were increased by increasing benzyl adenine treatment from 10 to 40 ppm.

Keywords: Olive; Manzanillo; Cytokinins; Benzyladenine; Growth; Leaf mineral; Carbohydrate; Photosynthetic pigments; Flowering; Fruit characteristics; Yield and oil content.

Dept. of Ornamental Horticulture

58. Effect of some Fertilizers on Botanical and Chemical Characteristics of Pot Marigold Plant (*Calendula Officinalis* L.)

M.M. Hussein, R.A. Sakr, L.A. Badr and K.M.A.L. Mashat

Journal of Horticultural Science & Ornamental Plants, 3 (3): 220-231(2011)

The present study was carried out at the Experimental Nursery of the Ornamental Horticulture Department, Faculty of Agriculture, Cairo University, Giza, Egypt during the two winter successive seasons, of 2008/2009 and 2009/2010. This work was designed to investigate the effect of cattle manure (CM) and sheep manure (SM), biofertilizer (Bio, liquid inoculum containing 108 cells/ml of associative diasotrophs) and inorganic fertilizer (N) as single or combined treatments on morphology, yield and chemical composition of pot marigold (Calendula officinalis, L.) plants grown under sandy soil conditions. P and K fertilizers were used as a basal dressing for all the treatments. Results indicated that application of different fertilization treatments had a considerable effect on the different vegetative growth characteristics of Calendula officinalis,L. plants, compared to the unfertilized control. In both seasons, in most cases the highest values for vegetative growth characteristics (plant height, main stem length, length and diameter of median internode of main stem, number of secondary branches, number of leaves and leaf area of median leaf of main stem, diameter and stalk length of capitulum, number of capitula/ plant, number and weight of fruits/capitulum as well as fresh and dry weights of leaves, stems and roots) were determined with plants received 0.5 CM + 0.5 SM + Bio followed by that received 0.5 SM + Bio and 0.5 CM + Bio treatments, respectively. Generally, there was no significant difference between plants received 0.5 CM + 0.5 SM + Bio and that received 0.5 SM + Bio. In both seasons, plants fertilized with 0.5 CM + 0.5 SM + Bio gave the highest chlorophyll a+b, followed by that received 0.5 SM + Bio, 0.5 CM + Bio, 0.5 CM + 0.5 SM treatments in descending order. In both seasons, plants fertilized with 0.5 CM + 0.5 SM + Bio gave the highest carotenoids content (0.0.70 and 0.63 mg/g fresh matter, respectively).In both seasons, the highest total carbohydrates content was determined in leaves + stems and roots of Calendula officinalis, L. plants received 0.5 CM + 0.5 SM + Bio followed by that received 0.5 SM + Bio and 0.5 CM + Bio treatments, respectively. In both seasons, the highest N, P and K% of dry matter in leaves + stems and roots were recorded with plants received 0.5 CM + 0.5 SM + Bio followed by that received 0.5 SM + Bio and 0.5 CM + Bio treatments, respectively.

Keywords: Calendula officinalis; Fertilizer; Manure; Marigold.

Dept. of Soil Sciences

59. Effects of Elemental Sulfur, Phosphorus, Micronutrients and ParacoccusVersutus on Nutrient Availability of Calcareous Soils.

Abdou A. Soaud, Fareed H. Al Darwish, Maher E. Saleh, Khaled A. El-Tarabily, M. Sofian-Azirun and M. Motior Rahman

Australian Journal of Crop Science (AJCS), 5 (5): 554-561(2011) IF: 0.899

This study was carried out in the laboratory to investigate the effects of elemental sulfur (S0), Paracoccusversutus (Pv), phosphorus (P) and micronutrients (DTPA extractable Fe+Mn+Zn) both singly and combined on nutrient availability of calcareous soils. Soils were collected from Al Semaih, Al Dhahrah and Melaiha in United Arab Emirates (UAE) and all soils were incubated at 40±20C for 32, 64, 96 and 128 days. Soil pH dropped and S concentration increased significantly with the addition of S0 alone or in combination with Pv, P and micronutrients in all types of soils. Elemental S application considerably increased the electrical conductivity (EC) of Al Semaih and Melaiha soils but reduced EC in Al Dhahrah soils at 128 days after incubation (DAI). Phosphorus availability was higher and prolonged with the application of S0 along with P. Zinc (Zn) and manganese (Mn) availability did not increase with the individual application of S0 or P. Inoculation of Pv influenced S and P availability but had no effect on iron (Fe), Mn and Zn. The study suggests that S0 is an effective agent for the amendment of sandy calcareous soils. Application of S0 accompanied with Pv, P and micronutrients are essential for nutrient availability in calcareous soils.

Keywords: Calcareous soil; Elemental Sulfur; Micronutrients.

60. Effect of Elemental Sulfur Application on Ammonia Volatilization From Surface Applied Urea Fertilizer to Calcareous Sandy Soils

Abdou A. Soaud, Maher E. Saleh, Khaled A. El-Tarabily, M. Sofian-Azirun and M. Motior Rahman

Australian Journal of Crop Science (AJCS), 5 (5): 611-619 (2011) IF: 0.899

Widespread acceptance of urea was delayed in part due to its greater potential for nitrogen (N) loss via ammonia volatilization.

Elemental sulfur (S0) at rates of 0, 1, 5 and 10 t ha-1 combined with or without urea and inoculation of Paracoccusversutus (Pv) was tested to determine NH3-N volatilization from urea in sandy calcareous soils of Masafi-1 and Masafi-2. Daily NH3-N loss was measured up to 29 days after surface urea application in both soils using the closed dynamic airflow system. Total NH3-N Volatilizations from urea-treated soils were 22.15 to 29.74 % of applied N in Masafi -1 and Masafi -2 soils, respectively. Application of S0 had a positive influence on reducing NH3-N volatilization from surface applied urea. In both soils significant reductions in NH3-N volatilization were observed in amended soil by S0. The result reveals that S0 at rates of 1or 5 t ha-1 and 5 or 10 t ha-1 is required to minimize volatile loss of NH3-N from surface applied urea in Masafi-1 and Masafi-2 soils, respectively. Application of Pv with or without S0 and urea had no positive influence on reduction of NH3-N volatilization.

Keywords: Ammonia volatilization; Elemental sulfur; Sandy calcareous soils; Urea.

61. Responses of Sulfur, Nitrogen and Irrigation Water on Zea Mays Growth and Nutrients Uptake

M. Motior Rahman, Abdou A. Soaud, Fareed H. Al Darwish and M. Sofian-Azirun

AJCS, 5 (3): 350-360 (2011) IF: 0.899

Availability of both native and applied nutrients is one of the major constrains for plants growth in sandy calcareous soils. Elemental sulfur (S0) is often applied to acidify calcareous soil which increases the availability of nutrients in soils. The present study was sought to examine the effect of S0 combined with or without N under acidified (pH 6.5) and normal (pH >7.5) irrigation water on growth, apparent N-use efficiency (NUE) and uptake availability of nitrogen (N), phosphorus (P), sulfur (S), iron (Fe), zinc (Zn) and manganese (Mn) by corn plants grown in calcareous soils. Elemental S at rates of 0, 1, 5 and 10 t ha-1 were tested combined with or without N at rates of 0 and 0.34 t ha-1 in pots using normal and acidified irrigation water under Al Zaid and Al Semaih soils in evaporative cooled greenhouse conditions. Total dry matter (TDM) accumulation and nutrients uptake had positive relation while soil pH showed negative correlation with TDM and uptake availability of all nutrients. Addition of S0 at the rate of 5 t ha-1 combined with N fertilizer recorded improved NUE, superior TDM and maximum uptake of all nutrients under both types of irrigation water and soils. Collectively, the results indicate that S fertilization is required to improve NUE and thereby maintaining a sufficient availability of nutrients and growth of corn in sandy calcareous soil.

Keywords: Calcareous soil; Corn; Sulfur; Nitrogen; Irrigated water; Nutrients uptake; Abbreviations: N-nitrogen; NUE-nitrogen use efficiency; P-phosphorus; S-sulfur; S0-elemental sulfur; Fe-iron; Zn-zinc; Mnmanganese; TDM-total dry matter; UAE-United Arab Emirates.

62. Influence of Elemental Sulfur on Nutrient Uptake, Yield and Quality of Cucumber Grown in Sandy Calcareous Soil

Motior M.R. Abdou A.S, Fareed H. Al Darwish, Khaled A. El-Tarabily, Mohamed A. Awad, FaruqGolam and M. Sofian-Azirun

AJCS, 5 (12): 1610-1615 (2011) IF: 0.899

This study was carried out to investigate the effect of elemental sulfur (S0) and sulfur oxidizing bacteria (Paracoccusversutus) on nutrient uptake, yield and quality of cucumber grown in sandy calcareous soils. Both elemental sulfur powder (S0P) and pellets of sulfur powder-Tiger 90 (S0T) were applied at rates of 0, 1, 5 and 10 t/ha at Al Hamraneya. On the contrary, S0P was used at rates of 0, 1, 5 and 10 t/ha combined with or without Paracoccusversutus (Pv) at Al Kuwaitat, United Arab Emirates (UAE). Higher concentrations of N, P, S, Mn and Zn in leaves and yield of cucumber at both locations were obtained with application of S0 at rates of 5 and 10 t/ha. Total soluble sugar (TSS) content and vitamin C was higher with the application of S0 at rates of 5 and 10 t/ha. Application of Pv individually or with varying levels of S0P had no positive effect on nutrients uptake, yield and quality of cucumber. A positive correlation was observed between shelf life and vitamin C. At Al Hamraneya S0P performed better than S0T. The results reveal that application of S0P at the rate of 5 t/ha in sandy calcareous soils can enhance the nutrients uptake ability, increase yield and superior quality of cucumber at both locations in UAE.

63. Effects of Sulfur and Nitrogen on Nutrients Uptake of Corn using Acidified Water

M. Motior Rahman, Abdou A. Soaud, Fareed H. Al Darwish and M. Sofian-Azirun

African Journal of Biotechnology, 10 (42): 8275-8283 (2011) IF: 0.573

A greenhouse experiment was carried out with elemental sulfur (S) and nitrogen (N) fertilizer using acidified water (pH 6.5) to determine nutrients uptake and growth of maize plants grown in calcareous sandy soil. Four levels of elemental sulfur (0, 1, 5 and 10 t ha-1), two levels of N (0 and 0.34 t N ha-1) were tested at Al Foah Agricultural Experiment Farm, United Arab Emirates (UAE) University. In Al Semaih soil, the pH (1.21-1.33) and electrical conductivity (EC) (7.61 dSm-1) decreased by application of elemental S plus N, while EC rose (3.84 dSm-1) and pH reduced (1.20 to 1.11) in Al Zaid soil. Acidity improved by decreasing soil pH, Na and Cl concentration in both soils. A significant change was observed by application of acidified water at Al Semaih soil causing high levels in the initial status of EC, Na and Cl concentrations in the soil. A negative relationship was observed with soil pH among N, P, S, Fe, Zn and Mn, while uptake availability of sulfur and nitrogen had positive relationship with all nutrients. Elemental sulfur

at the rate of 5 t ha-1 and nitrogen had a significant contribution towards uptake availability of N, P, S, Fe, Zn and Mn in both Al Zaid and Al Semaih soils. Based on experimental findings, elemental S at the rate of 5 tha-1 and N fertilizer (0.34 t ha-1) is suitable for the growth of maize at both soils. Al Zaid soil possesses advantages over Al Semaih soil due to its high nutrient uptake ability.

Keywords: Calcareous soil; Corn; Elemental sulfur; Nitrogen; Nutrients uptake.

64. Growth and Nutrient Uptake of Maize Plants as Affected by Elemental Sulfur and Nitrogen Fertilizer in Sandy Calcareous Soil

M. Motior Rahman, Abdou A. Soaud, Fareed H. AL Darwish, Faruq Golam and M. Sofian-Azirun

African Journal of Biotechnology, 10 (60): 12882-12889 (2011) IF: 0.573

This study was carried out to investigate the effect of elemental sulfur (S0) combined with or without N fertilizer on the growth and nutrient uptake such as nitrogen (N), phosphorus (P), sulfur (S), iron (Fe), zinc (Zn) and manganese (Mn) by maize plants grown in sandy calcareous soils. Elemental S at rates of 0, 1, 5 and 10 t ha-1 were tested combined with or without N fertilizer at rates of 0 and 0.34 t ha-1 in pots using normal irrigation water (pH >7.5) under Al Zaid and Al Semaih soils in evaporative cooled greenhouse conditions. Electrical conductivity (EC) increased (2.50 to 2.95 dSm-1) significantly and decreased (5.07 to 6.06 dSm-1) with application of S0 at rates of 5 and 10 t ha-1 combined with N fertilizer in both Al Zaid and Al Semaih soils, respectively. Soil acidity improved by decreasing soil pH (1.41 to1.52 unit) with application of S0 at the rate of 10 t ha-1 combined with N fertilizer. Addition of S0 at the rate of 5 t ha-1 combined with N fertilizer recorded superior total dry matter (TDM) and maximum uptake of all nutrients in both soils. Total dry matter accumulation and nutrient uptake had positive correlation, while soil pH showed negative correlation with TDM and uptake of all nutrients. Based on experimental findings, S0 at the rate of 5 t ha-1 combined with N fertilizer is suitable for growth of maize in both soils.

Collectively, the results indicate that Al Zaid soil is more favorable due to higher nutrient uptake and growth of maize than Al Semaih soil.

Keywords: Elemental sulfur; Nutrient uptake; Maize; Sandy calcareous soil.

Faculty of Veterinary Medicine

Dept. of Clinical Pathology

65. Comparative Molecular and Conventional Detection Methods of Babesia Equi (B. Equi) in Egyptian Equine

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Global Veterinaria, 7 (2): 201-210 (2011)

Theileriaequi is a tick-borne hemoprotozoan parasite and one of the causative agents of equine piroplasmosis. Blood is collected from a total of 100 horses. Three diagnostic methods: microscopical examination, enzyme linked immunosorbent assay (ELISA) and polymerase chain reaction (PCR), were compared in detecting T. equi. The results showed that the prevalence rate of T. equi in examined horses was 18%, 30% and 26% by using microscopic examination, ELISA and PCR, respectively.Clinical, hematological and biochemical studies were evaluated in examined horses. Significant decrease in hematological parameters was observed along with an increase in some biochemical parameters. The results of PCR assay showed its importance in the diagnosis of the carrier infected cases more than with the conventional techniques. The microscopic examination was used only in acute cases of the disease.

Keywords: Equine piroplasmosis; Theileriaequi; ELISA and PCR.

Dept. of Food Hygeine and Control

66. PCR Assays for Detecting Major Pathogens of Mastitis in Milk Samples

A.S. Amin, R.H. Hamouda and Abeer A.A. Abdel-All

World Journal of Dairy & Food Sciences, 6 (2): 199-206 (2011)

Bovine milk samples were collected from cases of clinical and sub-clinical mastitis, respectively and examined bacteriologically and by simplex and multiplex PCR assays for detection of Staphylococcus aureus, Escherichia coli and Streptococcus agalactiae. Escherichia coli was the most common bacteria detected in the collected samples from clinical mastitis cases followed by Staphylococcus aureus and Streptococcus agalactiae; while Staphylococcus aureus was the most common bacteria followed by Escherichia coli and Streptococcus agalactiae in samples collected from sub-clinical mastitis cases. Compared with the cultural method, the simplex and multiplex PCR assays are less time consuming. It took less than 24 hours to be completed, while identification of bacteria to the species levels by conventional microbiological and biochemical Methods required more than 72 hours. In conclusion, simplex and multiplex PCR assays can be used as a rapid, sensitive and specific routinely diagnostic tool to detect the presence of Staphylococcus aureus, Escherichia coli and Streptococcus agalactiae in milk samples.

67. Safety Evaluation of Enterococcal Strains Isolated from Dairy Products and Clinical Samples using RT-PCR

H.A. Dardir, N.A. Aba-Alkhail and Abeer A.A. Abdel-All

World Journal of Dairy & Food Sciences 6 (2): 234-240 (2011)

Enterococci are part of the dominant microbiota of several dairy products, which can be used in the dairy industry as starter or probiotic cultures. However, they are also implicated in severe multi-resistant nosocomial human infections. In this study, phenotypic tests using API 20 S strip were used for species identification of 60 and 55 enterococcal strains isolated from dairy products and clinical samples, respectively.

Tests for production of gelatinase, hyaluronidase and haemolysin were done with all enterococcal isolates, whereas molecular determination of virulence markers (genes of gelE, hyl, cylA, ASA 1and ESP revise in the text) using RT-PCR technique and biofilm formation were checked only for E. faecium and E. faecalis isolates.

Our obtained results depicted that E. faecium (56.6 %) was the predominant species isolated from dairy products, followed by E. faecalis (36.6%), E. gallinarumm (3.3%) and (1.6%) of both E. casseliflavous and E. hira. In contrast, E. faecalis (76.3%) was the predominant enterococcal strain identified from human clinical isolates followed by E. faecium (21.8%) and (1.8%) E. gallaniurm. Different and distinct patterns of incidence of virulence determinants were found for E. faecalis and E. faecium strains. In general, the incidence of virulence traits was lower among E. faecium strains than among E. faecalis from dairy products. Also, our results showed that the incidence of virulence factors was highest among clinical enterococcal isolates, followed in decreasing order by dairy strains, suggesting that the dairy strains have a lower potential for pathogenicity. Finally, these results reinforce and suggest that the use of Enterococcus spp. in dairy industry as starter or probiotics culture requires careful safety evaluation.

Keywords: Enterococci; Dairy products; Probiotic cultures; Infect6ion; PCR.

68. Screening of Natural Starter Culture of Lactic Acid Bacteria in Traditional Fermented Skimmed Milk (Rayb) in Egypt

Abeer A. A. Abdel All

World Journal of Dairy & Food Sciences, 6 (2): 195-198 (2011)

One hundred samples of traditional fermented skimmed milk (Laban Rayb) were randomly collected from villages near Giza and Cairo governorates, Egypt and subjected to determination of pH, sensory evaluation and isolation and identification of lactic acid bacteria. The obtained results revealed that pH ranged from 3.0 to 4.5 with a mean of 3.6780±0.04951, most of the examined samples (45%) were judged as very good. The isolated lactic acid bacteria were lactobacillus, lactococcus, leuconostoc and streptococcus as 25, 29.54, 13.64and 31.82%, respectively, the majority of identified isolates were Leuco. mesencremoris (25%), Lact. Lactis subsp. Lactis (20%) followed by St. salivaris var thermophilus (15%), both *L. delbrukii var bulgaricus* and *L. helvaticus* represented as (10%) followed by L.delbrukii var delbrukii (8%) then L.acidophilus (7%) while the lowest percent (5%) was St.acidomin. In conclusion, there are several factors which influence the quality of fermented milks, these include type of milk, processing conditions, storage conditions and however, quality of starter culture is the most important factor that influences the development of fermented milks. The choice of starter culture being based on their production of lactic acid, aromatic compounds as well as their therapeutic values to some types used.

Keywords: Fermented Milks; Rayb; Natural Starter Culture; pH; Sensory Evaluation.

Dept. of Poultry Diseases

69. Control of Experimental Colisepticaemia in Broiler Chickens Using Sarafloxacin

Wafaa A. Abd El-Ghany and K. Madian

Life Science Journal, 8 (3): 318-328 (2011) IF: 0.158

This work was conducted to detect the effect of using sarafloxacin (5 mg/kg body weight) in the drinking water of broiler chickens to control experimental colisepticaemia in broiler chickens. One hundred and seventy, day old broiler chicks were used in the study. Twenty chicks at the day of arrival were sacrificed and cultured to ensure absence of E. coli infection. One hundred and fifty chicks were divided into three equal groups, each consists of 50 birds.

Group (1) was challenged with E. coli and not treated with sarafloxacin (control positive), group (2) was challenged with E. coli and treated with sarafloxacin, while group (3) was neither challenged with E. coli nor sarafloxacin treated (blank control). Challenge was done intramuscularly (I/M) at 2 weeks of age in groups (1 and 2) as each bird received 0.5 ml of the nutrient broth culture containing 108 colony forming unit (CFU) E. coli O78 / ml.

One appearance of signs, sarafloxacin was added to the drinking water for 3 successive days. All the birds were kept under complete observation for 6 weeks for estimating the bird's performance (body weight and feed conversion rate) and recording signs, mortalities, gross lesions, re-isolation of the organism and microscopical examination of the organs. The obtained results indicated significant ($P<0.05$) improvement in chickens performance in chickens challenged with E. coli and treated with sarafloxacin than those challenged and not treated. On the other hand, significant ($P<0.05$) decrease in morbidity and mortality rates, gross organs lesion score and re-isolation of E. coli O78 from the internal organs of chickens treated with sarafloxacin when compared with E. coli challenged non treated birds. Also,

improvement of the microcscopical lesion scores was also detected in sarafloxacin treated group.
It could be concluded from the above results that sarafloxacin used in a dose of 5 mg/kg body weight in the drinking water for 3 consecutive days is very effective in controlling of colisepticaemia in broiler chickens.
Keywords: Sarafloxacin; E. coli; Chickens; Treatment.

70. Effect of A Specific Combination of Mannan-Oligosaccharides and β-Glucans Extracted From Yeast Cell Wall on the Health Status and Growth Performance of Ochratoxicated Broiler Chickens

M. H. H. Awaad, A. M. Atta, Wafaa A. Abd El-Ghany, M. Elmenawey, K. Ahmed; A. A. Hassan, A. A. Nada and G. A. Abdelaleem

Journal of American Science, 7 (3): 82-96 (2011)

The effect of a specific combination of Mannan-oligosaccharides (MOS) and β-glucans extracted form the cell wall of a specific strain of *Saccharomyces cerevisiae* (AGRIMOS®) was investigated on zootechnical performance, ochratoxicosis and immune dysfunction caused by ochratoxin in broiler chickens. Three hundred and sixty, one day-old chickens were randomly allocated in a 2x2 factorial design for 5 weeks: supplementation of 2kg/ton of MOS (presence or absence) and feed contamination (presence or absence) with 50 µg/kg of ochratoxin A (OTA) for the first 3 weeks of life was done.
Obtained results revealed that OTA did affect bird's growth one week after the contamination, although the final weight gain after 5 weeks was not different from the control. The use of AGRIMOS® stimulated the overall daily gain compared to the OTA group. Feed intake and feed conversion were
not affected by the dietary treatments. Cumulative mortality was similar between treatments and performance indexes significantly improved with AGRIMOS® for the OTA challenged regimes. AGRIMOS® supplementation reduced macroscopic and microscopic lesion scores associated with ochratoxicosis. Also, it corrected the depression in phagocytosis induced by ochratoxin intoxication and it had strong immunomodulation as it stimulated the immune response to vaccination. It could be concluded that administration of a specific combination of Mannanoligosaccharides and β-glucans extracted form yeast cell wall (AGRIMOS®) to chickens improved zootechnical parameters had a potent immunomodulatory effect, evoked immune response and enhanced vaccination effectiveness. It helps not only in controlling chicken ochratoxicosis but also can play a positive role in treating Chicken immune dysfunction.
Keywords: Mannan-oligosaccharides; AGRIMOS®; β-glucan; Ochratoxins; Chickens.

71. Certain Epidemiological Aspects of Aeromonas Hydrophila Infection in Chickens

M. H. H. Awaad, M. E. Hatem, Wafaa A. Abd El-Ghany, Asia El-Sawy and A. Fathi.

Journal of American Science, 7(4): 761-770 (2011)

Aeromonas hydrophila (*A. hydrophila*) is one of enteric poultry pathogens of public health importance. This work was designed to investigate certain epidemiological aspects of A. *hydrophila* including its viability, cycle of infection and its pathogenicity to chicks. A gentamicin resistant A. hydrophila strain (GR A. *hydrophila strain*) was prepared. The results showed that GR A. hydrophila survived in water for 26 days at room temperature and also it could be persist in chicken crates, feces, ration, saw dust and straw for 11, 9, 23, 22 and 17 days, respectively. GR *A. hydrophila* could induce 8.3% embryonic mortality after dipping of the eggs in infected broth culture. Hatched chicks from GR A. hydrophila infected eggs showed mortalities reaching 13.3 and 1.7 % during 1st and 2nd week post hatching, respectively. Survived infected chicks exhibited signs and lesions of omphalitis, enteritis and septicaemia and depression in heir weight gain. The rate of GR A. hydrophila re-isolation from dead embryos reached 100%, while it was 95.6, 26, 8.7, 4.4, 2.2 and 4.3% from intestine, liver, heart, spleen, kidney and lung, respectively in sacrificed survivors. Fecal shedding of GR A. hydrophila in chicken breeders revealed higher percentage in orally infected birds than subcutaneously infected ones. Addition of probiotic to the ration of orally infected group resulted in lowering the shedding rate. Re-isolation of the organism from egg shells reached 12 % in orally infected breeders compared to 4 % in orally infected probiotic treated birds. Samples taken from reproductive and internal organs of parent chicken hens were negative for GR A. hydrophila re-isolation. In conclusion; GR *A. hydrophila* survives for several weeks in contaminated water, ration and litter. The organism may infect birds by oral route and can colonize intestine. GR A. hydrophila is not congenitally transferred as ovary and oviduct do not play a role in dissemination of A. hydrophila infection. Addition of probiotic to the ration can reduce fecal shedding rate as well as re-isolation of A. hydrophila from the egg shells.
Keywords: *Aeromonas hydrophila*; Chickens; Survival; Transmission.

72. Comparison between ImmunoglobulinsIgy and the Vaccine for Prevention of Infectious Bursal Disease in Chickens

WafaaA .Abd El- Ghany

Global Veterineria, 6 (1): 16-24 (2011)

This study was designed to compare between the efficacy of immunoglobulineIgY and the vaccine in the prevention of broiler chickens against infectious bursal disease virus (IBVD) infection. In this study 18-week old white Leghorn laying chickens were received live intermediate strain IBVD vaccine (D78) followed by a

booster doses of inactivated oil adjuvanted IBVD vaccine. The eggs of the hens were used for the separation of yolk polyclonal IgY. Enzyme Linked Immuno Sorbent Assay (ELISA) was used to determine the titer of antibodies in the serum and yolk. To evaluate the efficacy of the vaccine and IgY preparation against IBVD infection, day-old Hubbard broiler chicks were divided equally into 5 groups. The first group was received live intermediate IBVD vaccine (D78), the second group was given IgY preparation, the third group received both the vaccine and IgY, the fourth group was kept as control challenged. Chickens in the first, second, third and fourth group were challenged by the virulent field IBVD strain. Chickens of the fifth group were kept as blank control (not vaccinated, not IgY treated and not challenged). Morbidity and mortality rates and post mortem lesions, the bursa/body weight (B/BW) ratios and the histopathological examination of the bursae were investigated as criteria for evaluation. In conclusion, the vaccine and IgY were relatively equally effective but their combination was is superior in prevention of IBVD infection in broiler chickens.

Keywords: IBD; Yolk IgY; Immunoglobulins; Vaccines; control.

73. Evaluation of Autogenous Avibacterium Paragallinarum" Bacterins in Chickens"

Wafaa A. Abd El-Ghany

International Journal of Poultry Science, 10 (1): 56-61 (2011)

In this investigation, a trial for preparation and evaluation of locally prepared (autogenous) bacterin against the infection with Avibacterium *paragallinarum* (Avi. *paragallinarum*) causing infectious coryza disease in layer chickens was done. Two types of adjuvant (aluminum hydroxide and mineral oil based) were compared. At 6 weeks of age, one hundred layer chickens were divided into equally distributed 4 groups each containing 25 birds.

Group (1) was vaccinated with Avi. Paragallinarum autogenous bacterin containing aluminum hydroxide, while group (2) received Avi. *Paragallinarum* autogenous bacterin containing mineral oil. Both types of bacterins were given in a dose of 0.5 ml/bird and administered intramuscularly (IM). Booster

dose of both types of the autogenousbacterins was given in group 1 and 2 at 9 weeks of age. Chickens of group (3) were kept without vaccination. Birds in groups 1, 2 and 3 were challenged with (10^6 CFU) of live Avi. *paragallinarum* culture by inoculation into the nasal sinus at 12 weeks old. Group (4) was left as blank control negative (not vaccinated or challenged).

Birds after challenge were kept under complete daily observation for 7 days. Signs, mortalities, postmortem lesions, protection rate and reisolation rate of the organism were taken as criteria for bacterin evaluation, also agglutination test were performed on sera to determine the immune response to bacterin at the doses intervals. The results revealed that whatever the type of adjuvant, both different adjuvanted types bacterines were effective and safe in prevention of infection againstAvi. *Paragallinarum* in layers when administered at 6 and boosted at 9 weeks of age.

Keywords: Avibacterium paragallinarum; IC; Autogenous vaccine; Layers.

Dept. of Virology

74. Developement of A Sybr Green I Based Real-Time Rt-Pcr Assay for Detection and Quantification of Bovine Coronavirus

Haitham M. Amer and Fahad N. Almajhdi

Mol Cell Probes, 25: 101-107 (2011) IF: 1.869

A novel two-step, SYBR Green I based real-time RT-PCR assay was developed for detection and quantification of BCoV using ABI PRISM 7500 sequence detection system. The assay was carried out using two sets of primers designed to amplify highly conserved sequences of the nucleocapsid gene of BCoV and the internal control, bovine glyceraldehyde-3-phosphate dehydrogenase, RNA. Specific identification of both targets was elucidated by melt curve analysis, in which the BCoV amplified product generated a melt peak at 78.35±0.26°C and the internal control RNA at 82.54±0.32°C. The assay was highly specific since all negative controls and other viruses of clinical and structural relevance failed to develop any positive results. The detection limit of the reaction was 103 plasmid copies and $1.17x10^{-3}$ $TCID_{50}$ of the tissue culture propagated virus. Standard deviation and coefficient of variation was low for both intra-assay and inter-assay variability. The assay performance on field samples was evaluated on 103 (68 fecal and 35 nasal) swab specimens and compared with the conventional RT-PCR assay. The results of both assays matched for the diagnosis of 65 fecal and 33 nasal samples. However, three fecal and two nasal samples tested negative in gel-based assay were positive for the real-time RT-PCR. The robustness and a high-throughput performance of the developed assay make it a powerful tool in diagnostic applications and in BCoV research.

Keywords: Bovine coronavirus; Real-time RT-PCR; SYBR Green I.

75. An Optimized Polymerase Chain Reaction Assay to Identify Avian Virus Vaccine Contamination with *Chicken Anemia Virus*

Haitham M. Amer, Hanan M. Elzahed, Elham A. Elabiare, Ahmed A. Badawy and Ausama A. Yousef

J Vet Diag Invest, 23: 34-40 (2011) IF: 1.381

The use of embryonating chicken eggs in preparation of avian virus vaccines is the principle cause for contamination with Chicken anemia virus (CAV). Identification of CAV in contaminated vaccines relies on the expensive, tedious, and time-consuming practice of virus isolation in lymphoblastoid cell lines. The experience of the last 2 decades indicates that

polymerase chain reaction is extending to replace most of the classic methods for detection of infectious agents. In the present report, a simple, rapid, and accurate polymerase chain reaction method for detection of CAV in poultry vaccines is described. Oligonucleotide primers homologous to highly conserved sequences of the VP1 gene were used to amplify a fragment of 676 bp. The developed assay was specific for detecting CAV from different sources, with no cross reactivity with many avian viruses. No inter- and intra-assay variations were observed. The analytical sensitivity of the test was high enough to detect 5 $TCID_{50}$ (50% tissue culture infective dose) of the virus per reaction; however, different factors related to the vaccine matrix showed considerable effects on the detection limit. In conclusion, this method may represent a suitable alternative to virus isolation for identification of CAV contamination of poultry virus vaccines.

Keywords: Chicken anemia virus; Polymerase chain reaction; Vaccine contamination.

76. Baculovirus Expression Vector System: an Efficient Tool for the Production of Heterologous Recombinant Proteins

Haitham Mohamed Amer

African Journal of Biotechnology, 10 (32): 5927-5933 (2011) IF: 0.573

Today, the recombinant proteins become a major foundation of different industrial sectors. Products of these industries enhance the fields of medicine, pharmacology, agriculture, nutrition, petrochemicals, paper, textiles and many others. Since the mid 1980s, recombinant DNA technology has enabled the development of a wide diversity of vectors for expression of the desired recombinant protein in numerous prokaryotic and eukaryotic organisms. Baculovirus expression vector system is considered one of the most successful and widely acceptable means for the production of recombinant proteins in extremely large quantities.

Proper posttranslational modifications of the expressed proteins in insect cells, the usual host of baculoviruses, get them soluble, correctly folded and biologically active products. Along with the convenient biological safety, the easy scale up production of recombinant proteins into industrial levels brings this system the first choice in most cases. In the current review, different aspects of the baculovirus biology, structure and morphology are briefly covered to establish the basic concepts important for understanding the mechanisms involved in utilization of baculoviruses as expression vectors. Few outlines on the baculovirus expression system are discussed in terms of potentials, limitations, strategies and perspectives.

Keywords: Baculovirus; Expression; Recombinant; Protein.

Dept. of Zoonoses

77. Laboratory Evaluation of Some Egyptian Native Plants Versus Some Parasitic Vectors

Eman E. Taher, Narmeen F. Mahmoud and Maha A. Mahmoud

Research Journal of Medicine and Medical Sciences, 6(2): 85-90 (2011)

Four plant extracts molluscicidal and insecticidal efficacy was evaluated under laboratory conditions versus *Biomphalaria alexandrina*, *Lymnea cailliaudi* snails; their egg masses and *Culex pipiens* larvae. These extracts included Grape seed, *Eucalyptus*, *Pomegranate*, *Verbesina* alcoholic extracts, as well as *Eucalyptus* oil. Different mortalities in the exposed vectors were recorded by the four plant extracts using different concentrations and exposure time.

Total snail mortality LC_{100} was (100ppm/12-24h) for Grape seed, (200ppm/18-24h) for Eucalyptus, (100ppm/12-18h) for *Pomegranate*, (100-200ppm/24h) for *Verbesina* alcoholic extracts & (100-200ppm/12h) for *Eucalyptus* oil. In the same time; only Eucalyptus, Verbesina alcoholic extracts and *Eucalyptus* oil revealed snail ovicidal effect. LC_{100} was (100-200ppm/24h), (100-200ppm/24h) & (100-200ppm/12-48h) respectively. Moreover, the same plant extracts were able to induce total Culexpipienslarvicidal mortality, LC_{100} was (200ppm/48h). However, Grape seed and Pomegranate alcoholic extracts did not induce neither snail ovicidal nor *Culex pipiens* larvicidal total mortalities. Activities of the studied plant extracts were considered using reference molluscicidal (Copper sulfate) and insecticidal (Temephos) substances. In conclusion, Egyptian native plants continue to provide a wealth of potential sources for biologically active agents that may have a promising role in production of safe, biodegradable eco-friendly and natural molluscicidal and insecticidal agents.

Keywords: Molluscicides; Insecticides; Plant extracts; Biomphalaria alexandrina; Lymnea cailliaudi; Culex pipiens.

National Institute of Laser Enhanced Sciences

Dept. of Laser Sciences and Interactions (LSI)

78. Resonant Photo-Acoustic Detection of Carbon Monoxide with Uv Laser at 213 Nm

A.A.I. Khalil , M.A. Gondal and N. Al-Suliman

Appl Phys B-Lasers O, 103: 441-450 (2011) IF: 2.24

A trace-gas sensor for carbon monoxide based on Pulsed Laser-Induced Photo-Acoustic Spectrod for the first time. PLIPAS-based sensor with different cell geometry was employed to enhance the sensitivity down to 58 ppbV level. The parametric dependence of the PLIPAS signals on CO gas concentration, buffer gas (Ar, O_2 and He) concentration, laser pulse energy was studied and Ar proved to be better than O_2 and He in terms of enhancing the sensitivity of the systemscopy (PLIPAS) in conjunction with laser excitation wavelength of 213 nm was designed, fabricated and teste. The signal-to-noise ratio and limit of detection have been quantified for different experimental conditions. This study proves that PLIPAS-based CO gas sensor is a reliable gas-leak detection system with high sensitivity and selectivity. Hence this sensor can be employed for pollution monitoring and detection of CO in a noisy environment.
Keywords: Laser photo-acoustic spectroscopy; Hazardous; Gas sensors.

79. Applications of LIBS for Determination of Ionic Species (Nacl) in Electrical Cables for Investigation of Electrical Breakdown

M.A. Gondal, M.H. Shwehdi and A.A.I. Khalil

Appl Phys B-Lasers and Optics, 105: 915-922 (2011) IF: 2.24

The formation of water trees in high-voltage cables can wreak havoc to power systems. The water tree is produced within the high voltage cable insulator when impurities like sodium and magnesium present in the insulating material react with moist soil to form chlorides. This water tree causes electrical breakdown by short circuiting the metallic conductor and the earth. In this paper we use laser-induced breakdown spectroscopy (LIBS) to detect the potentially dangerous elements that form the water tree in the insulating cable. The LIBS system used for this work consists of the fundamental (1064 nm) of a Nd: YAG laser, four spectrometer modules that cover the visible and near- UV spectral ranges and an ICCD camera with proper delay and gating sequence. With this arrangement we were able to measure the elemental concentrations of trace metals present in the insulating cable. The concentrations measured with our LIBS system were counter checked by a standard technique like inductively coupled plasma (ICP) emission spectrometry. The maximum concentrations for ionic species such as Ba (455.40 nm), Ca (393.36 nm), Cr (267.71 nm), Fe (259.94 nm), Cl (542.3 nm), Mg (516.7 nm), Mn (257.61 nm), Na (589.59 nm) and Ti (334.18 nm) are 20.6, 43.2, 1.6, 148.4, 24.2, 22.1, 4.2, 39.56 and 4.35 ppm, respectively. The relative accuracy of our LIBS system for various elements as compared with the ICP method is in the range of 0.03–0.6 at 2.5% error confidence.
Keywords: Laser induced breakdown spectroscopy; Ionic species; Electrical cables.

80. Optical, Structural and Optoelectronic Properties of Pulsed Laser Deposition Pbs Thin Film

D.M.M. Atwa, I.M. Azzouz and Y. Badr

ApplPhys B, 103: 161-164 (2011) IF: 2.24

Lead sulfide (PbS) nano-structured film has been grown on quartz substrates by the PLD technique. The deposited films were characterized by X-ray diffraction (XRD), selected area electron diffraction (SAED), transmission electron microscopy (TEM) and scanning electron microscopy (SEM). Formation of cubic phase of PbSnanocrystals is proven. The absorption and emission spectra were measured for different thicknesses of the films. I–V characteristics and photoconductivity of the deposited film were also measured. The results indicate an efficient performance of the deposited films as an optical detector.

81. Electrical, Dielectric and Structural Properties of Borovanadate Glass Systems Doped With Samarium Oxide

M. P. F. Graça, H. Fawzy, Y. Badr, M. M. Elokr, C. Nico, R. Soares, L. C. Costa and M. A. Valente

phys status solidi C, 8-(11)-(12): 3107-3110 (2011)

Glasses doped with rare earth (RE) ions are widely studied due to the numerous applications of these systems (active media for solid state lasers, optical telecommunication non-linear optical materials, electro-optic devices, etc.). Boron trioxide, B_2O_3, is a known glass forming oxide with a relative low melting temperature. The addition of a transition metal oxide, such as V_2O_5, promotes the exhibition of semiconducting properties making these promising systems for several technological applications, such that ones involved in solar energy conversion devices. It is known that alkali borovanadate glasses, like alkali borate glasses themselves, are ionically conducting materials. Despite their importance there are only few studies on these glasses reported on literature. Thus, the alkali-borovanadate glass system constitutes a family with high interest from the electrical and dielectric point of view. The effect of the increment of alkali quantity in the electrical and dielectric response of these glasses and the physical/structural explanation are questions which will be addressed. In this work, the transparent glass samples with molar composition $0.01Sm_2O_3$- $0.99[0.85B_2O_3$-$(0.15\text{-}x)\ Li_2O\text{-}xV_2O_5]$ with x = 0, 0.1, 0.2, 0.35, 0.5 and 2 (mol %) were prepared by conventional melting technique. The prepared samples were fully

characterized using different experimental techniques such as, differential thermal analysis (DTA), X-ray diffraction (XRD), electrical and dielectric measurements. The samples structure, electrical and dielectric properties as a function of vanadium ions content was explored and discussed.
Keywords: Borate glasses; Structural properties; Electric properties.

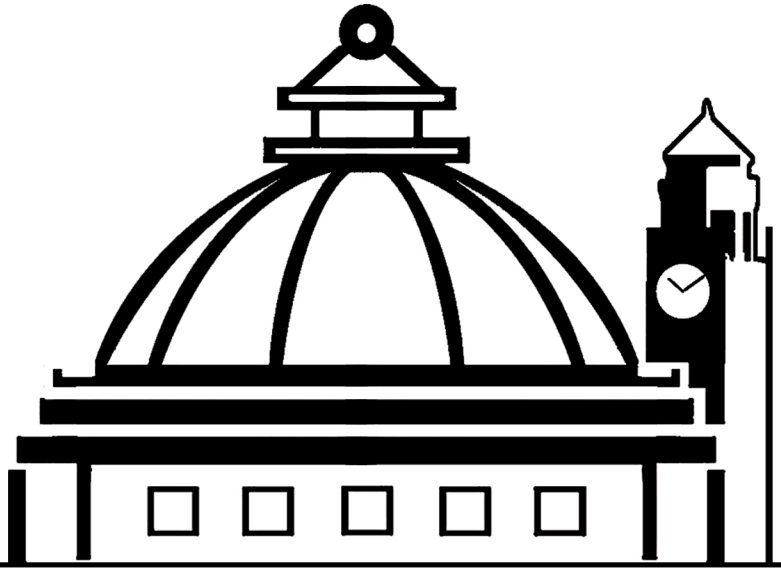
Dept. of Medical Applications of Lasers (MAL)

82. Herpes Virus Reactivation by Low-Intensity Diode and Co_2 Lasers

Hazem M. Saleh, Ahmed S. Shaker, Ali M. Saafan and Adel KH. Ibrahim

Photomedicine and Laser Surgery, (2011)

Background: The herpes virus enters into latency after symptomatic or asymptomatic herpetic infection. During latency, the virus has no impact on infected cells. However, internal or external stimuli, including certain lasers, can induce virus reactivation.
Objective: The aim was to study the reactivation power of the low-intensity diode and CO_2 lasers on the latent herpes virus.
Materials and Methods: The bovine herpesvirus 1 (BHV-1) was inoculated in either the nasal cavity or the lacrimal film of an animal model. Once the virus entered into latency, the trigeminal ganglia of animals were exposed to either a low-intensity diode or CO_2 laser. The reactivation of the virus was then explored by PCR, RT-PCR, and dot-blot hybridization on nasal or lacrimal swabs. The accuracy, sensitivity, and specificity of the aforementioned techniques were compared.
Results: The low-intensity diode laser reactivated the herpes virus less than the CO_2 laser. The nasally inoculated virus was more liable for reactivation by both lasers. PCR was considered as the standard method for the detection of the reactivated virus.
Conclusions: Low-intensity diode and CO_2 lasers can induce herpes virus reactivation, with the diode laser less likely to reactivate the virus than the CO_2 laser.
Keywords: Laser; Diode; Herpes; Reactivation.



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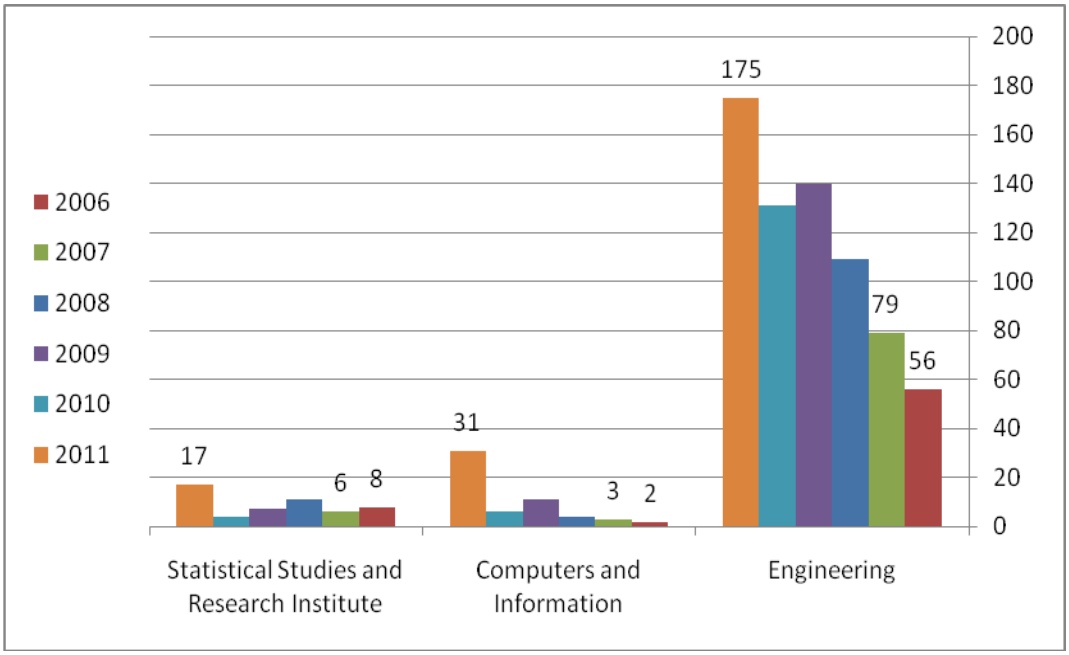
Engineering Sciences Sector

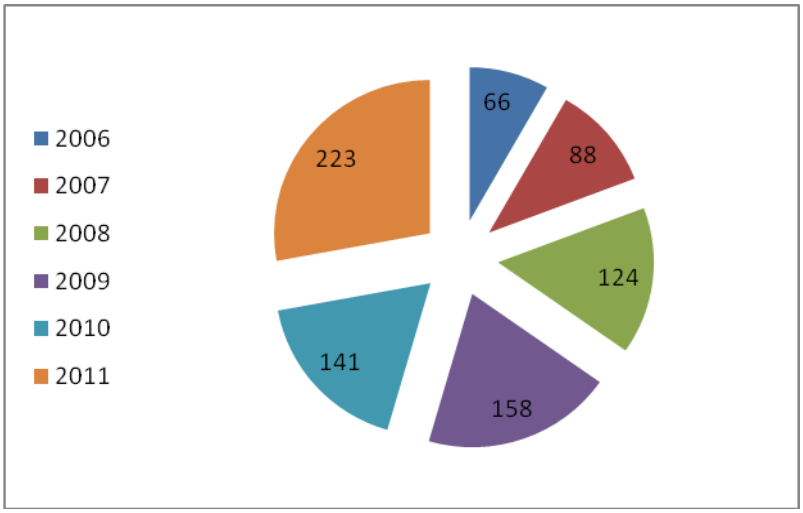
2-1 Faculty of Engineering

2-2 Faculty of Computers and Information

Total No. of Publication for Engineering Sciences Sector

Faculty	2006	2007	2008	2009	2010	2011	Total
Engineering	56	79	109	140	131	175	690
Computers and Information	2	3	4	11	6	31	57
Statistical Studies and Research Institute	8	6	11	7	4	17	53
Total	66	88	124	158	141	223	800





Faculty of Engineering

Dept. of Aeronautics and Aerospace Engineering

83. General Design of the Forming Collar of the Vertical Form, Fill and Seal Packaging Machine using the Finite Element Method

Ahmed Desoki, Hiroaki Morimura and Ichiro Hagiwara

Packaging Technology and Science, 24: 31-47 (2011)

IF: 1.434

The basic part of the vertical form, fill and seal packaging machine is the forming collar. The forming collar provides the shape over which packaging film is smoothly formed at high speed into a cylindrical shape. Describing the forming collar geometry and hence its design is, however, remarkably difficult. This paper presents, for the first time, a flexible methodology for calculating the complete geometry of the film rather than the usually non-complete collar over which the film is formed. That is, a methodology to calculate the film geometry over the collar including the seam along which the film is longitudinally sealed. The film geometry is calculated such that it has minimum deformation energy. Advantages of the proposed methodology include its great flexibility to generate collars with different configurations for different needs. Among the collar generation methods reviewed, the proposed methodology is the first that can systematically consider all collar configuration parameters such as the seam configuration, general package cross-section, flat or straight part of the collar, collar back angle, etc. A means for obtaining the exact collar geometry is also demonstrated. This enables right-first-time and repeatable collar production and reduces the time and cost for producing next generation packaging machines.

Keywords: Forming collar; Lap seam; Fin seam; Vertical form fill and seal machine; Developable surface; Finite elements method.

84. Optimal Wing Twist Distribution for Roll Control of Mavs

M. R. Ahmed, M. M. Abdelrahman and G. M. El- Bayoumi

Aeronaut J., 115 (1172): 641-649 (2011) IF: 0.496

The aerodynamic design optimization of a Micro Air Vehicle (MAV) wing is performed to obtain the optimal anti-symmetric wing twist distribution for the roll control of the MAV's wing instead of using conventional ailerons. This twist distribution should produce minimum induced drag and achieve a better roll response. The implementation of several anti-symmetric load distributions such as the half lemniscates and the Horten distributions is studied leading to an initial solution for the optimal distribution that could achieve better roll requirements. Multhopp's method based on Prandtl's classical lifting line theory is used for the determination of the spanwise load distribution required during the optimization process. The optimization process is based on the modified feasible directions gradient based optimization algorithm implemented in the optimization system, Visual DOC, given by Dr. Garret Vanderplaats.

85. Visualization of Pressure Field Over Rotating Blades Using Pressure Sensitive Foil Technique

Mohammed K. IBRAHIM, Soichiro Matsumoto, Koichi Mori and Yoshiaki Nakamura

T. Jpn Soc Aeronaut S, 53 (182): 243-249 (2011) IF: 0.397

This paper describes a new pressure measurement technique for measuring the pressure over rotating blades of an industrial axial flow fan. The new technique is called the pressure sensitive foil (PS-Foil) technique. In this technique, a very thin aluminum foil is coated with pressure sensitive paint using anodization. The resulting PS-Foil can be stuck on any blade using a very thin layer of silicon. The PS-Foil technique shows a very fast time response like conventional porous anodized aluminum and can be applied to any rotor blade without fabricating the blade from aluminum. The total thickness of the aluminum foil and silicon layer is as small as 200 mm. An intensity based method and prior calibration procedures are used to obtain the calibrated PSP image. The unsteady experimental setup presented here shows that the PS-Foil time response is on the order 30 ms which is close to the conventional porous anodized aluminum method. Two applications are considered here to assess the applicability of this technique. Subsonic jet-plate impingement, and rotating blade of industrial fan. The pressure distribution over the impingement plate at different plate angles, and over the rotating blade at various speeds could be obtained with sufficient spatial resolution.

Keywords: Pressure sensitive paint; Turbomachines; Subsonic Jet-Plate Impingement.

Dept. of Architectural Engineering

86. Analysis of the Microclimatic and Human Comfort Conditions in an Urban Park in Hot and Arid Regions

Ayman Hassaan A. Mahmoud

Build Environ, (2011) IF: 2.131

Urban parks have complex surface structure that produces an environment with specific microclimatic qualities. These qualities affect the balance of energy of the human body and are applicable to an individual's thermal perception. They have impacts on using outdoor spaces especially in hot and arid regions. This study investigates users' thermal comfort in an urban park in Cairo, Egypt. The investigation was carried out during the hot and cold months using subjective surveys and field measurements. The campaign consisted of a subjective survey using questions on the perception of the thermal environmental applying seven-point ASHRAE 55 thermal sensation votes (TSV) in nine different zones in the urban park. At each zone, the thermal environment parameters e air temperature, solar radiation, air relative humidity and wind speed were measured. Through these data, the values of the Physiologically Equivalent Temperature (PET) were calculated in each zone using the RayMan model. The current people clothing and metabolic rate were recorded. The results of the field measurements were compared with judgements about the

thermal environment. Results demonstrate that differences in the PET index among these zones due to different sky view factors (SVF) and wind speed. Results revealed an alteration in human comfort sensation between different landscape zones. This paper suggests that the thermal requirements of visitors and qualities of the local climate should be carefully considered when designing landscapes for the future urban parks in the hot and arid regions.

Keywords: Thermal comfort; Urban parks; PET; Hot and arid regions; SVF; Egypt.

87. an Analysis of Bioclimatic Zones and Implications for Design of Outdoor Environments in Egypt

Ayman Hassaan A. Mahmoud

Build Environ, 46: 605-620 (2011) IF: 2.131

Climate considerations are essential dimensions in the assessment of quality of outdoor built environments. This paper provides an analysis of bioclimatic classification of Egypt to help the environmental design of wide range of purposes, including: climate responsive design; energy conservation and thermal comfort in the outdoor built environments. The analysis of this classification uses a bioclimatic approach in which the comfort zone and monthly climatic lines were determined and plotted on the psychrometric chart. Since the mean radiant temperature (T_{mrt}) is the most important input parameter for the energy balance in outdoor environments, the charts apply the ASHRAE 55-2004 standard considering the operative temperature as a function of T_{mrt}. Analysis for each bioclimatic zone determines the potential of passive design strategies to maintain thermal comfort in outdoor spaces and to contribute to energy efficient built environment. Finally, this study suggests a design guideline matrix for landscape architectural design for the different bioclimatic zones.

Keywords: Bioclimatic zones; Passive solar design; Outdoor built environments; Landscape; Egypt.

88. Development of Sustainable Urban Green Areas in Egyptian New Cities: the Case of El-Sadat City

Ayman H. A. Mahmoud and Marwa Adel El-Sayed

Landscape Urban Plan, 101: 157-170 (2011) IF: 2.004

Sustainable urban development is essential to enhance the quality of life of the citizens and to decrease the impact of cities upon resources outside the urban context. Redeveloping and planning green spaces and urban structure become the fundamentals of the sustainable urban planning of a city. An effective urban planning using recent technology is required to contribute to the physical and social development of the cities through promoting the land value and the local economy. This paper aims to develop a method to maintain ecological balance and organization of the urban green areas, using Geographic Information Systems (GIS) techniques that assist in effective planning of green areas. Land suitability analysis and ecological threshold methods based on GIS techniques are applied on one of the Egyptian new cities in a desert environment (i.e., El-Sadat City). Results revealed that the green ways could be developed to play a more significant role in bringing nature into the city. This paper suggests a method of green network planning that would help in enhancing the connectivity and reduce fragmentation though integrated greenway system. Finally, an ecological base for building an eco-city of El-Sadat City in the future is proposed.

Keywords: Land suitability analysis (LSA); Eco-City; Landscape planning; Sustainable green areas; Geographic information systems (GIS); El-Sadat City; Egypt.

Dept. of Chemical Engineering

89. Steady State Simulation of A Novel Process for the Co-Production of Vinyl Acetate and Acetic Acid

Fouad, H. W. F., Moustafa, T. M. and Soliman A.

Journal of Chemistry and Chemical Engineering, (2011)

A new process for the co-production of vinyl acetate monomer and acetic acid from ethane feedstock was studied. Various configurations were proposed and simulation results were given for each case to optimize process variables. This new process offers an overall yield values above 70% with minimum separation steps involved and the possibility of utilities integration. The process does not involve any CO production, thus becoming environmentally more favorable. The initial capital investment of the proposed process is much lower compared to the conventional route.

Keywords: Vinyl acetate; Acetic acid; Ethane; Ethylene.

Dept. of Electric Power and Machines

90. Guaranteed-Cost Reliable Control with Regional Pole Placement of A Power System

H. M. Soliman, A. Dabroum, M. S. and Mahmoud, M. Soliman

Journal of the Franklin Institute, 348: 884-898 (2011) IF: 1.508

This paper deals with the simultaneous coordinated design of power system stabilizer (PSS) and the flexible ac transmission systems (FACTS) controller. The problem of guaranteed cost reliable control with regional pole constraint against actuator failures is investigated. The state feedback controllers are designed to guarantee the closed loop system satisfying the desired pole region, thus achieving satisfactory oscillation damping and settling time, and having the guaranteed cost performance simultaneously. The proposed controllers satisfy desired dynamic characteristics even in faults cases. The controller's parameters are obtained using the linear matrix inequalities (LMI) optimization. Simulation results validate the effectiveness of this approach.

Keywords: Power system stabilizer (PSS); FACTS; Fault-tolerant control; Reliable control; Actuator failures; Pole constraint; Guaranteed cost control; LMI.

91. Assessment of Breakdown Voltage of Sf_6/N_2 Gas Mixture Under Non Uniform Field

A. M. Mahdy

IEEE T. on Dielectrics and Electrical Insulation, 18 (2): 607-612 (2011) IF: 1.47

The dielectric breakdown of SF6/N2 gas mixture insulating system is believed to be sensitive to local irregularity of the electric field which may result from the presence of defects such as contaminants adhering to the electrode surface and surface roughness. Normally the surface roughness is produced from machine finishing and due to the aging of the system. This paper models the insulation breakdown mechanism of SF6 gas mixture in the presence of surface roughness for non-uniform field gaps. The electric field inside the gap is computed by using the charge simulation method taking into consideration the perturbations of the field in the presence surface roughness. The breakdown voltage is assessed by applying the criterion of slightly and highly divergent field and using the experimental results of figure-of-merit which is a measure of quantifying of the sensitivity of the gas to the effects of the electrode surface roughness.

Keywords: SF6-gas mixture; GIS apparatus; Breakdown voltage assessment; Roughness effect; Charge simulation method.

92. Stochastic Modeling Compared with Artificial Intelligence Based Approach for Electrical Load Forecasting

A. Seif E. M. Gabr, M. A. Moustafa Hassan and O. Y. Abul-Haggag

Journal of American Science, 7 (4): 400-407 (2011)

Accurate load forecasting is very important for electric utilities in planning for new plants. Also it is very significant for the routine of maintaining, scheduling daily, electrical generation, and loads. In this study, emphasis was considered on short-term load forecasting which is important for real time operation and control of power systems. Artificial intelligence and stochastic forecasting models were examined. The performance of these models is dependent on the characteristics of electric loads and is based on the assumption that electric load patterns are basically invariant with time. Two different models were considered and a new stochastic model (called REGARIMA) was introduced and compared with ANFIS model. Both models were tested and shown to be the best one that represents the available data. The results obtained using the two approaches are very accurate and mutually competitive. Furthermore, they are very promising in short term forecasting techniques, which could be applied as well on wind speed forecasting.

Keywords: Artificial Intelligence Techniques; Short Term Forecasting; Peak Loads; Stochastic Forecasting Models.

93. An Anfis Based Distance Relay Protection for Transmission Lines in Eps

T. S. Kamel, M. A. Moustafa Hassan and A. El-Morshedy

International Journal of Innovations in Electrical Power systems, (2011)

The sophisticated Application of Soft computing Techniques and Artificial Intelligent Approaches were introduced recently in Protection of Transmission line in electric power systems. In this article, the application of one of ***the artificial intelligence*** techniques; which is Adaptive Neuro-Fuzzy Inference System (ANFIS); for Distance Relay Protection for Transmission line in Electrical Power systems (EPS) will be presented. The applied technique is concentrating on fault detection, classification, as well as fault location. These issues will be addressed in this article. The ANFIS can be viewed as a fuzzy system, a neural network or fuzzy neural network. This paper aims; firstly, to detect the fault occurrence in very short time using ANFIS, and isolate the faulty section of the transmission lines. Secondly to classify the fault type using ANFIS also, then decide which of the three phases are exposed to the fault. Finally, locating the fault will be achieved easily via ANFIS. The input data of the ANFIS are derived from the fundamental values of the voltage and current measurements using digital signal processing via Discrete Fourier Transform. However, the loading conditions over the protected transmission line are assumed to be nearly constant in this research.

Keywords: Adaptive neuro fuzzy; Inference system (ANFIS); Artificial intelligence based.

94. Stochastic Modeling Compared with Artificial Intelligence Based Approach for Short Term Wind Speed Forecasting

E .M. Abd El-Gawad, M.A. Mustafa Hassan, M. A. M. Hallouda and O.Y. Abul-Haggag

Journal of American Science, 7(4): 393-399 (2011)

The sophisticated Application of Artificial Intelligent Approaches was introduced recently in renewable energy in electric power systems. However, these approaches started with introducing Fuzzy Logic (FL) in the last decades of the last century. Furthermore, Artificial Neural Network (ANN) was introduced to solve many problems in electric power systems. Among these problems is forecasting of wind speed.

In this proposed article, the application of Adaptive Neuro-Fuzzy Inference System (ANFIS) is used to forecast the coming speed of wind using real data of the past. The ANFIS can be viewed as a combination of fuzzy system and neural network or fuzzy neural network. This paper aims; firstly, to forecast the average value of wind speed via some well known method. Secondly compare between these different method like Autoregressive Integrated Moving Average (ARIMA), Autoregressive Moving Average form (ARMA), Autoregressive Form (AR). The goal of these methods is to search for the best one compared to Adaptive Neuro Fuzzy Inference System (ANFIS).

Keywords: Adaptive neuro fuzzy inference system (ANFIS); Autoregressive integrated moving average form (ARIMA); Autoregressive moving average form (ARMA); Autoregressive form (AR); Short-term load forecasting.

95. Disturbance-Rejection-Pid Controller for Flexible Arm Robot using Iterative Linear Matrix Inequality

Soliman H. M., Bayoumi, Ehab H. E., Kharnashawy, H. and Al-Harthi, M. M.

Electromotion Scientific Journal, 18 (2): 93-102 (2011)

In many practical robotic systems, large disturbances in the load are unavoidable. In this paper, a PID controller for a flexible arm robot is designed to satisfy the objectives :(1) stability and H∞ performance specifications (disturbance rejection). Iterative linear matrix inequality technique is utilized to build an algorithm to calculate the parameters of the PID feedback controller. The proposed design is applied to practical industrial robot manipulator with load disturbances at the motor and the tool. The results show that the controller attenuates the effect of the disturbances in the output and provides a precise performance regarding the tool tracking.

96. Parameter Estimation and Dynamic Simulation of Gas Turbine Model in Combined Cycle Power Plants Based on Actual Operational Data

H. Emam Shalan , M. A. Moustafa Hassan and A. B. G. Bahgat

Journal of American Science, 7 (5): 303-310 (2011)

Gas turbines are very important nowadays for electric power generation specially that used in the Combined Cycle Power Plants (CCPPs). For this electric power generation, the dynamics of the gas turbine and parameters estimation are very essential. In this article, a simple procedure is used for estimating the parameters of Rowen's model for HDGTs in dynamic studies for analysis purposes.

The parameters of Rowen's model for a 265-MW HDGT are derived and several simulated tests using Matlab/Simulink are presented. The way of obtaining the parameters are based on simple physical laws. It explains briefly how to extract the parameters of the model using the operational and performance data.

The obtained results via simulations using Matlab/Simulink are highly matched with the involved scientific articles that published in different literature. Furthermore, the obtained results verifies the operational results of the considered HDGT. However, the procedure here is applied on a practical HDGT. The same procedure could be applied for any scale (size) of gas turbines.

Keywords: Combined cycle power plant (CCPP); Dynamic simulation; Gas turbine; Mathematical modeling; Thermodynamic process.

97. Fuzzy Speed Controllers of Combined Cycle Power Plants

Magdy Aboeleela, Abdulmonein Fetoh and Ahmed Bahgat Gamal

*International Journal of Innovations in Electrical Power Systems,*3 (2): 109-121 (2011)

This paper is focused on the implementation of fuzzy logic controllers and a combination between fuzzy logic control and proportional control to control the speed of a combined cycle electric power plant (CCPP). The system is simulated using Matlab/ Simulink and the fuzzy controller is implemented as a box in the simulation. Different types of the fuzzy controller have been tried in order to obtain the required speed response which achieves certain transient and steady state behavior.

Keywords: Combined cycle; Electric power system; Fuzzy controller.

98. PSO-based Robust PID Control for Flexible Manipulator Systems

H.A. Elkaranshway, E.H.E. Bayoumi and H.M. Soliman

Int. J. Modelling, Identification and Control, 14: (2011)

In this paper, a new control law is designed for flexible manipulator systems. Kharitonov theorem is used as a design tool to derive the robust control in robotic systems. Stability is guaranteed not only at one operating condition but also for a wide range of system uncertainty. Both the non-linear behaviour of the gearbox stiffness and the end load variations are tackled as interval uncertainties in the model. Particle swarm optimisation (PSO) is used to tune controller parameters, such that, the greatest real parts of closed loop eigenvalues among Kharitonov-extreme polynomials is minimised to assure the highest possible relative stability.

The flexible manipulator is a realistic industrial benchmark robot manipulator. The proposed controller is tested as well for rejecting disturbances injected at the motor and the tool. The robustness performance of the controller is evaluated in terms of reference tool position tracking in the presence of the mentioned disturbances and uncertainties.

The results of the simulation are presented and compared to the results of traditional controllers and very promising outcomes are obtained.

Keywords: Robust PID controller; Flexible robot manipulator; Kharitonov theorem; Particle swarm optimisation; PSO.

99. Deadbeat Performance of Vector-Controlled Induction Motor Drives Using Particle Swarm Optimization and Adaptive Neuro-Fuzzy Inference Systems

Bayoumi, Ehab H.E., Awadallah, M. and Soliman, H.

Electromotion Scientific Journal, 18 (4): 231-242 (2011)

The paper presents a design technique for adaptive PI current and speed controllers maintaining deadbeat response in vector-controlled induction motor drives. The proposed design is based on particle swarm optimization (PSO) and adaptive neuro-fuzzy inference systems (ANFIS).

The controllers cope with wide-range load variation of the system by tuning their parameters as the loading point changes. Two PI controllers are designed for the inner current loop and outer speed loop. PSO algorithm is used to obtain the controller parameters for deadbeat behavior at selected load points uniformly distributed over wide range of operation.

The data obtained from PSO are used to train ANFIS agents that

could produce controller parameters for deadbeat response at any other load point within the operating range. Testing of the developed ANFIS shows that the controllers could preserve deadbeat performance over the whole loading range. Experimental measurements of system performance validate the proposed routine and emphasize its feasibility.

Dept. of Electronics and Communication Engineering

100. Design of A Perfect Electromagnetic Conductor (PEMC) Boundary by using Periodic Patches

H. M. El-Maghrabi, A. M. Attiya and E. A. Hashish

Progress In Electromagnetic Research M, (16): 159-169 (2011)

Perfect electromagnetic conductor (PEMC) is a novel concept in electromagnetic fields of interesting properties and many potential applications. This paper introduces a new technique to design an artificial surface that has equivalent PEMC properties. The proposed PEMC boundary is based on a periodic structure composed of two conducting patches on a grounded dielectric slab. One of them is embedded inside the substrate and the other lies on the surface of the substrate.

A conducting via is used to connect the two patches. In the resulting PEMC boundary, the polarization of the reflected wave is controlled by the tilting angle between the two patches.

Keywords: Electromagnetic; PEMC; Periodic structure; Design.

101. Active Circuits: Active Realization of Doubly Terminated LC Ladder Filters Using Active Building Blocks [Paperback]

Lobna A. Said, Ahmed Soliman and Ahmed Madian

LAP Lambert Academic Publishing GmbH & Co. KG, (2011)

Analog designs have been viewed as a voltage dominated form of signal processing for a long time. However current-mode signal processing circuits have been preferred over the voltage-mode signal processing circuits due to their advantages such as higher signal bandwidth, larger dynamic range, greater linearity, lower power consumption, and simpler circuitry. Designs for active realizations of passive elements using high performance active devices are a rich area of research; many active elements have been used to simulate the inductor part in doubly terminated ladder filters. The researcher here try to contribute in this filed.

102. Analog Circuits: Applications, Design and Performance Chapter 4 Tran conductance Amplifiers: Nam Realizations and Applications

Ahmed M. Soliman

Nova Science Publisher, 355-358 (2011)

A systematic generation method of the single input single output transconductance amplifier (TA) based on using nodal admittance matrix (NAM) expansion is given. The four pathological elements used are the nullator, norator, voltage mirror (VM) and current mirror (CM). The single input single output TA also known as the voltage controlled current source (VCCS) includes two types depending on the direction of the output current. Two pathological realizations for each type using grounded resistor are given and eight pathological realizations for each type using floating resistor are also derived. Applications of TA in realizing grounded and floating resistors, grounded and floating inductors, first order voltage mode and current mode all pass filters, Tow Thomas second order filter, universal second order voltage mode and mixed mode filter using five single input differential output TA and one single input single output TA and oscillators using a single input single output TA are included.

Dept. of Engineering Mathematics and Physics

103. A Feature Selection Method using Misclassified Patterns

D. M. Shawky and A. F. Ali

International Journal of Computer Theory and Engineering, 3 (5): (2011)

Feature selection (FS) is a key step in the data mining process. In FS, the objective is to select the smallest subset of features that reduces complexity and ensures generalization. In this paper, we present a combined filter-wrapper feature selection approach using misclassified data.

The learning process starts with only one feature, which gives a large number of misclassified patterns. Only these patterns are used to select the next best feature which is added to the first one. By focusing on the misclassified patterns, the learner is undistracted and hence, it can select the relevant features more effectively and faster.

The process continues until the classification results are within the required accuracy. The approach is applied to three datasets with high dimensional features using a variety of selection models and search strategies. Experimental results demonstrate the efficiency of the proposed approach in the two-class classification tasks.

Keywords: Feature selection; Misclassified patterns; Pattern classification.

104. Oscillation Criteria for Fourth Order Nonlinear Neutral Delay Dynamic Equations on Time Scales

Said R. Grace and John R. Graef

Global Journal of Pure and Applied Mathematics, 7 (4): 439-447 (2011)

The authors establish some new criteria for the oscillation of solutions of fourth order nonlinear neutral delay dynamic equations of the form $a(t)\,(x(t) - p(t)\,x\,(\tau\,(t)))^{\Delta\Delta\Delta})^{\Delta} + q\,(t)\,x^{\lambda}\,(g(t)) = 0$

on a time scale T, where $\lambda > 0$ is the ratio of odd positive integers, and a, p, and q are real-valued positive *rd*-continuous functions defined on T.

AMS Subject Classification: 34N05, 34K11, 34C15.

Keywords: Dynamic equations; Fourth orderl; Neutral delay equations; Nonlinear equations; Oscillation; Time scales.

Dept. of Irrigation & Hydraulics Engineering

105. Performance Assessment of Irrigation Water Management in Old Lands of the Nile Delta of Egypt

D. E. El-Agha, D. J. Molden and A. M. Ghanem

Irrigation and Drainage Systems, (2011)

This paper provides the methodology and results of a cross-scale diagnostic performance assessment program of the irrigation water management in the old lands of the Nile Delta of Egypt. The analysis was done at three levels; main canal level, branch canals level and on-farm level of the Meet Yazid command (82,740 ha) for the year 2008–2009 to highlight areas for improvement. At the main canal level the annual average percentage of irrigation water returning to drains and groundwater was 53% of the total water supplied. Since Meet Yazid lies at tail end of the delta, and there is groundwater salinity, opportunities for reuse are increasingly limited moving north to Lake Burullus. This would indicate opportunities for real water savings. The results of monthly relative water supply of the main canal indicated mismatch between demand and supply especially during the winter months, and when supply is low farmers do reuse drainage or groundwater. Also, the assessment of the three branch canals showed non-uniformity of water distribution and mismatch between demand and supply even when comparing improved and non-improved canals. At the on-farm level in paddy fields, the amount of irrigation flows to drains and saline sinks varied from 0.46 to 0.71 of inflow. In spite of these values of non-uniformity and low depleted fraction, the relative evapotranspiration (ratio of actual to potential) evaporation was uniformly high, indicating most crops of most farmers were not water stressed, which is also confirmed by the high yield values. The average values of productivity per unit water depleted by ETact were 1.04 and 1.05 kg/m3 for rice and wheat fields, respectively, with yields of rice and wheat at 8 and 6 t per ha respectively. On farm and tertiary improvements alone will not yield real water savings, as excess water in the main canal and drains will continue to flow out of the system. Rather the focus should first be on supplies to the main canal, accompanied by more precise on farm and water delivery.

Keywords: Performance; Indicators; Irrigation; Efficiency; Actual evapotranspiration; Productivity; Water saving.

Faculty of Computers and Information

Dept. of Computer Science

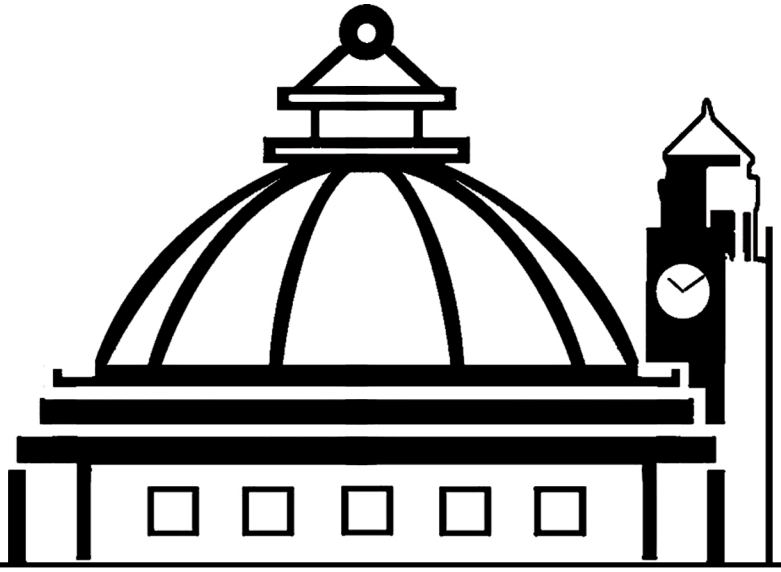
106. A New Algorithm for Static Task Scheduling for Heterogeneous Distributed Computing Systems

Nirmeen A. Bahnasawy, Fatma Omara, Magdy A. Koutb and Mervat Mosa

International Journal of Information and Communication Technology Research, 1 (1): (2011)

Effective task scheduling is essential for obtaining high performance in Heterogeneous Distributed Computing Systems (HeDCSs). However, finding an effective task scheduling in HeDCSs should take into consideration the heterogeneity of processors and inter-processor communication over head, which results from non-trivial data movement between tasks scheduled on different processors. In this paper, a new high performance task scheduling algorithm called Sorted Nodes in Leveled DAG Division (SNLDD) is presented for HeDCSs with considering a bounded number of processors. The main concept of the proposed algorithm is to divide the Directed Acyclic Graph DAG into levels and tasks in each level are sorted in descending order according to their computation size. A new attribute has been introduced and used to efficiently select tasks for scheduling in HeDCSs. This selection of tasks enables the proposed SNLDD algorithm to generate high-quality task schedule in a heterogeneous computing environment. To evaluate the performance of the proposed SNLDD algorithm, a comparison study has been done between it and the Longest Dynamic Critical Path (LDCP) algorithm which is considered the most efficient algorithm. According the comparative results, it is found that the performance of the proposed algorithm provides better performance than the LDCP algorithm in terms of speedup, efficiency, complexity, and quality.

Keywords: Task scheduling; Directed acyclic Graph; Heuristics; Parallel Processing; Heterogeneous Distributed Computing Systems.



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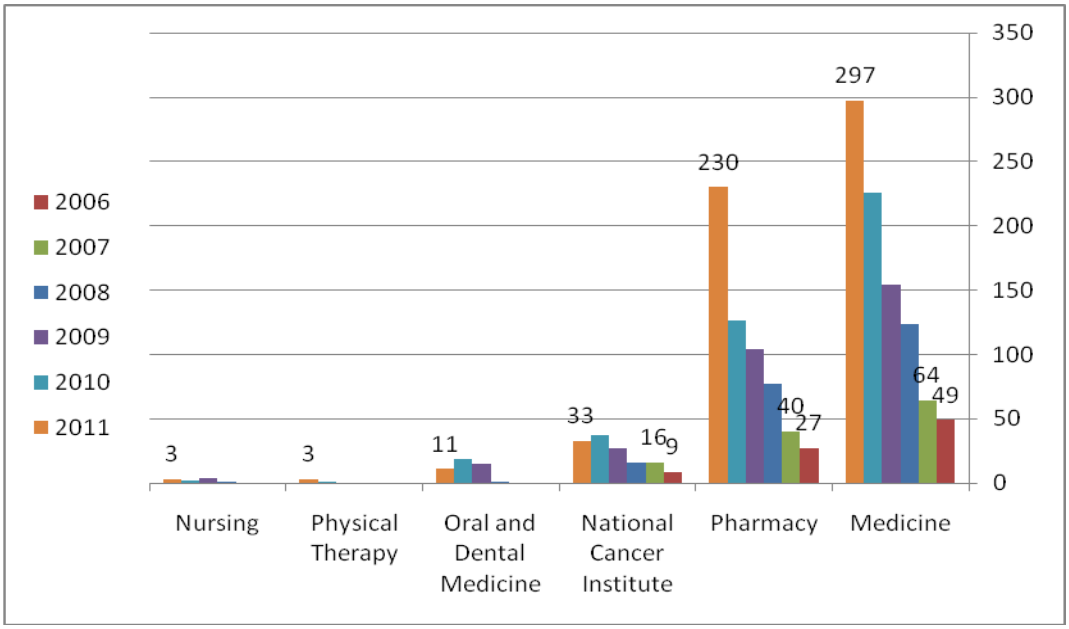
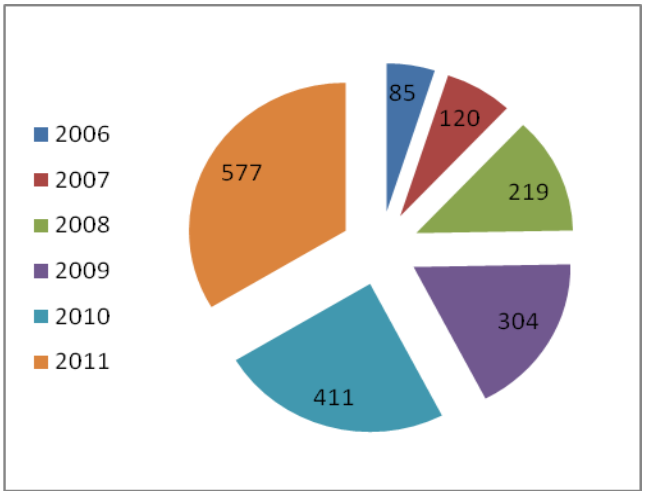
Medical Sciences Sector

Total No. of Publication for Medical Sciences Sector

Faculty	2006	2007	2008	2009	2010	2011	Total
Medicine	49	64	124	154	226	297	914
Pharmacy	27	40	77	104	126	230	604
National Cancer Institute	9	16	16	27	37	33	138
Oral and Dental Medicine			1	15	19	11	46
Physical Therapy					1	3	4
Nursing			1	4	2	3	10
Total	85	120	219	304	411	577	1716





Faculty of Medicine

Dept. of Clinical & Chemical Pathology

107. Quantitative Assessment of Wilms Tumor 1 (Wt1) Gene Transcripts in Egyptian Acute Lymphoblastic Leukemia Patients

Hoda A. Sadek, Wafaa H. El-Metnawey, Iman A. Shaheen, Mervat M. Korshied and Azza S. Mohamed.

Journal of Investigative Medicine, 59 (8): (2011) IF: 1.536

Background: Accurate assessment of minimal residual disease (MRD) in acute lymphoblastic leukemia (ALL) patients after initial chemotherapy is essential to evaluate the efficacy of therapeutic regimens. Wilms tumor 1 (*WT1*) is a pan-leukemic marker used for identification of the leukemic clone rather than the use of individual specific molecular aberration of ALL.

Methods: Using a real-time quantitative polymerase chain reaction, bone marrow samples from 41 newly diagnosed Egyptian ALL patients; 22 adults and 19 children were examined for *WT1* expression. After induction therapy, *WT1* expression was reestimated in 20 ALL patients.

Results: *WT1* was overexpressed in adult and pediatric ALL patients (95.4% and 89.4%, respectively). *WT1* expression at diagnosis had no statistically significant impact on disease-free survival of patients (P = 0.054). However, WT1 expression increased after induction chemotherapy in the 3 pediatric patients who had relapse.

Conclusions: *WT1* is a leukemia-associated molecular marker that may be used for the diagnosis and for monitoring clinical progress in ALL; it also can be used as a molecular target for adoptive immunotherapy.

Keywords: Wilms tumor gene 1; Acute lymphoblastic leukemia; Real-time quantitative polymerase chain reaction; Minimal residual disease.

108. Enteropathogenic Escherichia Coli Associated with Diarrhea in Children in Cairo, Egypt

Iman K. Behiry, Emad A. Abada, Entsar A. Ahmed and Rania S. Labeeb

The Scientific World Journal, 11: 2613-2619 (2011)
IF: 1.524

In this study we isolate and identify the Enteropathogenic Escherichia coli (EPEC) causing diarrhea in children less than five years in Cairo, Egypt, during different seasons. Children younger than five years with diarrhea, attending the Pediatric Gastroenterology Intensive Care Unit of the Cairo University Pediatric Hospital in one year period were our group of study. Our control group was age and sex matched concurrent healthy children. The identified E. coli isolates were subjected to antimicrobial disc diffusion susceptibility test and further identified for EPEC serotype by slide agglutination test, using antiserum E. coli somatic trivalent I (O111, O55, O26) according to the instructions of the manufacturer. Out of 134 patients 5.2% of them revealed EPEC in the fecal sample, while the 20 children control group showed no EPEC isolates in their samples. Our EPEC frequency showed variations from the compared results of other studies. Higher rate of EPEC (18.7%) was found in patients between 2 to 3 years, while EPEC rate was (7.5%) in patients less than 6 months old, with P < 0.05. EPEC was identified from fecal specimens as a unique pathogen or associated with other pathogens in acute and chronic diarrhea in children. EPEC were detected in all seasons except in winter, and was predominant in summer season. Four (57%) EPEC isolates were resistant to ampicillin, ticarcillin, and cotrimoxazole, and (14.3%) to the third generation cephalosporins.

Keywords: Enteropathogenic E. coli; Children less than 5 years; Slide agglutination test.

109. Comparative Study Between Intravenous and Subcutaneous Administration of Cladribine in Treatment of Hairy Cell Leukemia Patients

Nehad M. Tawfik and Aml Soliman Nasr

Comparative Clinical Pathology, (2011)

Cladribine is a cytotoxic agent with high activity in hematological malignancies. It is usually administered intravenously. The study was carried out on 20 Egyptian hairy cell leukemia cases; 17 cases were de novo, and 3 cases were relapsed. Four (20%) were treated with IV cladribine, and 16 (80%) were treated with subcutaneous (SC) cladribine. An average duration of response was 36 months with no relapses in cases receiving IV cladribine vs. 25% relapse rate in cases receiving SC cladribine, with no significant difference between them. The subcutaneous administration of cladribine has a positive benefit/risk ratio in the treatment of patients with hairy cell leukemia.

Keywords: Hairy cell leukemia; Cladribine; Subcutaneous; Intravenous infusion.

110. Association of IL-10 Gene Promoter Polymorphisms and Non-Hodgkin Lymphoma in Egyptian Patients, Relation to Susceptibility, Correlation with Survival

Rania M. Sami, Aml Soliman Nasr, Noha Y. Ibrahim, Dalia O. Darweesh and Noha M. El Hussieny

Comparative Clinical Pathology, (2011)

The pathophysiology of non-Hodgkin's lymphoma is still unknown. Many cytokines, including interleukin-10 (IL-10), play a role in the perpetuation of the disease. The aim of the study was to investigate the association of IL-10 gene promoter polymorphisms with non-Hodgkin lymphoma and to correlate with survival. Fifty patients with diffuse large B-cell lymphoma as well as 50 age- and sex-matched apparently healthy volunteers were genotyped for biallellic IL-10 gene promoter polymorphisms at positions -1082(A/G) and -3557(T/A) using polymerase chain reaction–restriction fragment length polymorphism. There were highly statistically significant differences between the two studied groups regarding results of IL-10 1082A/G polymorphism, for homozygous (GG) and heterozygous (AG) genotypes (p value <0.0001) but no statistically significant differences

regarding homozygous (AA) genotype (*p* value= 0.7583). IL-10 3575T/A polymorphism revealed highly statistically significant differences between the two groups regarding homozygous (TT; *p* value <0.0001) and heterozygous (TA) genotypes (*p* value=0.0007), but no significant difference found regarding homozygous (AA) genotype (*p* value= 0.1622). We did not find any associations between bad prognostic factors and any of the genotypes or alleles frequencies. Our results also reported that there was no impact of these polymorphisms on survival of lymphoma patients. IL-10 1082A/G and 3557T/A polymorphisms could be claimed as independent risk factors for susceptibility to lymphoma, regardless of any associated bad prognostic factors and without impact on overall survival.

Keywords: Non-Hodgkin lymphoma; Interleukin-10; Promoter polymorphisms; RFLP.

Dept. of Dermatology

111. Development of NC1 and NC2 Domains of Type Vii Collagen Elisa for the Diagnosis and Analysis of the Time Course of Epidermolysis Bullosa Acquisita Patients

Marwah Adly Saleh, Ken Ishii, Yool-Ja Kim, Akihiro Murakami, Norito Ishii, Takashi Hashimoto, Enno Schmidt, Detlef Zillikens, Yuji Shirakata, Koji Hashimoto and Yasuo Kitajimaand Masayuki Amagai

J. Dermatol Sci., 62: 169-175 (2011) IF: 3.712

Background: Epidermolysis bullosa acquisita (EBA) is an acquired autoimmunemechanobullous disease. EBA patients possess autoantibodies against type VII collagen which is composed of a collagenous domain flanked by non-collagenous NC1 and NC2 domains. It was reported that major epitopes reside within the NC1 domain and minor epitopes reside within NC2 domain.

Objective: The aim of this study is to develop a sensitive and specific ELISA to facilitate the diagnosis of EBA. **Methods:** We developed ELISAs using recombinant NC1 domain produced by mammalian expression system and recombinant NC2 domain produced by mammalian or bacterial expression system to characterize autoantibodies in EBA. Next, we developed an ELISA using a combination of the NC1 (mammalian expression) and NC2 (bacterial expression). We tested the ELISAs with 49 EBA sera, 55 normal control sera, 20 pemphigus vulgaris and 20 bullous pemphigoid sera.

Results: When we evaluated the 49 EBA sera using the NC1 and NC2 ELISAs, 38 (77.5%) reacted with NC1 domain only, 7 sera (14.2%) reacted with both NC1 and NC2 domains, and one serum (2%) reacted with NC2 domain only. Therefore, to increase the sensitivity of the assay, we developed an ELISA coated with a mixture of recombinant NC1 and NC2 domains, resulting in 93.8% sensitivity and 98.1% specificity. By analyzing the time course of two EBA patients, ELISA scores fluctuated in parallel with their disease activity. **Conclusion:** We conclude that the NC1 + NC2 ELISA can be a practical assay for the diagnosis and follow up of the antibody titers of EBA patients

Keywords: Type VII collagen; Epidermolysis bullosa acquisita; Autoantibodies; ELISA.

Dept. of Diagnostic Radiology

112. Outcomes of an Algorithmic Approach to Management of Pneumothorax Complicating Thermal Ablation of Pulmonary Neoplasms

Nour-Eldin Nour-Eldin, Nagy N.N. Naguib, Ahmed M. Tawfik, Karen Koitka, Ahmed S. Saeed and Thomas J. Vog

J. Vasc Interv Radiol, 22 (9): (2011) IF: 2.064

Purpose: To investigate the outcomes of an algorithm for treatment of pneumothorax in association with radiofrequency (RF) and microwave (MW) ablation of pulmonary neoplasms.

Materials and Methods: This retrospective study included data from 248 ablation sessions for lung tumors in 164 patients (92 men; mean age, 59.7 y ± 9.8): 200 RF ablations (80.6%) and 48 MW ablations (19.4%). Pneumothorax was classified as mild, moderate, or severe. Twelve patients developed mild pneumothorax and were observed for further complications, and 33 developed moderate or severe pneumothorax and were managed with percutaneous aspiration of the pneumothorax. The decision to abort or continue ablation was determined based on clinical response to percutaneous aspiration, clinical distress, and feasibility of applying the applicator within the lesion.

Results: Incidence of pneumothorax was 18.1% (45 of 248 sessions), with four (8.9%) occurrences during MW ablation and 41 (91.1%) during RF ablation. Pneumothoraces were mild in 12 sessions (26.7%), moderate in 27 (60%), and severe in six (13.3%). Complete evacuation of the pneumothorax was achieved in 25 of 33 sessions (75.8%). Intercostal tube drainage was indicated in eight sessions (24.2%), including six severe and two moderate pneumothoraces. Pneumothorax evolved immediately after thoracic puncture in 10 patients. Ablation therapy was aborted in two sessions in which severe pneumothorax occurred, and an intercostal chest tube was inserted.

Conclusions: Mild pneumothorax can be managed by close observation without interruption of ablation therapy. Manual evacuation was an effective strategy for management of moderate pneumothorax and allowed for adequate positioning of the electrode, but did not suffice for severe and progressive pneumothorax, which required placement of an intercostal chest tube.

Keywords: Pneumothorax; Ablation therapy; Radiofrequency; Microwave; Lung tumors.

Dept. of Ear Nose & Throat

113. Extent of Resection of the Lamina Papyracea in Medial Subperiosteal Abscess

Badawy C. Khalifa

Am. j. otolaryngol, (1): 145-161 (2011) IF: 1.136

Objective: To compare the surgical outcomes of minimal and wide resections of the lamina papyracea in cases with medial subperiosteal abscess.Setting. University hospital. **Study Design**. Case series and planned collection.

Materials and Methods: Thirteen patients with medial subperiosteal abscess as a complication of sinusitis were

included in this study. All patients had reduced visual acuity and ophthalmoplegia. Each patient underwent endoscopic sinus surgery to treat the abscess. Age, sex, extent of lamina resection, postoperative vision status, ophthalmoplegia, and the return of orbit to its normal position were recorded. **Results**: Eight (62%) and 5 (38%) patients underwent minimal and wide endoscopic lamina papyracea resection, respectively. Proptosis, visual acuity, and ophthalmoplegia returned to normal within 24 to 48 hours. All patients received medical treatment in the form of intravenous antibiotics and steroids. Neither technique required revision surgery.

Conclusion: Medial subperiosteal abscess is a serious medical condition that can lead to blindness. Endoscopic evacuation of the abscess is currently the treatment of choice. Minimal lamina papyracea resection may be sufficient to drain the abscess. It should be further evaluated as it may have the same result as wide lamina papyracea resection and wide exposure of the periorbit. The aim of the operation is to liberate the pus regardless of the extent of the resection. Revision surgery was not needed with either technique.

Keywords: Subperiosteal abscess; Endoscopic sinus surgery; Lamina papyracea; Complicated sinusitis.

114. Bipolar Scissors Tonsillectomy: what are the Advantages?

Mahmoud Ashraf Ragab, Ahmed Atef, Mohamed Mosleh, Basem Metwally and Ahmed F. Abdel Fattah

Journal of Otolaryngology-Head & Neck Surgery, 40, (3): 256-260 (2011) IF: 0.551

Background: Various methods have been described for tonsillectomy. Convincing evidence in the literature is still lacking regarding the optimal method of performing this surgical procedure.

Aim: To investigate the outcome of bipolar scissors tonsillectomy and compare it to bipolar diathermy forceps tonsillectomy.

Methods: A prospective study of 91 patients was done at Cairo University Hospital. The right tonsils were removed in all patients using the bipolar scissors technique (group A), and the left tonsils were removed with bipolar forceps (group B). Operative time, operative blood loss, and postoperative hemorrhage were the defined parameters used to compare the outcome of both techniques.

Results: The mean operative time for group A was 14.68 ± 6.78 minutes, whereas in group B, it was 14.66 ± 5.53 minutes. This difference was found to be statistically nonsignificant (p = .987). In group A, the mean intraoperative blood loss was 27.55 ± 17.89 mL, whereas in group B, the mean blood loss was 29.98 ± 16.9 mL. This difference was not found to be statistically significant (p =.509). The overall postoperative bleeding, either primary or secondary, from the first group was 3.3% (three cases), whereas it was 2.2% (two cases) from the second group.

Conclusion: Bipolar scissors tonsillectomy is considered an easy, safe, and effective procedure. Although bipolar diathermy forceps tonsillectomy needs equipment that is less expensive, its outcome is comparable to that of bilateral scissors tonsillectomy.

Keywords: Bipolar forceps; Bipolar scissors; Diathermy tonsillectomy; Posttonsillectomy hemorrhage.

Dept. of Emergency Medicine

115. Effect of Hypertonic Saline on Adequacy of Resuscitation, Progression of Inflammation and Outcome of Critically ill Septic Patients

Mohamed Shehata, Sherif Sabry, Mohamed Soliman and Helmy Elgawaby

Life Science Journal, (2011) IF: 0.158

Background: Many studies discussed the use of hypertonic solutions (HTS) for treatment of septic shock; however, they do not refer to the possible prophylactic benefit of early use of such solutions (before development of severe sepsis or septic shock).

Aim of the work: to evaluate the effect of early administration of hypertonic saline on adequacy of resuscitation, progression of inflammation and outcome of critically ill septic patients.

Patients and methods: Thirty patients with sepsis were enrolled in our prospective study in El-hilal hospital in Cairo. Patients were divided into two groups: The study group (15 patients) with sepsis received 4ml/kg 7.5% hypertonic saline over 15 minutes plus standard medical therapy, compared to the control group (15 patients) with sepsis received standard medical therapy alone. Both groups were monitored as regard to hemodynamics (MAP, HR, UOP, CVP), respiratory parameters (R.R, ABG, CVSO2) and laboratory parameters (WBCs, CRP, TNF-α).

Results: The study group showed significant reduction in tachycardia and tachypnea induced by sepsis ($P < 0.05$), occurrence of metabolic acidosis ($p= 0.019$), inflammatory markers (WBCs, CRP) (p value<0.034), TNF-α ($p= 0.001$), the rate of occurrence of septic shock ($p = 0.006$), need for mechanical ventilation ($p = 0.006$), the mean ICU length of stay ($p = 0.001$), ICU mortality ($p =0.032$) and increase in CVSO2 ($P = 0.034$).

Conclusion: HTS 7.5% has favorable effect in efficacy of resuscitation, progression of inflammation and outcome of critically ill septic patients.

Keywords: Hypertonic saline; Inflammation; Critically- ill septic patients.

116. Early Clinical and Echocardiographic Effects of Elective Percutaneous Coronary Intervention

Mohamed Amin, Rania El Hosieny, Dalia Ragab and Ashraf Wadie

Life Science Journal, 8 (4): 1068-1077 (2011) IF: 0.158

Early effect of elective percutaneous coronary intervention (PCI) is important in clinical practice. Knowledge of different variables for suboptimal effects of PCI may help to refine indications of and to guide strategies aimed at improving outcome. Objectives. To detect the early effects of elective PCI on different clinical and echocardiographic

variables in the studied group and in different patient subgroups. **Methods**. Twenty-four patients with established coronary artery disease who are candidates for elective PCI of one or more of coronary vessels were enrolled in the study after exclusion of pts with acute MI and any contraindication for coronary angiography.

After obtaining complete history and full clinical examination; every pt was subjected to clinical assessment using Minnesota questionnaire & Canadian Cardiovascular Society Angina Classification (CCSAC), *transthorasic echocardiographic examination* with measuring of the following: Left ventricular end-diastolic and end-systolic volumes (LVEDV & LVEDV) with calculation of LV ejection fraction (LVEF), 17 segment model scoring system, wall motion score index (WMSI) & Myocardial performance index (MPI). *Elective coronary angiography* was performed with implantation of one or more stents. Clinical assessement and echocardiographic parameters were reevaluated 1 month post PCI. Analysis of data was done in the studied population & in pts subgroups according to risk factors, medications type, lesion classifications, type of revascularization, stent type and number of vessel affected. Results. 24 pts; 17 males & 7 females with mean age 55.7±9.3 years were studied at the Critical Care Medicine Department, Cairo University. The commonest risk factors were hypertension, and obesity each in 54.2%, followed by Diabetes Mellitus and family history of CAD each in 41.7%, smoking in 37.5%, and finally dyslipidemia in 33.3%. Both CCSAC and Minnesota questionnaire significantly improved after PCI. Mean LVEDV was 117±26.9 at baseline and 110.9±26.3 after 1 month, mean LVESV was 58.8±22 and 53.1±21.2 at follow up and mean LVEF was 50.9±8.1% and 53.1±7.5 after 1 month, all with significant p value. The Minnesota Score, LVEF, LVESV & MPI significantly improved in pts with impaired baseline LVEF than those with normal LVEF. 408 segments were analysed, 84 segments showed RWMA in the form hypokinesia in 18%, and akinesia in 3%. Analysis of the affected segments revealed hypokinesia in 86.9% and akinesia in 13.1%. At follow up 33 segments (39.3%) showed improvement in the RWMS.

According to different risk factors, the presence of HTN, absence of DM, & the absence of dyslipidemia were in favor with more improvement in the LV volumes and EF. None of the other risk factors showed significant effect before & after PCI. According to the type of medications, the use of β-Blockers (βB) or angiotensin converting enzyme inhibitors (ACEIs) or the absence of Ca Channel Blockers (CCB) was in favor of significant improvement in the Minnesota score, LV volumes and function, and regional LV function. According to angiographic criteria; pts with type A lesion (38%) showed improvement in Minnesota score, EF, ESV, MPI, and RWMSI than type B (33%) or C (29%). All patients showed clinical improvement by CCSAC whatever the lesion type. Pts with single vessel disease (58%) showed significant improvement in Minnesota score, EF, EDV, ESV, and MPI than those with 2 or more vessel affection. Pts who underwent total revascularization (62.5%) showed significant improvement in Minnesota score, EF, EDV, ESV, and MPI than those with subtotal revascularization (37.5%). Patients using Bare Metal Stents (75%) showed significant improvement in Minnesota Score, EF, EDV, ESV, MPI, and RWMSI than those using Drug Eluting Stents (25%). Conclusion. Early clinical & echocardiographic improvements after elective PCI. Absence of DM or dyslipidemia or the use of βB or ACEIs was in favor of better PCI effect. Complex lesion and higher number of affected vessels showed less improvement after elective PCI.

Keywords: Elective PCI; Early; Clinical effect; Echocardiography.

Dept. of Internal Medicine

117. Anti-Cyclic Citrullinated Peptide Antibodies as A Discriminating Marker Between Rheumatoid Arthritis and Chronic Hepatitis C-Related Polyarthropathy

Wafaa M. Ezzat, Hala M. Raslan, Azza A. Aly, Nahed A. Emara, Manal M. El Menyawi and Amr Edrees

Rheumatol Int., 31: 65-69 (2011) IF: 1.431

Articular involvement is a frequent extrahepatic manifestation of hepatitis C virus (HCV) infection. The distinction between HCV-related polyarthropathy and true RA may be very diYcult, especially with recent onset RA before articular damage and erosions develop. The objective of the study is to assess the diagnostic utility of anti-CCP antibodies and compare it with that of rheumatoid factor (RF) in distinguishing between rheumatoid arthritis (RA) and HCV-related polyarthropathy. Anti-cyclic citrullinated peptide (CCP) antibodies and RF were determined in the sera of 30 patients with RA and 22 patients with HCV-related polyarthropathy. Anti-CCP antibodies were positive in 83.3% of patients with RA and in 4.5% in patients with HCV and polyarthropathy. RF was positive in 90% of RA patients and in 81.1% of HCV patients with polyarthropathy. The anti-CCP antibodies showed higher speciWcity for RA compared with RF (95.4 vs. 18.2%). However, the sensitivity of anti-CCP was comparable to that of RF (83.3 vs. 90%). In conclusions, anti-CCP antibodiesare reliable laboratory markers to diVerentiate between RA and HCV-related polyarthropathy.

Keywords: Rheumatoid arthritis; Anti-cyclic citrullinated; Peptide antibodies; Hepatitis C-related polyarthropathy.

118. Carriage of Staphylococcus Aureus in the Nose of Patients on Regular Dialysis Treatment using Hemodialysis Catheters

Hoda Abdel Hamid Maamoun, Amin Roshdy Soliman and Rasha El Sherif

Hemodialysis International, 15: 563-567 (2011) IF: 1.093

In the hemodialysis population, the incidence of Staphylococcus aureus colonization has been documented to be as high as 80%; effective prophylaxis of vascular access infection and bacteremia is a worthwhile goal in the management of hemodialysis population. Surveillance of 50 hemodialysis patients for S. aureus-positive nasal cultures was performed by monthly nasal swabs over a 12-month period. All patients were performing dialysis using hemodialysis catheters thrice weekly. All positive cultures

were treated with a prophylactic antibiotic regimen. Thirty-one patients (62%) had one or more positive cultures. The surveillance period was longer in the S. aureus nasal carriers ($p< 0.01$). The frequency of positive cultures correlated with the duration of surveillance ($p < 0.05$). The incidence of S. aureus bacteremia was greater in patients with three or more positive cultures ($p< 0.05$). This study suggests that continuous surveillance for S. aureus nasal colonization is essential to properly identify all hemodialysis patients using catheters at risk of developing S. aureus bacteremias.

Keywords: Hemodialysis; Vascular access; Bacteremia; Nasal colonization; Staphylococcus aureus; Antimicrobial therapy.

119. Vascular Endothelial Function of Sirolimus Maintenance Regimen in Renal Transplant Recipients

H. Maamoun, E. Esmail and A. Soliman

Transplantation Proceedings, (2011) IF: 0.993

Endothelial dysfunction is of vital importance as it may cause ischemia and dysfunction invarious organs, especially the heart and kidneys. Despite this problem being well documented in patients with end-stage renal disease, there are insufficient data considering this issue to demand sirolimus use in renal transplantation. One potential cause of endothelial dysfunction in renal transplantation patients may be the use of the conventional protocols with cyclosporine [CsA]- versus sirolimus-based therapy. We studied 22 renal transplant recipients including on CsA (n = 14; group I, and sirolimus (n = 8; group II). Endothelial functions of the brachial artery were evaluated using high-resolution vascular ultrasound. Endothelium-dependent and-independent vasodilatations were assessed by sublingual nitroglycerine (NTG). Results are presented as percentage from baseline values. Significant endothelial dysfunction was noted among renal transplant patients treated with CsA. Endothelium-dependent vasodilatation was 3.6% ± 2.8% in group I and 14.5% ± 3.2% in group II ($P < 0.002$). The increase in brachial artery diameter after sublingual NTG measured 9.9% ± 4.7% versus 22.1% ± 5.9% in groups I and group II, respectively. This observation indicated that endothelial vasodilatation was preserved among patients on sirolimus but not CsA therapy. We concluded that endothelial vasodilatation is impaired in renal transplant recipients. Moreover, sirolimus seems to be more useful than CsA to overcome the compromised vasculature as observed in diabetic and elderly patients.

120. The Pathogenic Role of Different Blastocystis Hominis Genotypes Isolated from Patients with Irritable Bowel Syndrome

Shawky A. Fouad, Maha M. A. Basyoni, Reham A. Fahmy and Mohamed H. Kobaisi

Arab journal of Gastroenterology, 12: 194-200 (2011)

Background and study aims: The pathogenic role of Blastocystis hominis is still regarded by some as controversial. Studies have been in progress for years to evaluate the role of blastocystosis in irritable bowel syndrome (IBS) and demonstrated that faecal carriage of B. hominis was frequent in these patients. This study attempted to distinguish different genotypes of B. hominis isolates obtained from patients with IBS and to evaluate their pathogenic potentials.

Patients and methods: One hundred subjects (51 patients with IBS and 49 asymptomatic infected subjects) harbouring B. hominis were investigated by a direct smear examination and in vitro culture of stool samples followed by genotyping of B. hominis by PCR using STS primers. Sigmoidoscopy was done in all subjects and biopsies were taken and subjected to histopathologic examination.

Results: Genotyping proved that only four genotypes of B. hominis were identified. In patients with IBS, genotypes III, I, and IV were detected (28, 15 and 14 isolates, respectively). On the other hand, genotypes III, IV, and II were identified in asymptomatic infected individuals (21, 19 and 13 isolates, respectively). The degrees of chronic inflammatory changes in sigmoidoscopic biopsies caused by B. hominis genotypes among IBS patients revealed that severe inflammation was present mainly in patients harboring genotype I isolates (4/15) (26.66%), while genotype III caused severe inflammation only in 9.09%. Genotype II isolates were not detected in IBS cases. Asymptomatic infected individuals harboring genotypes II, III and IV exhibited mild to moderate inflammatory changes. Genotype I isolates were not detected in asymptomatic infected group. The correlation between different B. hominis genotypes and degree of inflammation was statistically insignificant.

Conclusion: Genotype I was the most pathogenic genotype of B. hominis isolates in patients with IBS while genotype II was not detected among those patients. Also, our results suggest the presence of pathogenic and non-pathogenic strains among genotypes III and IV.

Keywords: Blastocystis hominis; Genotypes; IBS.

121. Spectrum of Acute Kidney Injury in A Tertiary Care Hospital in Cairo

Amin R. Soliman

Arab Journal of Nephrology and Transplantation, 4 (2): 83-86 (2011)

Introduction: Data concerning the spectrum of acute kidney injury (AKI) in Egypt are scarce. The study aims to describe the spectrum of AKI in a tertiary hospital in Cairo. Methods: We retrospectively collected the data of all cases of AKI who were treated at Dar El Shefa Hospital, Cairo, Egypt, from January 2006 to January 2007.

Results: There were 51 cases of AKI during the study period (29 males and 22 females). Their age ranged from 19 to 81 years with a mean of 48 years. Pre-renal azotemia and acute tubular necrosis (ATN) accounted for 53% of all cases. These were due to cardiovascular disease in ten patients, sepsis in six patients, obstetrical complications in five patients, post surgical in four patients, trauma in one patient and gastroenteritis in one patient. Contrast induced nephrotoxicity was responsible for AKI in eight cases (15.7%), glomerulonephritis vasculitis in eight (15.7%),

obstructive uropathy in five (9.8%) acute interstitial nephritis in two (3.9%), and acute urate nephropathy in one (2%). Thirty cases were treated conservatively, nineteen received hemodialysis, and two received peritoneal dialysis. Average duration of hospital stay was 11.7 days. Out of the fifty one cases, thirty-three recovered normal renal function (64.7%), eleven expired, five progressed to chronic kidney disease and two were lost follow up. Overall mortality was 21.5%. **Conclusion:** The common causes of acute kidney injury in our setting were pre-renal azotemia and ATN due to acute cardiovascular disease (19.6%), contrast induced nephrotoxicity (15.6%), and glomerulonephritis (15.6%) and sepsis induced ATN (11.7%). Most cases were managed conservatively and two thirds recovered their normal kidney function.

Keywords: Acute Kidney Injury; Dialysis; Glomerulonephritis; Kidney Failure; Nephrotoxicity.

Dept. of Nuclear Medicine

122. Impact of Histopathology of Non-Neoplastic Thyroid Tissue on Ablation Outcome in Patients with Papillary Thyroid Cancer

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Nuclear Med Communication, (32): 597-604 (2011)
IF: 1.367

Objective To assess the impact of histopathology of nonneoplastic thyroid tissue on ablation outcome in patients with papillary thyroid cancer (PTC). Methods The study included 124 patients referred for I-131 ablation therapy after total thyroidectomy for unifocal nonmetastatic PTC. All patients received 100 mCi of I-131 ablation dose. Follow-up whole body scans (WBS) and estimation of serum thyroglobulin level were carried out 6–9 months after ablation therapy and results were divided into complete or incomplete ablation. Results Incomplete ablation was found in 66.6% (12 of 18), 64% (16 of 25), 39.1% (nine of 23), 30% (six of 20), 33% (six of 18), and 20% (four of 20) in patients with PTC in a background of Hashimoto's thyroiditis, lymphocytic thyroiditis, colloid nodular goiter, nodular hyperplasia, multinodular goiter, and normal thyroid tissue, respectively. Patients with Hashimoto's thyroiditis and lymphocytic thyroiditis had statistically significant higher failure rate to achieve complete ablation compared with other groups. This significant difference was lacking between different nonautoimmune histopathologies and normal thyroid tissue.

For patients with thyroid disorders of autoimmune origin (Hashimoto's thyroiditis and lymphocytic thyroiditis), incomplete ablation was found in 65.1% (28 of 43) versus 34.4% (21 of 61) for all other nonautoimmune histopathologies collectively; the difference was statistically significant. Conclusion Histopathology of non-neoplastic thyroid tissue has a significant impact on ablation outcome in patients with PTC. Patients with a histopathology of non-neoplastic thyroid tissue of autoimmune origin have a significantly lower incidence of successful complete ablation after a single I-131 ablative dose (100 mCi) compared with those with nonautoimmune histopathology or with normal thyroid tissue.

Keywords: Hashimoto's thyroididtis; Lymphocytic thyoriditis; Papillary thyroid cancer; Radioactive iodine ablation.

123. Left Ventricular Myocardial Ischemia in Collagen Disease Associated with Pulmonary Hypertension: an Evaluation by Rest–Stress Gated Spect and Coronary Angiography

Mohamed M. El-Shafie, Shahenda S. Salem and Abdel A. Moghazi

Nuclear Med Communication, 32 (7): (2011) IF: 1.367

Objective: To detect coronary artery disease in asymptomatic patients with systemic lupus erythematosus and scleroderma associated with pulmonary hypertension, and to determine whether it is focal or diffuse ischemia.

Methods: Twenty patients with systemic lupus erythematosus (10 with pulmonary hypertension and 10 without), and 20 patients with scleroderma (10 with pulmonary hypertension and 10 without) were included in this study. Resting ECG, echocardiography, and stress–rest 99mTc sestamibi gated myocardial perfusion imaging were performed for all patients. Patients with ischemia were subjected to coronary angiography to exclude/confirm coronary artery lesions.

Results: Myocardial perfusion SPECT showed that seven patients had myocardial ischemia, including three (30%) of 10 with systemic lupus erythematosus and pulmonary hypertension, three (30%) of 10 with scleroderma and pulmonary hypertension, and one (10%) of 10 with systemic lupus erythematosus without pulmonary hypertension. There was a high incidence of positive myocardial perfusion defects among patients withpulmonary hypertension than those without. Normal coronary angiography was found in all patients with ischemia, except for only one patient with scleroderma who had coronary artery stenosis. Significant correlation was found between pulmonary artery diameter obtained by echocardiography and severity of LV myocardial ischemia detected by SPECT (r= 0.83). Significant correlation was found between SPECT-detected myocardial ischemia and ECG ST-T segment changes (r =0.82).

Conclusion: Coronary artery disease is a common association in patients with systemic lupus erythematosus and scleroderma, especially in those with pulmonary hypertension. This may reflect anatomical compression by distended pulmonary artery rather than diffuse ischemia or small vessel disease. It is important to determine the presence of coronary artery disease in these patients, which may be amenable to coronary stenting.

Keywords: Coronary angiography; Coronary artery disease; Pulmonary hypertension; Scleroderma; Systemic lupus erythematosus; Technetium-99m sestamibi gated single photon emission computed tomography.

Dept. of Obstetrics and Gynecology

124. Evaluation of Offline Analysis of Archived Three-Dimensional Volume Datasets in the Diagnosis of Fetal Brain Abnormalities

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Ultrasound in Obstetrics and Gynaecology, 38: 165-169 (2011) IF: 3.163

Objective: To retrospectively evaluate the reliability of offline manipulation of archived three-dimensional (3D) ultrasound volumes in the assessment of the normal fetal brain and the diagnosis of fetal brain abnormalities. **Methods:** Seventy-nine 3D volume datasets, archived at the time of scanning, from women attending a tertiary center, were analyzed. They comprised 52 cases with brain abnormalities and 27 normal controls. Postnatal magnetic resonance imaging or postmortem examination confirmed the final diagnosis in all cases with brain anomalies. Offline analysis of the 79 anonymized 3D volume datasets was carried out by three fetal medicine experts, examiner one (E1), examiner two (E2) and examiner three (E3), using 4DView software. The experts were blinded to any prior diagnosis or history. Data were collected on a specially designed data sheet and entered into a specialized database for analysis. Results were compared between examiners, with the initial two dimensional (2D) diagnoses and with the final definitive diagnosis by calculation of percentage agreement and kappa coefficients.

Results : Of the 52 cases with brain anomalies, the correct diagnosis was reached in 88.5% (46/52), 98.1% (51/52) and 92.3% (48/52) of cases on analysis of the 3D volumes by E1, E2 and E3, respectively, whereas only 82.7% (43/52) of cases were correctly diagnosed on the initial 2D examination when compared with the definitive diagnosis. Fetuses without brain anomalies were identified as such by the three experts with 100% agreement. There was good agreement between the initial 2D examination and the analysis of 3D volumes by each of the experts: 86.1% for E1 ($\kappa = 0.7$), 89.9% for E2 ($\kappa = 0.79$) and 88.6% for E3 ($\kappa = 0.76$). **Conclusions:** 3D volume datasets are an appropriate and reliable format for storing data from examination of the fetal brain. Offline analysis of 3D datasets is a reliable method that can be used to help in the assessment of brain anomalies and could be a useful adjunct to realtime 2D ultrasonography.

Keywords: 3D ultrasound; Archiving; Fetal brain; Offline analysis.

125. Comined Contraceptive Ring Versus Combined Oral Contraceptive (30µg Ethinylestradiol and 3-Mg Drospironone)

Ahmed M. M. Mohamed, Wael S. M. El-Sherbiny and Walaa A.I. Mostafa

International journal of Gynecology and Obstetrics, 114: 145-148 (2011) IF: 1.704

Objectives: To compare the adverse effects, cycle control, and metabolic effects of NuvaRing and a combined oral contraceptive (COC).

Methods: Women seeking contraception received NuvaRing (n=300) or a COC (n=300) for 12 cycles in a randomized, open-label trial.

Results: The total number of women with adverse effects did not differ significantly between the 2 groups. Leucorrhea, vaginitis, decreased libido, and ringrelated problems were more common with NuvaRing, whereas weight increase, acne, and emotional lability were more common with the COC. Breakthrough bleeding occurred in 11.3% of women receiving NuvaRing and in 14.7% of women receiving the COC; 2.1% and 2.9% of women, respectively, had no withdrawal bleeding. Differences in blood pressure, blood sugar levels, lipid profile, liver enzyme activity, and anticoagulant activity were not statistically significant, with the exception of low-density lipoprotein levels measured at 6 and 12 months, which were significantly lower in the NuvaRing group than in the COC group.

Conclusions: NuvaRing is a good alternative to a COC. It is associated with a slightly reduced incidence of breakthrough bleeding and there were no clinically relevant adverse effects or changes in blood pressure, blood sugar levels, lipid profile, or anticoagulant activity when compared with the COC.

Keywords: Combined contraceptive vaginal ring; Combined oral contraceptive; Cycle control; Metabolic effects.

126. Persistent Endometrial Polyps May Affect the Pregnancy 4 Rate in Patients Undergoing Intrauterine Insemination

Amal Shohayeb and Amany Shaltout.

Middle East Fertility Society Journal, (2011)

Objective: To determine whether polypectomy before intrauterine inseminationachieved better pregnancy outcomes than no intervention. Study design and setting: A prospective comparative study conducted in a private assisted reproduction centre.

Subjects and methods: A total of 120 women having asymptomatic endometrial polyp (EP) that was diagnosed by 3D ultrasound and color Doppler and undergoing IUI were randomly allocated to one of two pre-treatment groups. Hysteroscopic polypectomy was performed in the study group while in the control group no intervention was done. All patients were scheduled to receive four cycles of IUI in both groups within 12 months duration. The first IUI cycle was planned after three menstrual cycles in both groups.

Results: No complications after hysteroscopic polypectomy were recorded. A total of 37 pregnancies occurred, 25 cases in the study group which included 57 cases and 12 cases in the control group which included 53 cases. Two cases in the study group and one case in the control group got pregnant during the 3 months waiting period, before performing IUI. Cumulative pregnancy rate in both groups after four IUI cycles was 23 (38.3%) in the study group and 11 (18.3%) in the control group. This difference was statistically significant ($p= 0.015$).

Keywords: Endometrial polyps; Intrauterine insemination; IUI; Pregnancy rate; Hysteroscopy; Hysteroscopic polypectomy.

Dept. of Ophthalmology

127. Effect of Lyophilized Amniotic Membrane on The Development of Adhesions and Fibrosis After Extraocular Muscle Surgery in Rabbits

Rehab R. Kassem, Mohammed A. Abdel-Hamid and Mostafa M. Khodeir

Curr Eye Res, 36 (11): 1020-1027 (2011) IF: 1.36

Purpose: To histopathologically evaluate the influence of lyophilized human amniotic membrane transplant on the development of postoperative adhesions and fibrosis after extraocular muscle surgery.

Methods: Ten albino rabbits were used. The superior rectus muscle was resected 4 mm in both eyes. In right eyes, the superior rectus muscle was wrapped with lyophilized (air-dried, freeze-dried) human amniotic membrane (group AM). In left eyes, the superior rectus muscle was not wrapped with amniotic membrane, and served as a control group (group C). The rabbits were sacrificed and the eyes were enucleated 6 weeks after surgery to perform histopathological examination.

Results: Two rabbits died 1 week after surgery and were excluded. Histopathological evaluation of both eyes of the remaining 8 rabbits was done. The amniotic membrane was not seen in all eyes.

On comparing eye pairs of each rabbit, right eyes showed significantly less conjunctival inflammation ($p = 0.034$), but insignificantly less foreign body inflammation ($p = 0.625$), adhesions between sclera and muscle ($p = 0.206$), muscle fibrosis ($p = 1.000$), and conjunctival hyperemia ($p = 0.059$) as compared to left eyes.

Conclusions: Lyophilized amniotic membrane insignificantly reduces postoperative adhesions and fibrosis, when used to wrap the operated upon extraocular muscles, limiting the benefit of this membrane in strabismus surgery.

Keywords: Adhesions; Amniotic membrane; Fibrosis; Strabismus reoperation.

128. Presumed Scleral Perforation During Forced Duction Testing of the Superior Oblique Muscle

Rehab R. Kassem

J AAPOS, 291-291 (2011) IF: 1.062

This is a report a case of presumed scleral perforation during globe retropulsion as part of the Guyton exaggerated traction test in a patient with a history of bilateral keratoconus and scleral thinning. Perforation was indicated by the sudden occurrence of hyphema and globe softening. Postoperatively, the hyphema resolved, the intraocular pressure normalized, and the patient regained preoperative visual acuity.

Dept. of Orthopaedic

129. Arthroscopic Removal of Calcium Deposits of the Rotator Cuff A 7-Year Follow-Up

Mohamed Taha El Shewy

The American Journal of Sports Medicine, 39 (6): (2011)

IF: 3.821

Background: Calcium deposits within the tendons of the rotator cuff are common and usually asymptomatic. Symptomatic cases that do not respond to nonoperative measures need removal of the calcium deposits.

Purpose: In this study, the results of arthroscopic removal of the calcium deposits within the rotator cuff, without rotator cuff repair, are evaluated after a minimum 7-year follow-up. This may help clarify whether rotator cuff repair in such cases is necessary for the relief of pain and good cuff function in the long run.

Study Design: Case series; Level of evidence, 4.

Methods: Fifty-six patients with calcium deposits within the rotator cuff were included in this study. Fifty-four patients were managed by arthroscopic removal of the calcium deposits without rotator cuff repair.

Results: The patients were followed up over a period of at least 7 years. At the final follow-up, all patients were able to return to their level of activity before the beginning of their complaint, with significant improvement in the University of California at Los Angeles (UCLA), American Shoulder and Elbow Surgeons (ASES), and Constant scores. The UCLA score improved from a mean (SD) of 52.8 (7.5) to 95.0 (8.2) (P .001), whereas the ASES score improved from 57.2 (8.3) to 95.0 (8.2) (P .001). The Constant score improved from a mean (SD) of 63.3 (9.3) to 97.8 (6.2) (P .001). Only 3.7% of cases developed rotator cuff tears over the period of follow-up.

Conclusion: The results of this study indicate that arthroscopic removal of as much as possible of symptomatic calcium deposits of the rotator cuff is a safe and effective treatment when nonoperative methods fail.

Keywords: Calcific tendinitis; Arthroscopy; Supraspinatus; Removal.

130. Long-Term Results of Total Knee Arthroplasty Following High Tibial Osteotomy According to Wagner

Stefan Treuter, Alexander Schuh, Wolfgang Hönle, Mohamed S. Ismail, Thonse N. Chirag and Albert Fujak.

International Orthopaedics, 1373-1379 (2011) IF: 1.561

Purpose: There is relatively little information available about the long-term results of total knee arthroplasty (TKA) following high tibial osteotomy. The aim of our study was to share our experiences and long-term results of TKA after a previous closing wedge high tibial osteotomy according to Wagner.

Methods: In a retrospective study we identified 48 consecutive patients who had undergone TKA after a previous closing wedge high tibial osteotomy according to

Wagner with a follow-up of over ten years. The average duration of follow-up after the TKA was 13.3 years (min 10.0, max 15.5). X-rays were taken in two planes before TKA, one week after TKA and at the latest follow-up. Tibiofemoral alignment was measured on weight bearing long-leg anteroposterior radiographs. Radiolucent lines at the latest follow-up were documented. Functional evaluations were performed preoperatively and postoperatively (at the time of latest follow-up).

Results: The mean Knee Society function score increased from 63.1 points preoperatively to 90.0 points postoperatively. The mean overall Knee Society score increased from 93.2 points preoperatively to 160.8 points postoperatively. The mean average femoro-tibial angle was corrected from varus 0.8° (varus 14°–valgus 8.0°) preoperatively to valgus 7.6° (valgus 2–9°) at the last follow-up.

Conclusions: The closing wedge high tibial osteotomy according to Wagner does not compromise subsequent total knee replacement and leads to good clinical and radiological results.

131. Composite Anterolateral Thigh Perforator Flaps in the Management of Complex Hand Injuries

M. Meky and Y. Safoury

Journal of Hand Surgery (European Volume) 0E (0): 1-5 (2011) IF: 0.868

The anterolateral thigh (ALT) fasciocutaneous flap has been well described for hand skin cover; however its use in its composite (multiple tissue) form incorporating bone, muscle and/or fascia has been less well described. We report the usefulness of the composite ALT flap in six complex hand trauma cases, four male and two female (age range 14–46 years). The palm of the hand was affected by injury in three cases, the dorsum in two cases, and the radial side in one case. The first web formed part of the injury in three cases. There was variable involvement of the tendons, nerves and bones. Fascia lata was included in the flap to provide a gliding surface in four cases, part of the vastus lateralis muscle was included to obliterate dead space in two cases and to create a first web in one case, and a bone block from the iliac crest was included to reconstruct the lost metacarpals in one case. All flaps survived with minimal complications. This work shows that the anterolateral thigh composite flap is a reliable option when multiple tissue types are required in hand reconstruction.

Keywords: Anterolateral thigh; Perforator flaps; Complex hand injuries; Reconstruction.

132. Diagnostic Value of Ct-Discography in Unclear Radiculopathy

K. H. Salem, B. Al Sharef, A. Ladenburger and J. A .K. Ohnsorge

Z Orthop Unfallchir, (2011) IF: 0.343

A clinically evident radiculopathy without correlation in the imaging studies represents a serious problem as regards the indication, planning and execution of an operative procedure for its treatment. Both the diagnosis and treatment of such cases are deemed to be difficult without clear morphological correlation. Moreover, the surgeon lacks an important basis for the adequate planning and above all the justification of surgical treatment. Although discography with post-discographic computer tomography (CT-Discography) is still controversially discussed as an invasive diagnostic measure, the literature shows that this method is not only useful but also indispensable in certain cases.

Based on these findings and our own empirical data, we recommend CT discography to be considered in imaging patients suffering from lumbar radiculopathy with equivocal or insufficient MRI findings. The technique allows accurate diagnosis and precise planning of a targeted surgical intervention such as endoscopic sequestrotomy or decompression.

Keywords: Lumbar disc prolaps; Discography; Postdisco-graphy CT; Endoscopic discectomy.

133. Suture Repair using Loop Technique in Cases of Acute Complete Acromioclavicular Joint Dislocation

Mohamed Taha El Shewy and Hatem El Azizi.

J. Orthopaed Traumatol, 12: 29-35 (2011)

Background Acromioclavicular joint dissociation may not be a common injury, yet it may cause limitations in activity. Types IV, V, and VI dissociations need operative repair. In this study, a simple technique is advocated to reduce and maintain reduction of the acromioclavicular joint using no. 5 nonabsorbable suture material while the resutured coracoclavicular (CC) ligament heals.

Methods and methods Twenty-one patients (16 men and five women) with types IV and V acromioclavicular joint dissociation were studied. In all cases, acromioclavicular joint was reduced and reduction was maintained using no. 5 nonabsorbable suture material passed as a loop under the knuckle of the coracoid process and through a tunnel drilled through the lateral third of the clavicle. The CC ligament was then resutured.

Results Patients were followed up over a period of 6–9 years. At the final follow-up, all patients had returned to their preinjury level of activity, with significant improvement in the University of California Los Angeles (UCLA), American Shoulder and Elbow Surgeons Shoulder (ASES), and the Constant scores.

Conclusions This technique provided good results with no loss of reduction, except in a single case, during the long follow-up period. We could not prove that the good results are due to the healing of the CC ligament. However, patients were able to return to their daily activities and even contact sports without any noticeable deformity, feeling of weakness, pain, or limitation of range of motion (compared with the contralateral side).

This technique does not involve the use of metallic implants, which require another surgery to remove them, the use of expensive synthetic graft, or a graft harvested from a distant donor site.

Keywords: Acromioclavicular; Dislocation; Repair.

Dept. of Pediatrics

134. Risk Factors for Neurotoxicity in Newborns with Severe Neonatal Hyperbilirubinemia

Rasha Gamal Eldin, Iman Seoud, Hanan Aboraya, Iman Iskander and Richard P. Wennberg

Pediatrics, (2011) IF: 5.391

Objective: To evaluate the importance of total serum bilirubin (TSB) and neurotoxicity risk factors in predicting acute bilirubin encephalopathy (ABE) at admission or posttreatment bilirubin encephalopathy (BE) in infants with severe hyperbilirubinemia.

Methods: We analyzed the interaction of TSB and risk factors as determinants of ABE and BE in 249 newborns admitted with a TSB level of ≥ 25 mg/dL (427µmol/L) to Cairo University Children's Hospital during a 12-month period.

Results: Admission TSB values ranged from 25 to 76.4 mg/dL. Fortyfour newborns had moderate or severe ABE at admission; 35 of 249 infants (14%) had evidence of BE at the time of discharge or death. Rh incompatibility (odds ratio [OR]: 48.6) and sepsis (OR: 20.6) greatly increased the risk for ABE/BE, but TSB levels correlated poorly with the presence or absence of ABE or BE in these patients.

The OR for ABO incompatibility with anemia (1.8) was not statistically significant. Low admission weight (OR: 0.83 per 100 g) increased the risk for BE, especially when other risk factors were present. The threshold TSB level that identified 90% of infants with ABE/BE was 25.4 mg/dL when neurotoxicity risk factors were present. In contrast, neurotoxicity was first observed at a TSB level of >31.5 mg/dL in 111 infants without risk factors.

Conclusions: Newborns without risk factors for neurotoxicity have a higher tolerance for hyperbilirubinemia than recognized in management guidelines. The risk for BE in hemolytic disease varies with etiology.

The great variation in response to TSB indicates that biological factors other than TSB values are important in the pathogenesis of BE.

Keywords: Kernicterus; Meonatal hyperbilirubinemia; Bilirubin; Encephalopathy; Acute bilirubin encephalopathy; BIND score; Risk factors for kernicterus.

135. Burden of Celiac Disease in the Mediterranean Area

Luigi Greco, Laura Timpone, Abdelhak Abkari, Mona Abu-Zekry, Thomas Attard, Faouzi Bouguerrà, Paskal Cullufi, Aydan Kansu, Dusanka Micetic-Turk, Zrinjka Mi?ak, Eleftheria Roma, Raanan Shamir and Selma Terzic

World Journal of Gastroenterology, 17 (45): 4971-4978 (2011) IF: 2.24

Aim: To estimate the burden of undiagnosed celiac disease (CD) in the Mediterranean area in terms of morbidity, mortality and health cost.

Methods: For statistics regarding the population of each country in the Mediterranean area, we accessed authoritative international sources (World Bank, World Health Organization and United Nations). The prevalence of CD was obtained for most countries from published reports. An overall prevalence rate of 1% cases/total population was finally estimated to represent the frequency of the disease in the area, since none of the available confidence intervals of the reported rates significantly excluded this rate. The distribution of symptoms and complications was obtained from reliable reports in the same cohort. A standardized mortality rate of 1.8 was obtained from recent reports. Crude health cost was estimated for the years between symptoms and diagnosis for adults and children, and was standardized for purchasing power parity to account for the different economic profiles amongst Mediterranean countries.

Results: In the next 10 years, the Mediterranean area will have about half a billion inhabitants, of which 120 million will be children. The projected number of CD diagnoses in 2020 is 5 million cases (1 million celiac children), with a relative increase of 11% compared to 2010. Based on the 2010 rate, there will be about 550 000 symptomatic adults and about 240 000 sick children: 85% of the symptomatic patients will suffer from gastrointestinal complaints, 40% are likely to have anemia, 30% will likely have osteopenia, 20% of children will have short stature, and 10% will have abnormal liver enzymes. The estimated standardized medical costs for symptomatic celiac patients during the delay between symptom onset and diagnosis (mean 6 years for adults, 2 years for children) will be about €4 billion (€387 million for children) over the next 10 years.A delay in diagnosis is expected to increase mortal10 years, with an excess of 44.4% vs age- and sex-matched controls.

Conclusion: In the near future, the burden of CD will increase tremendously. Few Mediterranean countries are able to face this expanding epidemic alone.

Keywords: Pediatric; Celiac disease; Short stature; Anemia; Osteopenia; Purchasing power parity; Standardized mortality rate; Mediterranean area.

136. An Sp1-Binding Site Polymorphism in the COLIAI Gene and Osteoporosis in Egyptian Patients with Thalassemia Major

Hanan M. Hamed, Ashraf Galal, Mona El-Ghamrawy, Khaled Abd El Azeem, Ibtessam R. Hussein and Mona F. Abd-Elgawad.

Blood Coagul Fibrin, (2011) IF: 1.408

β-Thalassemia major is an inherited blood disorder, which mainly affects the Mediterranean region. Osteoporosis represents an important cause of morbidity in β thalassemia major and its pathogenesis has not been completely clarified. Genetic factors play an important role in the pathogenesis of osteoporosis and several candidate gene polymorphisms have been implicated in the regulation of this process. A G→T polymorphism in the regulatory region of the collagen type I alpha 1 (COLIAI) gene at a recognition site for transcription factor Sp1 has been strongly associated with osteoporosis. The aim of the present study was to examine the distribution of COLIAI polymorphism and its relationship with bone mineral density (BMD) at the lumbar spine and femur in patients and controls. In this study, the G→T polymorphism was detected in 31 Egyptian β-thalassemia major patients

and 20 healthy controls and its possible association with BMD was investigated. Alleles S and s were detected by the presence of a G or T nucleotide, respectively, in a regulatory site of the COLIAI gene using polymerase chain reaction (PCR). A total of 80.6% of the β-thalassemia patients were homozygous for G/G (SS) and 19.4% were heterozygotes for G/T (Ss) polymorphism. There was no ss genotype in our patients. In the control group, 70 and 30% had SS and Ss genotypes, respectively. There was no significant difference between Z-score of patients with SS and Ss at head of femur (P=1) or at lumbar spine (P=0.48). Conclusion Our results raise the possibility that genotyping at the Sp1 site could be of clinical value in identifying the thalassemic patients at risk of developing osteoporosis.

Keywords: COLIAI gene; Osteoporosis; Thalassemia major.

Dept. of Physiology

137.Erythropoietin Protects Against Doxorubicin -induced Heart Failure

Hania I. Ammar, Soliman Saba, Rasha I. Ammar, Laila A. Elsayed, Wael B. A. Ghaly and Sanjiv Dhingra

American Journal of Physiology-Heart and Circulatory Physiology, 301 (6): 2413-2421 (2011) IF: 3.881

The hormone erythropoietin (EPO) has been demonstrated to have cardioprotective properties. The present study investigates the role of EPO to prevent heart failure following cancer treatment with doxorubicin [adriamycin (AD)]. Male Wistar rats (150 ± 10 g) were treated with saline (vehicle control group); with EPO, subcutaneously at 1,000 IU/kg body wt, three times per week for 4 wk (EPO group); with adriamycin, intraperitoneally at 2.5 mg/kg body wt, three times per week for 2 wk (AD group); and with adriamycin and EPO (EPO-AD group). Echocardiographic measurements showed that EPO-AD treatment prevented the AD-induced decline in cardiac function. Each of the hearts was then exposed to ischemia and reperfusion during Langendorff perfusion. The percentage of recovery after ischemia-reperfusion was significantly greater in EPO-AD than the AD-treated group for left ventricular developed pressure, maximal increase in pressure, and rate pressure product. The level of oxidative stress was significantly higher in AD (5μM for 24 h)-exposed isolated cardiomyocytes; EPO (5 U/ml for 48 h) treatment prevented this. EPO treatment also decreased AD-induced cardiomyocyte apoptosis, which was associated with the decrease in the Bax-to-Bcl2 ratio and caspase-3 activation. Immunostaining of myocardial tissue for CD31 showed a significant decrease in the number of capillaries in AD-treated animals. EPO-AD treatment restored the number of capillaries. In conclusion, EPO treatment effectively prevented ADinduced heart failure. The protective effect of EPO was associated with a decreased level of oxidative stress and apoptosis in cardiomyocytes as well as improved myocardial angiogenesis.

Keywords: Eryhtropoietin; Doxorubicin; Heart failureone.

Dept. of Physiology of the Nervous System - Nerve Disease

138. Atherosclerotic Aortic Arch Plaques in Acute Ischemic Stroke

Randa Deif, Mohamed El-Sayed, Foad Abd allah, Essam Baligh, Nervana M. El-Fayome, Loai Ezzat and Heba Gamal

Journal of Vascular and Interventional Neurology, 4(1): 5-9 (2011)

Background: Atherosclerotic aortic arch plaques (AAP) have been linked to an increased risk of thrombo-embolic events as a cause of acute ischemic stroke of undetermined etiology.

Objectives: To find out the presence of atherosclerotic plaques in aortic arch and their potential role as a source of embolism in cerebral infarction of undetermined etiology. **Methods**: We performed trans-esophageal echocardiography (TEE) and multislice computerized tomography (MSCT) of the aortic arch on 30 patients with acute ischemic stroke of undetermined cause from a total series of 150 non-selected patients with acute ischemic stroke studied prospectively by clinical evaluation, laboratory investigations, cranial computed tomography; color coded duplex ultrasonography of the carotid arteries and transcranial Doppler (TCD). **Results**: Using trans-esophageal echocardiography eight patients (29.6%) had atherosclerotic aortic arch plaques, while using multislice computerized tomography atherosclerotic aortic arch plaques were revealed in twelve patients (40%). Atherosclerotic aortic arch plaques were significantly related to older age, male gender, hypertension, ischemic heart disease and low-grade atherosclerotic carotid lesions. Multislice computerized tomography of the aortic arch was more sensitive than trans-esophageal echocardiography in detecting the site, size and characters of atherosclerotic aortic arch plaques.

Conclusion: Atherosclerotic aortic arch plaques are a frequent finding in patients with acute ischemic stroke of undetermined cause supporting the hypothesis that aortic plaques have embolic potential. In addition, multislice computerized tomography is more sensitive than trans-esophageal echocardiography in detecting atherosclerotic aortic arch plaques and better characterization of these plaques especially relevant one.

Keywords: Aorta; Atherosclerotic plaques; Echocardiography; Multislice Computerized Tomography; Stroke.

Dept. of Psychology

139. Wpa Guidance on the Protection and Promotion of Mental Health in Children of Persons with Severe Mental Disorders

Ian Brockington, Prabha Chandra, Howard Dubowitz, David Jones, Suaad Moussa, Juliet Nakku and Isabel Quadros Ferre

World Psychiatry, 10: 93-102 (2011) IF: 5.562

This guidance details the needs of children, and the qualities of parenting that meet those needs. Parental mental disorders can damage the foetus during pregnancy through the action

of drugs, prescribed or abused. Pregnancy and the puerperium can exacerbate or initiate mental illness in susceptible women. After their birth, the children may suffer from the social disadvantage associated with severe mental illness. The parents (depending on the disorder, its severity and its persistence) may have intermittent or prolonged difficulties with parenting, which may sometimes result in childhood psychological disturbance or child maltreatment. This guidance considers ways of preventing, minimizing and remedying these effects. Our recommendations include: education of psychiatrists and related professions about the effect of parental mental illness on children; revision of psychiatric training to increase awareness of patients as caregivers, and to incorporate relevant assessment and intervention into their treatment and rehabilitation; the optimum use of pharmacological treatment during pregnancy; prebirth planning when women with severe mental illness become pregnant; development of specialist services for pregnant and puerperal women, with assessment of their efficacy; community support for parenting by mothers and fathers with severe mental disorders; standards of good practice for the management of child maltreatment when parents suffer from mental illness; the importance of multi-disciplinary teamwork when helping these families, supporting their children and ensuring child protection; the development of child and adolescent mental health services worldwide.

Dept. of Public Health

140. Assessment of the Role of Interleukin-18 in Diagnosis of Hepatocellular Carcinoma Related to Hepatitis C Virus Infection

Amal Ahmed, Sahar Maklad, Ghada Hussein, Ingy Badawy, Alaa Abou Zeid and Said El- Feky

Life Science Journal, 8 (4): (2011) IF: 0.158

Hepatocellular carcinoma accounts for 90% of primary liver neoplams. Egypt has the highest prevalence of hepatitis C virus worldwide and has rising rates of hepatocellular carcinamo. Alph Feto protien has been the most widely used plasma marker for diagnosis and prognosis of patients with HCC. Several studies indicated that high plasma levels of AFP are related to poor prognosis. Thus, idintification of novel biochemical markers for HCC remains an important goal. Interleukin-18 plays a critical role in the host defense against intracelllular infection and also it induces autoimmunie disease. Method: This study was conducted on a atotal of 120 patientsTeh patients were subdivided into group I that incluyded 20 normal healthy subjects, Group II that included 100 HCC patinets confirmed by pathology, cytology, imaging and serum a-Fetoprotein. Results: The mean level of IL-18 was significanlty higher in HCC pateints (238+145pg/ml) compared to controls (52+13 pg/ml), P<0.001. There was a significant positive correlation between IL-18 and tumor size. Conclusion: IL-18 could be used as an additional non-invasive marker for monitoring the degree of disease severity in HCC.

Keywords: HCC; HCV; AFP; IL – 18.

Dept. of Rheumatology

141. 25-Hydroxy Vitamin D Levels and Its Relation to Disease Activity and Cardiovascular Risk Factors in Women with Systemic Lupus Erythematosus

Yasser Ezzat, Safaa Sayed, Wafaa Gaber, Abeer M. Mohey and Tamer Wahid Kassem

The Egyptian Rheumatologist, 33: 195-201 (2011) IF: 2

Aim of the work: To evaluate the associations of serum 25 hydroxy (OH) vitamin D [25(OH)D] levels with cardiovascular risk factors as well as disease activity in women with SLE.

Patients and Methods: Fifty women with SLE as well as 30 controls were included in our study. Data collected included, demographics, SLE activity and damage assessments, cardiovascular risk factors, medications and laboratory assessment of inflammatory markers and 25(OH)D levels. Stepwise logistic regression analysis were used to estimate the association of 25(OH)D levels with cardiovascular risk factors.

Results: A significant lower 25(OH) D levels was found in SLE patients compared to controls (P <0.001). A positive correlation was found between 25(OH) D and diastolic blood pressure, fasting blood sugar, cholesterol, triglycerides, LDL, BMI, as well as proteinuria and C3 levels. Furthermore, a significant positive correlation was found between 25(OH) D and the RT carotid artery stenosis and RT carotid artery plaque and the intima media thickness of both left and right carotid arteries. Lower 25(OH) D levels were also significantly associated with higher SLE disease activity and damage scores and steroid cumulative dose. Stepwise logistic regression analysis showed that higher BMI, diastolic blood pressure, cholesterol, triglycerides, LDL and diabetes mellitus act as predictors of lower 25(OH)D levels. **Conclusion**: Our study found an association between lowers 25(OH) D levels and increased cardiovascular disease (CVD) risk factors, as well as increased SLE disease activity and damage indices. Future studies are needed to determine relation of 25(OH) D and cardiovascular risk factors in patients with lupus.

Keywords: 25(OH) vitamin D; Systemic lupus erythematosus; Coronary vascular disease.

142. Serum BAFF Level and its Correlations with Various Disease Parameters in Patients with Systemic SclerosisandSystemicLupus Erythematosus

Samar M. Fawzy, Tamer A. Gheita, Eman El-Nabarawy, Heba H. El-Demellawy and Olfat G. Shaker.

The Egyptian Rheumatologist, 33: 45-51 (2011) IF: 2

Introduction: Interest in B-cells has been revived due to the description of new functions. Supporting a role for B-cells in the genesis of autoimmune diseases is the fact that the B-cellactivating factor of the TNF ligand family (BAFF) is essential in their physiology. The role of BAFF, a new cytokine, in autoimmune diseases has been highlighted.

Aim of the work: To assess serum BAFF level in systemic sclerosis (SSc) and systemic lupus erythematosus (SLE) to verify its role in these diseases and find any relation with the clinical manifestations, laboratory investigations, disease activity and damage.

Patients and methods: The study included 12 SSc and 40 SLE patients. The patients were subjected to full history taking and thorough clinical rheumatological and dermatological examinations and relevant investigations including autoantibodies and CT chest in SSc. In SSc, the total skin thickness score was scored according to the modified Rodnan skin score (MRSS) method. In SLE, the disease activity was assessed using the Systemic Lupus Activity Measure (SLAM) and organ damage using the Systemic Lupus International Collaborating Clinics/ACR (SLICC/ACR) index. The serum BAFF levels were measured using a specific ELISA.

Results: The BAFF level was remarkably elevated in SSc and SLE in a comparable percentage of patients, yet the level was highest in SLE and lower in the limited SSc subtype. The BAFF significantly correlated with the level with the MRSS in SSc and with both the SLAM and SLICC in SLE patients.

Conclusion: The elevated level of BAFF in SSc further confirms the importance for new therapeutic targets for its inhibition to slow the disease progression, particularly skin fibrosis. The role of BAFF in the pathogenesis and disease activity in SLE is well-known and the novel noticeable correlation with the damage index high lightens on the utility of BAFF as an indicator of disease damage and predictor of poor outcome.

Keywords: Systemic lupus erythematosus; Systemic sclerosis; BAFF; MRSS; SLEDAI; SLICC.

143. Serum COMP and Their Correlations with Various Disease Parameters in Patients with Systemic Lupus Erythematosus and Osteoarthritis

Samar M. Fawzy, Hend H. El Sherbeni, Amal Rashad and Heba H. El demellawy

The Egyptian Rheumatologist, 33: 13-19 (2011) IF: 2

Introduction: The cartilage oligomeric matrix protein (COMP) is a glycoprotein, which occurs mainly in an articular cartilage. The amount of this protein increases under the influence of cytokines and growth factors. As a result of various diseases th at cause damage to cartilage fragments of matrix protein are released into synovial fluid and then into blood. The assessment of matrix protein level in serum, for example COMP, permits the establishment of the degree of cartilage damage in inflammatory joint diseases, and permits observation of the effectiveness of the treatment.

Aim of the work: To assess serum COMP level, as a marker for cartilage degradation, in SLE and OA patients and to find a correlation between serum COMP level and other markers as well as activity of disease, disease duration and the age of the patients.

Patients and methods: Blood was collected from 40 systemic lupus erythematosus (SLE) patients group I, [the patients were further subdivided into two subgroups, group (Ia) comprised 20 SLE patients received 1 g IV methylprednisolone (MP) daily for three successive days, group (Ib) comprised 20 SLE patients did not receive IV methylprednisolone (MP)], and from 20 patients with knee osteoarthritis (OA) group II who constituted the control group. Serum COMP level was determined using an inhibition enzyme-linked immunosorbent assay (ELISA).

Results: The measured values of the serum COMP level in SLE patients ranged from 1.32 to 1.71 lg/ ml with a mean of 1.51 ±0.13 lg/ml in group (Ia), and ranged from 2.43 to 3.56 lg/ml with a mean of 2.86 ±0.31 lg/ml in group (Ib). While inOAgroup (II) the value of serum COMP ranged from 0.97 to 2.65 lg/ml with a mean of 1.25 ± 0.37 lg/ml.Wefound significantly elevated COMP levels in theSLE group (Ib) compared to the SLE group (Ia) patients and OA group (II) ($p< 0.001$). We found a statistically significant positive correlations with the number of tender joints (correlation coefficient Pearson's) $r = 0.45$, $p< 0.01$), the number of swollen joints ($r = 0.55$, $p< 0.001$), SLAM value ($r = 0.56$, $p< 0.001$). A significant positive correlation was found between serum COMP level and the ESR value in the first hour ($r =0.35$, $p< 0.001$). While the serum COMP level was independent of the patients' age ($r= 0.04$, p= NS), disease duration ($r =0.03$, p=NS) and morning stiffness duration ($r = 0.05$, p =NS). Also a Negative correlation was found between the serumCOMPlevel and haemoglobin value ($r = 0.11$, p=NS). As regards theOAgroup, no correlation was found between the serum COMP level and patients' age ($r = 0.05$, p=NS) and disease duration ($r = 0.24$, p= NS). There were positive correlations between serum COMP and WOMAC index score for the lower limbs ($r = 0.64$, $p< 0.05$).

Conclusion: The serum COMP level can be an important marker of disease activity and cartilage destruction in SLE and OA Patients, and that serum levels of COMP can be used as a parameter for monitoring the therapy response in SLE patients undergoing an intravenous bolus steroid therapy.

Keywords: Cartilage oligomeric; Matrix protein; Matrix protein; erythematosus; Osteoarthritis

144. Impaired Bone Formation and Osteoporosis in Postmenopausal Elderly Onset Rheumatoid Arthritis Patients

T. Gheita, S. Fawzy, A. Rizk and H. Hussein

The Egyptian Rheumatologist, 33: 155-162 (2011) IF: 2

Introduction: Bone metabolism may be uncoupled in postmenopausal rheumatoid arthritis (RA). Osteoporotic fracture in RA is highest for the hip especially in elderly women.

Aim of the work: To detect the bone mineral density (BMD) and markers of bone turnover in postmenopausal RA patients and study the influence of age at disease onset. Correlation with clinical and laboratory manifestations and disease activity were considered.

Patients and methods: Sixty postmenopausal RA patients were recruited into two groups, group I: 30 elderly onset (EORA) and group II: 30 young onset (YORA) patients. Thirty age and sex matched healthy subjects served as control. Full history taking, clinical examination, relevant

investigations including calcium, phosphorus, total alkaline phosphatase (ALP), bone specific alkaline phosphatase (BALP), osteocalcin (OC), and N-terminal cross-linked telopeptides of type I collagen) were measured and BMD assessed by DEXA in all patients and control. Disease activity score in 28 joints (DAS-28) were calculated.

Keywords: Rheumatoid arthritis; Postmenopausal osteo porosis; Impaired bone formation; Markers of bone turnover; Bone mineral density.

145. Sjögren Syndrome and Fibromyalgia After Radioiodine Therapy in Cancer Thyroid Patients

Tamer A. Gheita, Samar M. Fawzy, Ahmed A. Kandeel and Hossam M. Khalil

The Egyptian Rheumatologist, 33: 107-112 (2011) IF: 2

Introduction: Salivary and lacrimal gland dysfunction is relatively frequent after radioiodine therapy. An association of Sjögren's syndrome (SS) and other autoimmune rheumatic diseases as fibromyalgia syndrome (FMS) has been reported. Thyroid autoimmunity in FMS patients is higher than normal subjects.

Aim of the work: To detect the occurrence of Sjögren syndrome (SS) and any rheumatologic association in cancer thyroid patients after radioactive iodine therapy (I-131) and evaluate the salivary and lacrimal glands function.

Patients and Methods: Thirty-one patients with post-surgical differentiated thyroid carcinomas with a mean age 40.13±9.82 years, were referred for I-131 therapy (mean dose 212.9 ±101.63 mCi) and continued the follow-up study. All patients had no symptoms or signs of SS. Thorough rheumatological examination were performed for any musculoskeletal manifestation or associated fibromyalgia syndrome (FMS). Before and 8–12 months after I-131 therapy, salivary glands function was estimated by sequential scintigraphy, while lacrimal gland function was assessed by Schirmer's test. Antinuclear antibody (ANA), anti-Ro (SS-A), anti-La (SS-B) and rheumatoid factor (RF) were performed.

Results: All patients had a normal salivary glands scintigraphy and Schirmer's test before I-131 therapy. On follow up, primary SS occurred in 8 patients (25.81%) while a significant decrease in salivary function occurred in 18 (58.1%) patients and significantly correlated with the I-131 dose. Schirmer's test was significantly abnormal in those with SS. Serum Anti Ro and Anti La levels became significantly higher in SS patients (18.25± 11.61 and 25 ±13.06 U/ml) compared to the others (6.57± 1.8 and 7.35 ± 1.8 U/ml), respectively, (p 0.025 and 0.006). Fibromyalgia syndrome was present in 12 patients (38.71%) and 6 of them developed SS.

Conclusion: Assessment and follow up of salivary and lacrimal glands function is essential in patients receiving radioiodine therapy. Abnormal level of anti-Ro and Anti-La increase the risk for SS that should be closely monitored and fibromyalgia is a common association. 2011 Egyptian Society for Joint Diseases and Arthritis. Production and hosting by Elsevier B.V.

Keywords: Sjögren syndrome; Fibromyalgia syndrome; Radioiodine therapy.

146. Decreased Level of Soluble Receptors of Advanced Glycated End Products (sRAGE) And Glycine82serine 5 (G82S) Polymorphism in Egyptian Patients with Ra

A. Mokbel, L. Rashid and R. Al-Harizy

The Egyptian Rheumatologist, 33: 53-60 (2011) IF: 2

The receptor for advanced glycation end products (RAGE) has been implicated in the pathogenesis of RA through its ability to amplify inflammatory pathways. Aims of the work: (1) To evaluate the levels of soluble receptors of advanced glycated end products (sRAGE) as well as the gene variant among patients with rheumatoid arthritis (RA). (2) To assess the association between the sRAGE level and the RAGE gene variants and to correlate the findings.

Keywords: Rheumatoid arthritis; SRAGE; Glycine82 serine gene; Polymorphism.

147. Uterine–Umbilical Artery Doppler Velocimetry and Pregnancy Outcome in SLE Patients: Relation to Disease Manifestations and Activity

Tamer A. Gheita, Sherif M. Gamal and Eman El-Kattan

The Egyptian Rheumatologist, (2011) IF: 2

Aim of the work: To evaluate the uterine–umbilical artery Doppler velocimetry and determine its relation to pregnancy outcome and disease manifestations in SLE patients.

Patients and methods: Blood flow velocity waveforms of the umbilical and uterine arteries were studied by color Doppler ultrasound in 36 pregnant SLE patients referred from the Rheumatology Department for follow up and delivery in the Obstetrics Department. Resistance index (RI) and pulsality index (PI) were measured at the 1st week and then every 4 weeks from the 20th and 30th weeks till delivery.

Results: The mean age was 27.33± 4.03 years and disease duration of 5.72 ±2.57 years. The nulliparity rate and history of previous abortions were higher in those with poor fetal outcome (50% and 62.5%, respectively). Lupus anticoagulants and anticardiolipin were obviously higher in those with a poor outcome (25% and 37.5%, respectively) with a higher association with APS in spite of anticoagulation. The SLEDAI was higher in those with a poor fetal outcome and the difference reached significance at the 24th week gestation (12.13). Eight (22.22%) of the patients had abnormal fetal outcome: 5 IUGR (13.89%), 1 IUFD (2.78%) and 2 (5.55%) with missed abortion. Uterine and umbilical artery Doppler abnormalities were higher in those with poor obstetric outcomes and were earlier revealed by the uterine.

Keywords: SLE; Pregnancy; Doppler velocimetry; Outcome.

148. Characteristics of Rheumatoid Arthritis Patients with Concomitant Hepatitis C Virus Infection

Geilan A. Mahmoud, Hania S. Zayed, Mai M. Sherif and Mervat M. Mostafa

The Egyptian Rheumatologist, 33: 139-145 (2011) IF: 2

Introduction: Hepatitis C virus (HCV) is frequently associated with rheumatic autoimmune manifestations including rheumatoid-like arthritis.

Aim of the work: This work is aimed to study the impact of concomitant HCV infection on rheumatoid arthritis (RA) patients.

Patients and methods: 110 RA patients (mean age 44.6 ± 12.7, disease duration 7.92 ± 6.56 years) were included. HCV infection was diagnosed by HCV-antibody (HCV-Ab) and polymerase chain reaction. Disease activity was assessed using the disease activity score 28 (DAS28) and radiological damage by a modified Larsen method. Functional disability was assessed by the Modified Health Assessment Questionnaire (MHAQ).

Results: HCV-Ab was detected in 20% and viremia in 12.7% of RA patients. HCV-Ab positive patients were significantly older (p< 0.001) and had a longer disease duration (p= 0.02). No differences were found between HCV-Ab positive and -negative patients in DAS28 and modified Larsen's scores, however, HCV-Ab positive patients had a higher frequency of deformities (p<0.005) associated with older age (p <0.001) and higher MHAQ scores (p=0.002), independent of age and disease duration. They also had a higher frequency of hepatomegaly (p< 0.001) and vasculitis (p<0.001). Hepatomegaly was associated with older age (p= 0.004) and longer disease duration (p=0.003) while vasculitis was associated with older age (p=0.02).

Conclusion: Concomitant HCV infection in RA patients is associated with significant disability and comorbidities in the form of hepatomegaly and vasculitis. Hepatomegaly and vasculitis were associated with older age. Hepatomegaly was also associated with longer disease duration. Screening for HCV infection is recommended in Egyptian RA patients.

Keywords: Rheumatoid arthritis; Hepatitis C virus.

149. Nailfold Capilloroscopy in Systemic Lupus Erythematosus

O. Ragab, A. Ashmawy, M. Abdo and A. Mokbel.

The Egyptian Rheumatologist, 33: 61-67 (2011) IF: 2

Introduction: Nailfold capillaroscopy is a non-invasive technique to recognize peripheral microangiopathy, which is an important feature in SLE.

Aim of the work: To study the prevalence of nailfold capillaroscopy (NFC) changes in patients with systemic lupus erythematosus (SLE), find out the patterns of these changes and to correlate these findings with different clinical and laboratory parameters. Patients and methods: Forty patients with SLE, all fulfilling the 1997 revised criteria for the classification of SLE were included. All patients included in this study were subjected to full history taking clinical examination, laboratory investigations as well as nailfold capillaroscopy (NFC) examination.

Results: The prevalence of nailfold capilloroscopic (NFC) changes in SLE patients was 75%. Nailfold capillaroscopic abnormalities were significantly more frequent in SLE patients than in controls (P <0.05). Different abnormal NFC changes were seen with the meandering pattern more frequently seen.

The afferent and efferent capillary loops diameters were significantly increased in the SLE patients than in the control group (P <0.05). Some of the NFC abnormalities showed statistical significant correlations with different clinical and laboratory parameters. Capillary loop afferent and efferent diameters were significantly correlated with disease duration (p <0.05) as well as the occurrence of digital gangrene (P <0.05). The capillary loop afferent diameter was found to be correlated with the intake of cyclophosphamide (P <0.05).

Conclusion: We conclude that significant microcirculatory changes occur in systemic lupus erythematosus (SLE) patients as proved by the high prevalence of capillary abnormalities in lupus patients compared to controls by means of nailfold capillaroscopy.

Some nailfold capillaroscopy changes e.g. meandering capillaries may complete picture of SLE diagnosis. Duration of SLE disease may have an impact on microcirculation of these patients. The presence of some nailfold capillaroscopy changes in SLE patients may be an alarming sign to fatal ischemia of the digits.

Keywords: Systemic lupus erythematosus; Nailfold capilloroscopy; Microvascular involvement.

150. Juvenile and Adult Onset Systemic Lupus Erythematosus Outcome in Egyptian Patients

Tamer A. Gheita, Samar M. Fawzy, Abeer M. Nour El-din and Hussein S. El-Fishawy.

The Egyptian Rheumatologist, 33: 99-105 (2011) IF: 2

Aim of the work: The aim was to study the outcome characteristics of systemic lupus erythematosus (SLE) in Egyptians according to the age at disease onset and gender. **Patients and methods**: We studied 239 SLE patients (185 adult and 54 Juvenile onsets) with a female to male ratio of 9.39–1 and a mean age of 28.23 ± 8.91 years and disease duration of 5.45 ± 4.25 years.

Full history taking, thorough clinical examination, laboratory and relevant radiological investigations were performed. Disease activity was assessed using SLEDAI and damage by SLICC. Renal biopsies were done in those with renal involvement.

Results: The clinical manifestations, disease activity and damage and laboratory investigations of the SLE patients varied according to the age at disease onset and gender. The prevalence of damag was obviously increased in juvenile patients and higher in males. Growth failure, delayed puberty and fibromyalgia were present more in Juvenile-onset patients. Adult onset SLE patients had a significantly higher secondary Sjögren syndrome especially in females. In the present study, there was a 2.5% mortality and the commonly involved kidneys were an important cause of death.

Conclusion: Measuring organ damage in SLE is important with special concern to juvenile-onset patients to allow for designing new treatments that improve control of disease activity and minimize the development of irreversible damage. The kidney appeared to be commonly involved, especially in males, indicating the importance of regular screening for early and appropriate management.

Keywords: SLE; Outcome; Onset; Gender; Egyptians.

Faculty of Oral Dental Medicine

Dept. of Oral Medicine and Periodontology

151. Local Application of Hyaluronan Gel in Conjunction with Periodontal Surgery: A Randomized Controlled Trial

Karim M. Fawzy El-Sayed, Moushira A. Dahaba, Shadw Aboul-Ela and Mona S. Darhous.

Clin Oral Invest, (2011) IF: 2.25

Hyaluronic acid application has been proven to be beneficial in a number of medical disciplines. The aim of the current study was to clinically evaluate the effect of local application of hyaluronan gel in conjunction with periodontal surgery. Fourteen patients with chronic periodontitis having four interproximal intrabony defects ≥3 mm) with probing depth values >5 mm were included in this split-mouth study. Following initial nonsurgical periodontal therapy and re evaluation, defects were randomly assigned to be treated with modified Widman flap (MWF) surgery in conjunction with either 0.8% hyaluronan gel (test) or placebo gel (control) application. Clinical attachment level (CAL), probing depth (PD), gingival recession (GR), plaque index (PI), and bleeding on probing (BOP) values were taken at baseline and 3 and 6 months. Differences between test and control sites were evaluated using a Wilcoxon signed-rank and a McNemar test. A Friedman and a Cochran test were used to test equal ranks over time. Statistically significant differences were noted for CAL and GR ($P<0.05$) in favor of the test sites. No significant differences were found regarding PD, BOP, or PI values ($P>0.05$). Hyaluronan gel application in conjunction with periodontal surgery appears to result in significant improvement of CAL and in a reduction in GR. Hyaluronan gel application appears to improve the clinical outcome of MWF surgery.

Keywords: Periodontal surgery; Hyaluronic acid; Clinical.

Dept. of Orthodontics

152. Accuracy and Reproducibility of Voxel Based Superimposition of Cone Beam Computed Tomography Models on the Anterior Cranial Base and the Zygomatic Arches

Mohamed M El- Molla, Amr R. El-Beialy, Ahmed H kandil, Ahmed M El beialy and yehya A mostafa.

Plos One, (2011) IF: 4.411

Superimposition of serial Cone Beam Computed Tomography (CBCT) scans has become a valuable tool for three dimensional (3D) assessments of treatment effects and stability. Voxel based image registration is a newly developed semiautomated technique for superimposition and comparison of two CBCT scans.

The accuracy and reproducibility of CBCT superimposition on the anterior cranial base or the zygomatic arches using voxel based image registration was tested in this study. 16 pairs of 3D CBCT models were constructed from pre and post treatment CBCT scans of 16 adult dysgnathic patients. Each pair was registered on the anterior cranial base three times and on the left zygomatic arch twice.

Following each superimposition, the mean absolute distances between the 2 models were calculated at 4 regions: anterior cranial base, forehead, left and right zygomatic arches. The mean distances between the models ranged from 0.2 to 0.37 mm (SD 0.08–0.16) for the anterior cranial base registration and from 0.2 to 0.45 mm (SD 0.09–0.27) for the zygomatic arch registration.

The mean differences between the two registration zones ranged between 0.12 to 0.19 mm at the 4 regions. Voxel based image registration on both zones could be considered as an accurate and a reproducible method for CBCT superimposition. The left zygomatic arch could be used as a stable structure for the superimposition of smaller field of view CBCT scans where the anterior cranial base is not visible.

Keywords: Voxel Based; Anterior cranial base; Cone beam computed tomography.

153. Miniscrew Implant-Supported Maxillary Canine Retraction with and Without Corticotomy-Facilitated Orthodontics

Shadw M. Badr El-Din Aboul-Ela, Amr R. El-Beialy, Karim M. F. El-Sayed, Essam M. N. Selim, Nagwa H. EL-Mangoury and Yehya A. Mostafa

Am J Orthod Dentofac, (2011) IF: 1.354

Introduction: The purpose of this study was to clinically evaluate miniscrew implant-supported maxillary canine retraction with corticotomy-facilitated orthodontics. **Methods**: The sample consisted of 13 adult patients (5 men, 8 women; mean age, 19 years) exhibiting Class II Division 1 malocclusion with increased overjet requiring the therapeutic extraction of the maxillary first premolars, with subsequent retraction of the maxillary canines.

Corticotomy-facilitated orthodontics was randomly assigned to 1 side of the maxillary arch at the canine premolar region, and the other side served as the control. By using miniscrews as anchorage, canine retraction was initiated via closed nickel-titanium coil springs applying 150 g of force per side. The following variables were examined over a 4-month follow-up period: rate of tooth movement, molar anchorage loss, plaque index, gingival index, probing depth, attachment loss, and gingival recession.

Results: The average daily rate of canine retraction was significantly higher on the corticotomy than the control side by 2 times during the first 2 months after the corticotomy surgery. This rate of tooth movement declined to only 1.6 times higher in the third month and 1.06 times higher by the end of the fourth month. No molar anchorage loss occurred

during canine retraction on either the operated or the nonoperated side. There was no statistically significant difference between preoperative and postoperative measurements of plaque index, probing depth, attachment loss, and gingival recession.

Conclusions: Corticotomy-facilitated orthodontics can be a feasible treatment modality for adults seeking orthodontic treatment with reduced treatment times.

Keywords: Corticotomy; Miniscrew; Anchorage.

154. Tooth Movement Into Distraction Regenerate: When Should we Start?

Fouad Aly El Sharaby, Nader Nabil El Bokle, Dalia Mohamed El Boghdadi and Yehya Ahmed Mostafa

American Journal of Orthodontics and Dentofacial Orthopedics, 139: 482-494 (2011) IF: 1.354

Introduction: The aim of this study was to evaluate clinically, radiographically, and histologically orthodontic tooth movement into bone regenerate after mandibular distraction osteogenesis to elucidate the optimal timing for initiating tooth movement.

Methods: The study sample consisted of 9 male mongrel dogs. An average edentulous space of 9 mm was created by using a custom-made bone-borne distractor fixed on the mandibular corpus of each dog. The dogs were equally divided into 3 groups, and tooth movement began into the distraction gap after 1, 3, or 6 weeks of consolidation. The rate and type of tooth movement as well as the adverse tissue reactions (root resorption and crestal bone loss) were evaluated.

Results: Radiographic and histologic analyses showed analogous adverse tissue reactions in association with early tooth movement into the regenerate bone. Furthermore, the rate and type of tooth movement were variable in the 3 groups.

Conclusions: Early tooth movement into the distraction regenerate is not recommended because it could result in adverse tissue reactions. Moreover, radiographic examination of the distraction regenerate is advisable and could be used as a guide before starting tooth movement.

155. Accuracy and Reliability of Cone-Beam Computed Tomography Measurements: Influence of Head Orientation

Amr Ragab El-Beialy, Mona Salah Fayed, Ahmed Mohammed El-Bialy and Yehya A. Mostafa

American Journal of Orthodontics and Dentofacial Orthopedics, 140: 157-165 (2011) IF: 1.354

Introduction: The purpose of this research is to determine the accuracy and reliability of measurements obtained from 3-dimensional (3D) cone-beam computed tomography (CBCT) for different head orientations.

Methods: Stainless steel wires were fixed to a dry skull at different places. The skull was scanned by using CBCT in the centered and 5 other positions. Intraobserver and interobserver reliability tests were performed by using 6 landmarks identified on the virtual 3D skulls by 2 operators. Two methods were used to determine the accuracy of measurements on the virtual 3D skull scanned in different positions. In the first method, 12 linear distances were compared on the physical skull and the 3D virtual skull in the centered and the other scanning positions. In the second method, registration of each of the 5 positions on the centered position was done separately, and coordinates of 11 landmarks were identified in each position and compared with the centered position. Data gathered from the 2 methods were compared statistically.

Results: Concordance correlation and Pearson correlation coefficients values were almost 0.9999 in all the comparisons denoting: (1) high intraobserver and interobserver reliability; (2) very high concordance between the physical skull and the CBCT centered-position measurements; (3) very high concordance between measurements of the centered position in relation to those obtained from the different skull positions; and (4) registration of the skulls in the different positions showed high concordance, with the highest values between the centered and off-centered positions, and the lowest with the complex position.

Conclusions: Accuracy and reliability of CBCT measurements are not affected by changing the skull orientation. Thus, the upper-lip and chin rests should not be considered absolute requirements during CBCT imaging if a stable head position is ensured.

Keywords: CBCT imaging; Accuracy and reliability; Cone-beam computed tomography; Head orientations.

156. Three Dimensional Approach for Realistic Simulation of Facial Soft Tissue Response: A Pilot Study

Mohammed M. El-Molla, Amr R. El-Beialy, Ahmed H. Kandil, Ahmed M. El-Beialy and Yehya A. Mostafa

Progress in Orthodontics, (2011)

Facial attractiveness is ranked as a principal priority among patients seeking orthodontic treatment or combined surgical orthodontic therapy. A successful treatment planning process necessitates an accurate prediction of the postoperative facial profile. In this manuscript. the simulation procedure on a real clinical case using virtual volumetric 3D mesh through different scenarios of orthognathic procedures was done Results depict several facial soft tissue outcomes, with the likelihood of sharing with the patient the most esthetically pleasing end result prior to carrying out the surgical procedure.

Faculty of Pharmacy

Dept. of Analytical Chemistry

157. Simultaneous Hptlc and Rp-Hplc Methods for Determination of Bumadizone in the Presence of its Alkaline-Induced Degradation Product

Nouruddin W. Ali, Hala A. ZaaZaa, M. Abdelkawy and Maimana A. Magdy

Biomed Chromatogr, (2011) IF: 1.545

Accurate, selective, sensitive and precise HPTLC-densitometric and RP-HPLC methods were developed and validated for determination of bumadizone calcium semi-hydrate in the presence of its alkaline-induced degradation product and in pharmaceutical formulation. Method A uses HPTLC-densitometry, depending on separation and quantitation of bumadizone and its alkaline-induced degradation product on TLC silica gel 60 F254 plates, using hexane–ethyl acetate–glacial acetic acid (8:2:0.2, v/v/v) as a mobile phase followed by densitometric measurement of the bands at 240 nm. Method B comprises RP-HPLC separation of bumadizone and its alkaline-induced degradation product using a mobile phase consisting of methanol–water–acetonitrile (20:30:50, v/v/v) on a Phenomenex C18 column at a flow-rate of 2 mL/min and UV detection at 235 nm.

The proposed methods were successfully applied to the analysis of bumadizone either in bulk powder or in pharmaceutical formulation without interference from other dosage form additives, and the results were statistically compared with the established method.

Keywords: bumadizone; HPTLC-densitometric method; RP-HPLC method.

Dept. of BioChemsitry

158. Beta-Adrenergic Receptor Signaling by the Isomers of Isoproterenol and Like Drugs in Retinal Endothelial Cells and Müller Cells

Jayaprakash Pagadala, Kimberly Williams-Guy, Mohammed M. Nooh, Jena J. Steinlea and Duane. D. Miller

Med Chem Comm, 2: 726-730 (2011)

Diabetic retinopathy is the leading cause of blindness to working-age adults. Complications of diabetic retinopathy include pericyte loss, basement membrane thickening of capillaries, microaneurysm formation, and an increase in inflammatory marker levels. We have shown that stimulation of β-adrenergic receptors by β-adrenergic receptor agonists significantly reduces key inflammatory markers in retinal endothelial cells (REC) or Müller cells cultured in high glucose, indicating that restoration of β-adrenergic receptor signaling may be protective to the retina. REC and Müller cells responded to increased glucose concentrations with an increase in inflammatory markers and apoptosis, which is reduced following treatment with β-adrenergic receptor agonists. In our initial studies, we evaluated the ability of optically active R-(-)-isoproterenol (**R-1**), S-(+)-isoproterenol (**S-1**), and racemic mixture of (±)-isoproterenol (1), a non-selective β-adrenergic receptor agonist, to reduce the cleavage of caspase 3 and TNFα levels. We observed R-(-)-isoproterenol is more effective than S-(+)-isoproterenol, thus we developed novel optically active analogs of R-(-)-isoproterenol. Of the analogs, we found that compound **12** significantly reduced both caspase 3 and TNFα levels in REC, but did not reduce both markers in Müller cells. Binding data of compound **12** suggest that it is not a β-adrenergic receptor true agonist, but appears to decrease inflammatory levels and apoptosis in REC through an alternate mechanism.

Dept. of Microbiology and Immunology

159. Phage Eco-Locator: A web Tool for Visualization and Analysis of Phage Genomes in Metagenomic Data Sets

Ramy K. Aziz, Bhakti Dwivedi, Mya Breitbart and Robert A. Edwards

BMC Bioinformatics, (2011) IF: 3.029

Bacteriophages, viruses that infect bacteria, are the most abundant biological entities on our planet, and their nucleic acids constitute a substantial proportion of total DNA in Earth's ecosystems. While the advent of metagenomic methods has allowed the rapid and efficient investigation of microbial and viral communities, there has not been a comprehensive comparative analysis of phage genes and genomes present in all sequenced ecosystems. To examine the abundance and distribution of phage genes in environmental metagenomic sequences, we developed a web-based tool, Phage Eco-Locator [http://www.phantome.org/eco-locator] that screens all publicly available sequenced metagenomes for a user-defined phage genome, or all phage genomes within a user-selected metagenomic sample.

Keywords: Phage; Metagenomics; Bioinformatics; Ecology.

160. Pharmacomicrobiomics or how Bugs Modulate Drugs: an Educational Initiative to Explore the Effects of Human Microbiome on Drugs

Ramy K. Aziz, Rama Saad and Mariam R. Rizkallah

BMC Bioinformatics, (2011) IF: 3.029

Pharmacogenomics investigates how variations within the human genome affect the action and disposition of drugs as well as drug tolerance. Yet, variations within the human genome do not fully account for the tremendous phenotypic variations observed between individuals. Human-associated microbes, which exceed the human cells in number, significantly contribute to the effective human gene pool, and their combined genomes (known as the human microbiome) have not gained attention until recently. The Human Microbiome Project was launched in 2007 to catalogue the tremendous diversity of cultured and uncultured human-associated microbial communities residing in different human tissues, and to study the effect of microbial genes and genomes on human health and disease. However, the effect of these microbes on drugs remains

largely unexplored. Since microbes have complex metabolism, including an extraordinary ability to metabolize xenobiotics, they are expected to play a pivotal role in modulating the action, disposition, and toxicity of drugs with which they interact in different sub-ecosystems within the human body. The PharmacoMicrobiomics initiative (http://pharmacomicrobiomics.org) is a research-based educational web platform that aims at exploring how microbes modulate drugs.

Keywords: Metagenomics; Microbiome; Bioinformatics; database; Pharmacology.

161. Towards an Ecology of Collective Innovation: Human Variome Project (Hvp), Rare Disease Consortium for Autosomal Loci (Radical) and Data-Enabled Life Sciences Alliance (Delsa)

Vural Ozdemir, David S. Rosenblatt, Louise Warnich, Sanjeeva Srivastava, Ghazi O. Tadmouri, Ramy K. Aziz and et al.

Current Pharmacogenomics and Personalized Medicine, 9: 243-251 (2011)

The Millennium Summit in 2000 established the Millennium Development Goals (MDGs), which were agreed upon by 193 countries and 23 international organizations to combat extreme poverty and other pressing global priorities for human development. In the December 2011 issue of CPPM, Borda-Rodriguez and Huzair present an analysis of the close ties and synergies among the MDGs, pharmacogenomics and personalized medicine. Notably, MDGs promote the creation of collective innovation, a concept with both substantive and instrumental pertinence for the personalized medicine R&D that is currently undergoing rapid globalization. The ethos for collective innovation in global health is also embodied in the Paris Declaration on Aid Effectiveness, endorsed in 2005 by more than 100 signatories, including donor and developing country governments, regional development banks and international aid agencies.

Keywords: Anticipatory ethics; Data-Enabled Life Sciences Alliance; DELSA; Genomics without borders; Global ethics and international development in pharmacogenomics; Human Variome Project; RaDiCAL; Rare Disease Consortium forAutosomal Loci.

Dept. of Pharmaceutical Chemistry

162. Validated Stability-Indicating Derivative and Derivative Ratiomethods for the Determination of some Drugs used to Alleviate Respiratory Tract Disorders and their Degradation Productstract Disorders and their Degradation Products

Sonia T. Hassib, Asmaa A. El-Zaher and Marwa A. Fouad

Drug Testing and Analysis, 3: 306-318 (2011) IF: 1.667

Derivative and derivative ratio methods are presented for the determination of butamirate citrate, formoterol fumarate, montelukast sodium, and sodium cromoglycate. Using the second derivative ultraviolet (UV) spectrophotometry, butamirate citrate and formoterol fumarate were determined by measuring the peak amplitude at 260.4 and 261.8 nm, respectively, without any interference of their degradation products. Butamirate citrate degradation product, 2-phenyl butyric acid, was determined by themeasurement of its second derivative amplitude at 246.7nmwhere butamirate citratedisplays zero crossing. Formoterol fumarate degradation product, desformyl derivative, could be evaluated through the use of the first derivative at peak amplitude of 264.8 nm where interference of formoterol fumarate is negligible. In the first mode, the zero-crossing technique was applied at 305 nm for the determination of montelukast sodium in the presence of its photodegradation product, cis-isomer. The derivative of ratio spectra of montelukast sodium and its cis- isomer were used to determine both isomers using the first derivative of the ratio spectra by measuring the amplitudes of the trough at 305 nm and the peak at 308 nm, respectively. The later technique was also used for the determination of a ternary mixture of sodium cromoglycate and its two degradation products using zero-crossing method. In the derivative ratio spectra of the ternary mixture, trough depths were measured at 271.6, 302.8 and 302.2 nm, using the second, the first, and the second mode to evaluate sodium cromoglycate, degradation product (1) and degradation product (2), respectively. All the methodswere applied successfully to the pharmaceutical preparation and were validated according to ICH guidelines.

Keywords: Respiratory tract drugs; Degradation products; Derivative spectrophotometry; Derivative ratio spectrophotometry; Stability indicating methods.

163. Simultaneous Spectrophotometric Determination of Diclofenac Potassium Andmethocarbamol in Binary Mixture using Chemometric Techniques and Artificial Neural Networks

Ehab F. Elkady

Drug Test Anal, 3: 228-233 (2011) IF: 1.667

In this study, the simultaneous determination of diclofenacpotassium (DP) and methocarbamol (MT) by chemometricapproaches and artificial neural networks using UV spectrophotometry has been reported as a simple alternative to using separatemodels for each component. Three chemometric techniques – classical least-squares (CLS), principal component regression (PCR), and partial least-squares (PLS) – along with radial basis function-artificial neural network (RBF-ANN) were prepared by using the synthetic mixtures containing the two drugs in methanol. A set of synthetic mixtures of DP and MT was evaluated and the results obtained by the application of these methods were discussed and compared. In CLS, PCR, and PLS, the absorbance data matrix corresponding to the concentration data matrix was obtained by the measurements of absorbances in the range 260–310 nm in the intervals with $\Delta\lambda = 0.2$ nm in their zero-order spectra. Then, calibration or regression was obtained by using the absorbance data matrix and concentration data matrix for the prediction of the unknown concentrations of DP and MT in theirmixtures. In RBF-ANN, the input layer consisting of 251 neurons, 9

neurons in the hidden layer, and 2 output neurons were found appropriate for the simultaneous determination of DP andMT. The accuracy and the precision of the four methods have been determined and they have been validated by analyzing synthetic mixtures containing the two drugs. The proposed methods were successfully applied to a pharmaceutical formulation containing the examined drugs.

Keywords: Diclofenac potassium; Methocarbamol; Chemometrics; Artificial neural networks; Pharmaceutical preparation.

164. Simultaneous Densitometric TLC Analysis of Olmesartan Medoxomil and Hydrochlorothiazide in the Tablet Dosage form

Bahia Moussa, Marwa Mohamed and Nadia Youssef

Journal of Planar Chromatography, 1: 35-39 (2011) IF: 1.247

A simple, rapid and selective densitometric thin-layer chromatographic (TLC) method has been established and validated for simultaneous quantitative analysis of olmesartan medoxomil and degradation products. Chromatography was performed on aluminium foil- packed HPTLC plates coated with 0.2mm layers of nano-silica gel 60 F254 as stationary phase. R_F value of olmesartan medoxomil, its degradation products, and hydrochorothiazide were significantly different when chloroform –methanol-formic acid 8:1.5:0.5 (*v*/*v*) was used as mobile phase. Detection was performed at 260 nm and 272 nm for olmesartan medoxomil and hydrochorothiazide, respectively. Regression plots revealed good linear relationships in the concentration range 0.05-1mg mL^{-1}. Accuracy was checked with average recovery 100.35± 1.060% and 99.91±1.154% for olmesartan medoxomil and hydrochorothiazide, respectively. The average recovery of drugs in the dosage formulation was 102.78±1.525% of the label claimed for olmesartan medoxomil and 103.09±1.259% for hydrochorothiazide. Method validation was performed in accordance with USP guidelines.

Keywords: Olmesartan medoxomil; Hydrochorothiazide; TLC-densitometry; Tablets dosage form and degradation products.

165. Utility of Methyl 2-Isothiocyanatobenzoate in the Synthesis of Some new Quinazoline Derivatives as Potential Anticancer and Raradiosensittising Agents

Mostafa M .Ghorab, Fatma A. Ragab, Helmi A. Heiba and Ahmed A. Bayomi

Arzneimittelforschung, 61 (12): 719-726 (2011) IF: 0.632

Novel quinazolines 4-11, 15 and triazoloquinazolines12-14 bearing biologically active sulfonamide moieties were synthesized . All the synthesized compounds were evaluated for their in vitro anticancer activity against liver cancxer cell line (HEPG2). Some of the screened compounds exhibited interesting cytotoxic activity compared to Doxorubicin as a reference drug. The most active compounds were selected and evaluated for their ability to enhance the cell killing effect of gamma radiation; compound 15 was superior to doxorubicin in radiattion combination therapy.

Keywords: Anticancer drugs; Quinazolines; Radiosensitizers; Sulfonamides.

166. Design and Synthesis of Acridine-4-Carboxamide and Acridine-4-Carboxylate Derivatives as Tyrosine Kinase Inhibitors

Gehan H. Hegazy, Maha S. Almutairi and Ebtehal S. Al Abdullah

LIFE SCI J, 8 (3): 192-198 (2011) IF: 0.158

Acridine and quinazoline derivatives represent important classes for the treatment of cancer. Many derivatives of them found to be tyrosine kinase inhibitors. In this work novel eight acridine-4-carboxamide and acridine-4- carboxylate derivatives were synthesized from quinazoline and acridine scaffolds. Six of the newly synthesized compounds were chosen by NCI for screening as anticancer. The activity of six compounds (8a-d, 9a and 9d) was tested using the national cancer institute NCI disease oriented antitumor screen protocol. Compound 8c was proved to be the most active member in this study. This acridine analog 8c could be considered as useful template for further development to obtain more potent antitumor agents. [Gehan H.Hegazy, Maha S. Almutairi, Ebtehal S. Al Abdullah. Design and Synthesis of Acridine-4-Carboxamide and Acridine-4-Carboxylate Derivatives as Tyrosine Kinase Inhibitors.

Keywords: Acridine-4-carboxamide; Acridine-4-carboxylate; Quinazoline; Kinase inhibitors.

167. Developmment and Validation of Specctrophottometric Method Based on Charge Transfer Complex formation for the Determination of Repaglinide and Rosiglitazone Maleate in Bulk and Tablet Dosage form.

Faten Farouk, Bahia A. A. Moussa and Hassan M. E. Azzazy

International Journal of Pharmacy and Pharmaceutical Sciences, 3: (2011)

Arapid and accurate spectrophotometric method has been developed for the separatte determination of repaglinide (R PG) and rosiglitazzone maleate (RGZ) inbulk and tablet forms. The procedures were validated according to the international conferennce on harmonizaation (ICH) guideelines and the recovery study was performed by standard addition technique. *P*-Chloranilic acid was found to form a charge-transfer complex in a stoichiometric 11:1 ratio with bothh drugs of maximum absorbance at 530 nm. Beer's law was obeyed over the concenntration range 100–500 µg/mL and 100–800 µg/mL for RPG and RGZ; respectivvely. All the ICH validation parameters were met for the proceduree. No significant statistical differeence between the developed and dreference HPLC methods was fouund. The proposeed method is suitable for the qualitty control analysis of RPG and RGZZ in pure and pharmaceutical dosage forms.

Keywords: *P*-chlooranilic acid; Charge transfer complex; Spectrophottometric determination.

168. Development and Validation of A Stability-Indicating Hplc Method for the Analysis of Desvenlafaxine Succinate in the Presence of its Acidic Induced Degradation Product in Bulk and Pharmaceutical Preparation

Bahia Abbas Moussa, Ramzia Ismail El-Bagary and Yasmin Abdullah Al-Eryani

Journal of Chemical and Pharmaceutical Research, 3 (5): 425-437 (2011)

A stability- indicating High Performance Liquid Chromatography (HPLC) method of analysis of desvenlafaxine suucinate (DSV) in the presence of its acidic induced- degradation product in pure and pharmaceutical preparation had been developed and validated. The chromatographic conditions comprised of an isocratic reversed- phase separation on Discovery C18 column. Elution was carried out using acetonitrile: phosphate buffer pH 3.8 (50: 50 v/v) as a mobile phase at a flow rate of 0.7 ml/min and UV detection at 229 nm.

The linear regression analysis data for the calibration plots showed good linear relationship in the concentration range 5-100 µg/ml (r^2 =0.9999). The values of slope and intercept were 34.295 and 12.564 respectively. The method was successfully validated in accordance to ICH guidelines acceptance criteria. The specificity and stability-indicating capabilities of the method was verified by subjecting DSV to acid hydrolytic stress condition. The acid degradation product was confirmed as 4-(1-cyclohexenyl-2-(dimethylamino) ethyl) phenol. Under the chromatographic condition, the degradation product was well resolved from the active pharmaceutical ingredients with significantly different retention time. Thus the proposed method was found to be stabilityindicating and can be used for routine analysis of the drug without interference of acidic degradation product. The proposed method was successfully applied for the analysis of pharmaceutical formulation. The validity of the suggested procedures was further assessed by applying the standard addition technique which was found to be satisfactory. The results were statistically analyzed and compared with those obtained by the reported method.

Keywords: HPLC; Desvenlafaxine succinate; Acidic degradation product: NMR.

169. Fluorimetric and Colorimetric Methods for the Determination of some Antimigraine Drugs

Ramzia.I. El-Bagary, Nashwah G. Mohammed and Heba A. Nasr

Journal of Chemical and Pharmaceutical Research, 3(4): 304-314 (2011)

Two spectroscopic methods were proposed for the determination of almotriptan malate (AM), eletriptan hydrobromide (EH), and rizatriptan benzoate (RB), in pure form or in their pharmaceutical dosage forms. The first method is a quantitative fluorimetric method. For rizatriptan benzoate, the native fluorescence was measured for its solutions in acetonitrile upon excitation at λ 235 nm and emission at λ 357nm. Linear relationship was obtained over concentration range (1-12µg/ml).

For almotriptan malate and eletriptan hydrobromide, induced fluorescence was measured by fluorogenic labeling with 4-chloro-7-nitrobenzofurazan (NBD-cl) upon excitation at λ 460nm, and emission at λ 550nm. Linear relationships were obtained over concentration ranges; (10-100µg/ml) & (10-80µg/ml) for almotriptan malate and eletriptan hydrobromide respectively.

The second method was based on formation of charge transfer complex between the base of the studied drugs and 7,7,8,8 tetracyanoquinodimethane (TCNQ). The colored complexes have a maximum at λ 744nm. Linear relationships were obtained over concentration ranges (10-75µg/ml), (10-70µg/ml), and (10-100µg/ml), for almotriptan and eletriptan, and rizatriptan respectively.

The proposed methods were reproducible, precise and accurate and were successfully applied for the determination of each of the studied drugs in pure form or in pharmaceutical dosage form in Quality Control Determinations.

Keywords: Almotriptan malate and Eletriptan hydrobromide; Rizatriptan benzoate; Fluorimetry.

170. Septrofluorometric, Spectrophotometric and LC Determination of Irbesartan

Ramzia I. El-Bagary, Hanaa M. Hashem and Waleed A. Ebeid

Journal of Chemical and Pharmaceutical Research, 3(4): 722-733 (2011)

Simple, accurate and precise spectroflourimetric, spectrophotometric and LC methods have been developed and validated for the determination of irbesartan (IRB). The spectroflourimetric method depends on measuring the native fluorescence of IRB in the range of 1-6 µg.ml^{-1} (λ em at 785 nm upon excitation at 250 nm) in 0.1N H_2SO_4. Spectrophotometric method represents a stability indicating assay for the determination of IRB in presence of its alkaline degradation product (IDP) in the range of 2.5-30 µg.ml^{-1}. This method was based on measuring the first derivative of ratio spectra at 236.5 nm.

The LC method has been developed for the simultaneous determination of IRB and hydrochlorothiazide (HCZ) in presence of IDP in the range of 30 – 112.5 µg. ml^{-1} and 2.5–9.375 µg. ml^{-1} of IRB and HCZ, respectively. The analysis was conducted on Agilent zobrax ODS (C18) column, 5 µm particle size (4.6 x 250 mm), using ondansetrone hydrochloride as an internal standard and a mobile phase consisting of triethylamine: acetonitrile: 0.025 M potassium dihydrogen phosphate adjusted to pH (3) with ophosphoric acid (0.15: 40: 60, v/v/v). Quantitation was achieved using UV detection at 269 nm at a flow rate maintained at 1 ml.min^{-1}. The results were statistically compared using one-way analysis of variance (ANOVA). The developed methods were satisfactorily applied to the analysis of the pharmaceutical formulations and proved to be specific and

accurate for the quality control of the cited drugs in pharmaceutical dosage forms.

Keywords: Irbesartan; Hydrochlorothiazide; Spectrofluorometry; Spectrophotometry; Stability.

171. Validated Stability Indicating Assay of Gemifloxacin by Different Chromatographic and Spectrophotometric Methods of Analysis

Ramzia I. EL-Bagary, Nisreen F. Abo-talib and M. Badawi N. Eldin

Journal of Chemical and Pharmaceutical Research, 3 (6): 562-570 (2011)

Five chromatographic and spectrophotometric methods have been developed for the determination of gemifloxacin (GF) in bulk powder and pharmaceutical preparations. The first method depends on RP-HPLC, separation of drug and degradation products was successfully achieved on a Hypersil BDS C18 column using mobile phase consisted of citrate buffer adjusted to 2.5 pH by citric acid: Acetonitrile (70:30, v/v) at 1 ml/min flow rate and 267 nm wavelength of detection. Another chromatographic method which achieved successful separation of drug and its degradation products depends on TLC densitometry using mobile phase consisted of chloroform: methanol: toluene: diethylamine: water (33.6:33.6:16.8:10.8:6,v/v/v/v/v) with 20?l spotting volume and 260 nm wavelength of detection. Other three simple, rapid and sensitive UV methods have been developed for GF estimation in presence of its degradation products. One method depends on the first order derivative where GF shows sharp peak at 258.6 nm.

Another method depends on derivative ratio technique by dividing the GF absorbance on that of its degradation and transforming the resulting curve into first order derivative showing a sharp peak at 285 nm. Last method depends on measuring the difference in GF absorbance in 0.1N Hcl and 0.1 N NaOH and transforming the difference into second order derivative showing a sharp peak at 288.2 nm.

The drug follows the Beer`s Lamberts for these three UV methods. The results obtained from the five proposed methods were validated statistically and by recovery studies and were found to be satisfactory.

Keywords: Gemifloxacin; RP-HPLC; TLC; UV Spectrophotometry; Derivative Spectroscopy.

172. Different Kinetic Spectrophotometric Methods For The Determination of Mefenamic Acid, Niflumic Acid, Mesalazine and Sulfasalazine in Their Pharmaceutical Formulation

El-Guindi, N.M, Abbas, B.M., El-Bagary, R.I. and Amer, E.A

Journal of Chemical and Pharmaceutical Research, 3 (3): 412-422: 0-0 (2011)

The objective of this research was to develop simple and sensitive three kinetic methods for the determination of some anti-iflamatory drugs, mefenamic acid (MA), niflumic acid (NA), mesalazine (MS) and sulfasalazine (SS) in pure form and in their pharmaceutical formulations. The first method was based upon the kinetic investigation of the oxidation reaction of each drug (MA, NA, MS and SS) with alkaline potassium permanganate at room temperature for fixed time yielding a green color of manganate ion.

The reaction is monitored by measuring the rate of change of absorbance of the resulting manganate species at 610 nm. The second method is based upon the reaction of carboxylic acid group of MA and NA with a mixture of potassium iodate (KIO3) and potassium iodide (KI) at room temperature. The reaction is followed by measuring the increase in absorbance at 352 nm as a function of time.

The third method is based upon the oxidation reaction of MS and SS with a mixture of iodine and potassium iodide (KI) at room temperature.

The light brown color is followed by measuring the increase in absorbance at 496 nm as a function of time. The initial-rate and fixed-time methods were adopted for constructing all the calibration curves.

The proposed methods are validated statistically and throughrecoveries studies to confirming that there is no significant difference between the proposed methods and the reference method.

Keywords: Mefenamic acid; Niflumic acid; mesalazine; Sulfasalazine; Kinetic determination.

Dept. of Pharmaceutical Organic Chemistry

173. Synthesis and Anti-Inflammatory Activity of Certain Benzothieno[3,2-*d*][1,2,4]Triazolo [4,3-*b*] Pyridazine Derivatives

Ashraf F. A. Zaher, Omneya M. Khalil and Hanan M. Refaat

Med Chem Res, (2011) IF: 1.058

6-Bromo-4-chloro-1-hydrazinobenzothieno[2,3-*d*] pyridazine (**1**) was selected as the starting material for the synthesis of some novel fused benzothienotriazolopyridazine derivatives **2–16**. Thus, compound **1** was reacted with carbon disulfide, ethyl orthoformate, acetic anhydride, or 2-methoxybenzaldehyde followed by cyclization with bromine, to give the corresponding benzothienotriazolopyridazines **2–6**. Nucleophilic substitution of the 6-chloro with piperidine, N-methyl piperazine, hydrazine hydrate, or potassium hydroxide afforded 6-substituted benzothieno [3,2-*d*][1,2,4]triazolo[4,3-*b*] pyridazines **7–16**. The structures of the synthesized compounds were elucidated by elemental analysis and spectral data. All the newly synthesized compounds were subjected to evaluation for their antiinflammatory activity against carrageenaninduced paw edema at a dose of 10 mg/kg using indomethacin as the reference standard. Compounds **11** and **13** (6-hydrazinyl derivatives) significantly reduced the edema to 52.8 and 78.7%, respectively, as compared with indomethacin (50.5%).

Keywords: Benzothieno [3;2-*d*]; [1;2;4] Triazolo; [4;3-*b*] Pyridazines; Antiinflammatory activity.

174. Synthesis and Anti-Inflammatory Activity of Some 3, 5-Diaryl-2-Pyrazoline Derivatives

Omneya M. Khalil and Hanan M. Refaat

Oriental Journal of Chemistry, 27 (4): 1581-1590 (2011)

Eleven new 3-(4-bromophenyl)-5-(4-fluorophenyl)-2-pyrazoline derivatives 4-9 and 11-15 were synthesized by using 1-(4-bromophenyl)-3-(4-fluorophenyl) prop-2-en-1-one (3). The newly synthesized compounds were evaluated for anti-inflammatory activity against carrageenan edema in albino rats at a dose of 10 mg/kg. All the compounds of this series showed promising anti-inflammatory activity. The most active compound of this series, 7 was found to be most potent, which has shown higher percentage of inhibition of edema than the standard drug indomethacin.

Keywords: Synthesis; Pyrazolines; Anti-inflammatory activity.

175. Synthesis and Antitumor Activity of Novel Pyrazolo [1,5-α] Pyrimidine Derivatives

Mervat Mostafa El-Enany, Mona Monir Kamel, Omneya Mahmoud Khalil and Hala Bakr ElNassan

European Journal of Chemistry, 2 (3): 331-336 (2011)

A novel series of pyrazolo [1,5-α] pyrimidine-3- carbonitriles substituted with 7-amino, 7-substituted amino and 5-substituted amino groups was synthesized. Some of the newly synthesized compounds were tested in vitro on human colon tumor cell line (HCT116). Compound 14a displayed the highest activity among the tested compounds with IC_{50} that equals to 0.0020µM.

Keywords: PyraPyrazole; 5-Aminopyrazole; Pyrazolo [1,5-α] pyrimidine; Antitumor activity; Cytotoxic activity; HCT116.

Dept. of Pharmaceutical Technology and Industerial Pharmacy

176. Ketorolac Tromethamine in-Situ Ocular Hydrogel: Preparation, Characterization and in Vivo Evaluation

Randa Zaki, Khaled M. Hosny, Ahmed Khames and Ahmed Abd-elbary

International journal of drug delivery, (2011)

Aim of the work: To evaluate the associations of serum 25 hydroxy (OH) vitamin D [25(OH)D] levels with cardiovascular risk factors as well as disease activity in women with SLE. Patients and methods: Fifty women with SLE as well as 30 controls were included in our study. Data collected included, demographics, SLE activity and damage assessments, cardiovascular risk factors, medications and laboratory assessment of inflammatory markers and 25(OH)D levels. Stepwise logistic regression analysis were used to estimate the association of 25(OH)D levels with cardiovascular risk factors. Results: A significant lower 25(OH)D levels was found in SLE patients compared to controls (P <0.001). A positive correlation was found between 25(OH)D and diastolic blood pressure, fasting blood sugar, cholesterol, triglycerides, LDL, BMI, as well as proteinuria and C3 levels. Furthermore, a significant positive correlation was found between 25(OH)D and the RT carotid artery stenosis and RT carotid artery plaque and the intima media thickness of both left and right carotid arteries. Lower 25(OH)D levels were also significantly associated with higher SLE disease activity and damage scores and steroid cumulative dose. Stepwise logistic regression analysis showed that higher BMI, diastolic blood pressure, cholesterol, triglycerides, LDL and diabetes mellitus act as predictors of lower 25(OH)D levels. Conclusion: Our study found an association between lower 25(OH)D levels and increased cardiovascular disease (CVD) risk factors, as well as increased SLE disease activity and damage indices. Future studies are needed to determine relation of 25(OH)D and cardiovascular risk factors in patients with lupus.

Keywords: 25(OH) vitamin D; Systemic lupus erythematosus; Coronary vascular disease.

177. Preparation, Characterization, and in-*Vitro/Vivo* Evaluation of Indion-Based Chewable Tablets of Paracetamol and Ibuprofen for Pediatric use

Amr Helmy, Sherien El Kady, Ahmed Khames and Ahmed Abd-elbary

Journal of American Science, 7 (12): 831-844 (2011)

Ibuprofen and paracetamol are commonly used NSAIDs, bitter taste and poor water solubility are great challenges in their formulation. In this work, an attempt was made to prepare palatable chewable tablets of these drugs suitable for pediatric use. In this work; masking of drug bitter taste was adopted using ion exchange technique, drug was loaded onto Indion-204 (a cationic exchange resin). The prepared drug resin complexes were optimized for maximum drug concentration by changing drug: resin ratio, stirring time, swelling time, pH and temperature.

Other techniques including coating with Aqua-coat ECD, solid dispersion in HPMC, MC and EC, microencapsulation in EC were also applied. *In-vitro* and *in-vivo* taste evaluation was applied, and the most palatable mixture was selected and formulated into tablets and fully evaluated. The results showed that, Indion-204 had maximum drug loading capacity when activated in acidic (1N HCl) solution, and Drug-Indion-204 tablet mixture prepared at 1: 3 ratio respectively by stirring in neutral solution (pH =7) at 80°C for 6hrs had a maximum drug loading capacity (85.6 and 90.5% w/w of paracetamol and ibuprofen, respectively), the drug bitter taste was almost completely masked when complexed with Indion. The drug dissolution rate from the prepared tablets reached 99.14% and 98. 48% w/v after 45min for paracetamol and ibuprofen respectively at maximum used drug-resin ratio (1:3). Depending on the previous results; Drug-Indion-204 mixture is an efficient technique to prepare palatable chewable tablets suitable for pediatric use. [Amr Helmy, Sherien El Kady, Ahmed Khames, Ahmed Abd-elbary Preparation, Characterization, and In-vitro/vivo Evaluation of Indion-based Chewable Tablets of Paracetamol and Ibuprofen for Pediatric use.

Keywords: Paracetamol; Ibuprofen; Chewable tablets; Ion exchange resin.

Dept. of Pharmacology and Toxicology

178. Tempol, A Membrane-Permeable Radical Scavenger, Ameliorates Lipopolysaccharide-Induced Acute Lung Injury in Mice: A Key Role for Superoxide Anion

Nesrine S. El-Sayed, Laila G. Mahran and Mahmoud M. Khattab

Eur J Pharmacol, (663): 68-73 (2011) IF: 2.737

Acute lung injury or acute respiratory distress syndrome is a serious clinical problem with high mortality. Oxidative stress was found to play a major role in mediating lung injury and antioxidants have been shown to be effective in attenuating acute lung injury. In this study, we determine the effects of tempol, a membranepermeable radical scavenger, in lipopolysaccharide (LPS)-induced acute lung injury and the underlying mechanism.

Acute lung injury was induced by intraperitoneal injection of LPS (1 mg/kg) and mice were treated with tempol 30 min before injection of LPS. One hour later, bronchoalveolar lavage fluid was collected and subjected to estimation of total and differential cell counts as well as the proinflammatory cytokines; tumor necrosis factor-alpha (TNF-α), interleukin-1beta (IL-1β) and interferon-gamma (IFN-γ). Lung tissue damage was confirmed by histopathological changes and by immunohistochemical analysis of myeloperoxidase (MPO).

Moreover, lipid peroxidation, reduced glutathione (GSH) and nitric oxide (NO) were investigated in the lung tissue. Pretreatment with tempol produced significant attenuation of LPS-induced lung injury as well as inhibition of LPS mediated increase in MPO immunostaining, MDA and NO levels in lung tissue.

Elevated cytokines levels in both bronchoalveolar lavage fluid and lung tissue homogenates of acute lung injury micewere significantly decreased after administration of tempol. These findings confirmed significant protection by tempol against LPS-induced acute lung injury and that superoxide anion scavenging appears to be a potential target for new potential therapy in pulmonary disorders.

Keywords: Acute lung injury; Lipopolysaccharide; Tempol; Superoxide anion.

The National Cancer Institute

Dept. of Medical Oncology

179. Optimisation of Breast Cancer Management in Low-Resource and Middle-Resource Countries: Executive Summary of the Breast Health Global Initiative Consensus

Anderson, B.O., Cazap, E., El Saghir, N.S., Yip, C.-H., Khaled, H.M., Otero, I.V., Adebamowo, C.A., Badwe, R.A. and Harford, J.B.

The Lancet Oncology, 12 (4): 387-398 (2011) IF: 17.764

The purpose of the Breast Health Global Initiative (BHGI) 2010 summit was to provide a consensus analysis of breast cancer control issues and implementation strategies for low-income and middle-income countries (LMCs), where advanced stages at presentation and poor diagnostic and treatment capacities contribute to lower breast cancer survival rates than in high-income countries. Health system and patient-related barriers were identified that create common clinical scenarios in which women do not present for diagnosis until their cancer has progressed to locally advanced or metastatic stages.

As countries progress to higher economic status, the rate of late presentation is expected to decrease, and diagnostic and treatment resources are expected to improve. Health-care systems in LMCs share many challenges including national or regional data collection, programme infrastructure and capacity (including appropriate equipment and drug acquisitions, and professional training and accreditation), the need for qualitative and quantitative research to support decision making, and strategies to improve patient access and compliance as well as public, health-care professional, and policy-maker awareness that breast cancer is a cost-effective, treatable disease.

The biggest challenges identified for low-income countries were little community awareness that breast cancer is treatable, inadequate advanced pathology services for diagnosis and staging, and fragmented treatment options, especially for the administration of radiotherapy and the full range of systemic treatments.

The biggest challenges identified for middle-resource countries were the establishment and maintenance of data registries, the coordination of multidisciplinary centres of excellence with broad outreach programmes to provide community access to cancer diagnosis and treatment, and the resource-appropriate prioritisation of breast cancer control programmes within the framework of existing, functional health-care systems.

180. Associations Differ by Sex for Catechol-O-Methyltransferase Genotypes and Bladder Cancer Risk in South Egypt (Article in press)

Wolpert, B.J., Amr, S., Saleh, D.A., Ezzat, S., Gouda, I., Loay, I., Hifnawy, T., Abdel-Hamid, M., Mikhail, N.N., Zhan, M., Zheng, Y.-L., Squibb, K., Abdel-Aziz, M.A., Zaghloul, M.S., Khaled, H. and Loffredo, C.A.

Urologic Oncology: Seminars and Original Investigations, (2011) IF: 3.172

Objectives: To examine associations between urinary bladder cancer risk and polymorphisms of the gene encoding the catechol estrogen-metabolizing enzyme, catechol-O-methyltransferase (COMT), among Egyptian women and men.
Materials and methods: We used questionnaire and genotype data from a case-control study in Egypt. This analysis focused on South Egypt cases with confirmed urothelial (UC) or squamous cell (SCC) carcinoma of the bladder, and controls frequency-matched on sex, 5-year age-group, and residence governorate. Real-time PCR on blood specimen DNA was used to determine COMT genotypes encoding for Val/Val, Val/Met, and Met/Met, the enzyme forms associated with high, intermediate, or low activity, respectively.
Results: The study sample, which included 255 women and 666 men, consisted of 394 cases with histologically confirmed UC (225) or SCC (n = 169), and 527 controls. The odds of having either type of bladder cancer was lower among men with genotypes encoding Val/Met or Met/Met than among those with the genotype encoding Val/Val, even after adjustment for other factors, such as smoking and schistosomiasis history [adjusted odds ratio (AOR): 0.64; 95% confidence interval (CI): 0.43, 0.96]; however, the association was statistically significant for SCC (AOR 0.57; 95% CI: 0.34, 0.96) but marginal for UC (AOR: 0.64; 95% CI: 0.39, 1.02). No significant associations were detected between bladder cancer risk and COMT genotypes among postmenopausal women.
Conclusions: These findings suggest that even after controlling for established risk factors, the involvement of COMT genotypes in bladder cancer risk differs among men compared with women in South Egypt.

181. Gem-(R)CHOP Versus (R)CHOP: A Randomized Phase II Study of Gemcitabine Combined with (R) CHOP in Untreated Aggressive Non-Hodgkin's Lymphoma - EORTC Lymphoma Group Protocol 20021 (EudraCT Number 2004-004635-54)

Aurer, I., Eghbali, H., Raemaekers, J., Khaled, H.M., Fortpied, C., Baila, L. and Van Der Maazen, R.W.

European Journal of Haematology, 86 (2): 111-116 (2011) IF: 2.785

Background: Despite recent improvements, many patients with aggressive non-Hodgkin's lymphoma (NHL) ultimately succumb to their disease. Therefore, improvements in front-line chemotherapy of aggressive NHL are needed. Gemcitabine is active in lymphoma.
Methods: We performed a randomized phase II trial of the addition of gemcitabine to standard CHOP chemotherapy with or without rituximab [(R)CHOP]. The trial was also designed to determine the maximal tolerated dose (MTD) of gemcitabine in this combination. Patients with previously untreated aggressive NHL were randomized to receive either eight cycles of (R)CHOP given every 3 wk or (R)CHOP combined with gemcitabine [Gem-(R)CHOP].
Results: Twenty-five patients were enrolled in the trial before early closure. Twelve were randomized to Gem-(R)CHOP and 13 to (R)CHOP. MTD of gemcitabine was 800 mg/m 2 given on days 1 and 8; dose-limiting toxicity was hematologic. Five patients (42%) treated with Gem-(R)CHOP achieved complete response in comparison with 10 (77%) treated with (R)CHOP. Median time to treatment failure was 1.5 yr for Gem-(R)CHOP and 3.1 yr for (R)CHOP. Three patients receiving Gem-(R)CHOP had serious pulmonary toxicity, when compared to none receiving (R)CHOP. One patient died of pneumonitis.
Conclusions: In this group of patients, addition of gemcitabine did not seem to improve outcomes. Gem-(R)CHOP in previously untreated patients with aggressive NHL occasionally results in severe, potentially fatal, pulmonary toxicity. © 2010 John Wiley & Sons A/S.

182. Breast Cancer Management in Middle-Resource Countries (Mrcs): Consensus Statement from the Breast Health Global Initiative

Yip, C.-H., Cazap, E., Anderson, B.O., Bright, K.L., Caleffi, M., Cardoso, F., Elzawawy, A.M., Harford, J.B., Krygier, G.D., Masood, S., Murillo, R., Muse, I.M., Otero, I.V., Passman, L.J., Santini, L.A., Da Silva, R.C.F., Thomas, D.B., Torres, S., Zheng, Y. and Khaled, H.M.

Breast, 20 (2): 512-519 (2011) IF: 2.089

In middle resource countries (MRCs), cancer control programs are becoming a priority as the pattern of disease shifts from infectious diseases to non-communicable diseases such as breast cancer, the most common cancer among women in MRCs. The Middle Resource Scenarios Working Group of the BHGI 2010 Global Summit met to identify common issues and obstacles to breast cancer detection, diagnosis and treatment in MRCs. They concluded that breast cancer early detection programs continue to be important, should include clinical breast examination (CBE) with or without mammography, and should be coupled with active awareness programs. Mammographic screening is usually opportunistic and early detection programs are often hampered by logistical and financial problems, as well as socio-cultural barriers, despite improved public educational efforts. Although multidisciplinary services for treatment are available, geographical and economic limitations to these services can lead to an inequity in health care access. Without adequate health insurance coverage, limited personal finances can be a significant barrier to care for many patients. Despite the improved availability of services (surgery, pathology, radiology and radiotherapy), quality assurance programs remain a challenge. Better access to anticancer drugs is needed to improve outcomes, as are rehabilitation programs for survivors. Focused and sustained

government health care financing in MRCs is needed to improve early detection and treatment of breast cancer.

183. Efficiency of Diagnostic Biomarkers Among Colonic Schistosomiasisegyptian Patients

Hamed, M.A.A., Ahmed, S.A.A. and Khaled, H.M.

Memorias do InstitutoOswaldo Cruz, 106 (3): 322-329 (2011) IF: 2.058

The schistosomal parasite plays a critical role in the development of malignant lesions in different organs. The pathogenesis of cancer is currently under intense investigation to identify reliable prognostic indices for disease detection. The objective of this paper is to evaluate certain biochemical parameters as diagnostic tools to efficiently differentiate between colonic carcinoma and colonic carcinoma associated with schistosomal infection among Egyptian patients.
The parameters under investigation are interleukin 2 (IL-2), tumour necrosis factor alpha (TNF-α), carcinoembryonic antigen (CEA) levels, tissue telomerase, pyruvate kinase (PK), glucose-6-phosphate dehydrogenase (G-6-PD) and lactate dehydrogenase (LDH) enzyme activities. The results revealed a significant elevation in the level of the tumour markers IL-2, TNF-α and CEA as well as the activities of LDH, telomerase and G-6-PD among non-bilharzial and bilharzial colonic cancer groups, with a more potent effect in bilharzial infection-associated colonic cancer. A significant inhibition in PK activity was recorded in the same manner as compared to normal tissues. The efficacy of this biomarker was also evaluated through detecting sensitivity, specificity, negative and positive predictive values. In conclusion, schistosomal colonic carcinoma patients displayed more drastic changes in all parameters under investigation. The combination of the selected parameters succeeded in serving as biomarkers to differentiate between the two malignant types.

184. Diffuse Large B-Cell and Peripheral T-Cell Non-Hodgkin's Lymphoma in the Frail Elderly. A Phase II EORTC Trial with A Progressive and Cautious Treatment Emphasizing Geriatric Assessment

Soubeyran, P., Khaled, H., MacKenzie, M., Debois, M., Fortpied, C., De Bock, R., Ceccaldi, J., De Jong, D., Eghbali, H., Rainfray, M., Monnereau, A., Zulian, G. and Teodorovic, I.

Journal of Geriatric Oncology, 2 (1): 36-44 (2011)

Objectives: Many frail elderly patients with diffuse large B-cell lymphoma (DLBCL) cannot tolerate standard chemotherapy treatment. The objective of this phase II trial was to assess the efficacy of a cautious COP-based (cyclophosphamide, vincristine, prednisone) regimen with comprehensive geriatric assessment (CGA). Trial registration number: NCT00039351.
Materials and methods: DLBCL patients aged ≥70years with poor physiological functioning received cyclophosphamide (750mg/m 2 IV at d1), vincristine (1.4mg/m 2 IV at d1, maximum of 2mg) and prednisone (40mg/m 2 d1 to d5) for six cycles. Comprehensive Geriatric Assessment (CGA) was performed for all patients before and after treatment.
Results: Thirty-two patients were included, of whom 27 were evaluable for efficacy. Low response rates were observed with only 18.5% complete response and 25.9% partial response leading to the early termination of the trial. Despite strict dose reduction rules, high toxicity rates were observed with four severe toxicities and eight early deaths. CGA data showed that over 90% of patients were depressed, over 80% dependent for instrumental activities of daily living (IADL) and almost half of our patients had severe comorbidities showing that we clearly selected a population of "frail" elderly.
Conclusion: This adapted COP regimen for vulnerable patients produced an 18.5% complete response rate. Future research will include the addition of rituximab to determine if it can improve treatment efficacy. The geriatric assessment should be part of routine management of frail patients with aggressive lymphomas as it allows us to identify specific issues of vulnerability in this population on which intervention should be focused.

185. Levels of Certain Tumor Markers as Differential Factors between Bilharzial and Non-Biharzial Bladder Cancer Among Egyptian Patients

Metwally, N.S., Ali, S.A., Mohamed, A.M., Khaled, H.M. and Ahmed, S.A.

Cancer Cell International, 11 (7): (2011)

Background/Objective: Bladder cancer is the commonest type of malignant tumors as a result of schistosomaisis which is a major healthy problem in many subtropical developing countries. The aim of this study is to comparatively elucidate the underlying biochemical tumor markers in schistosomal bladder cancer versus non-schistosomal bladder cancer when compared to normal healthy ones.
Methods: This work was performed on tissue specimens from total 25 patients and serum samples from total 30 patients versus ten healthy individuals served as control. The investigated parameters in serum are: xanthine oxidase (XO), fructosamine, lactate dehydrogense (LDH), aspartate amino - transferase (AST), alanine aminotransferase (ALT), total proteins, essential and non- essential amino acids profile, hydroxyproline, total immunoglobulin E (IgE) and tumor necrosis factor alpha (TNF-α). In addition, the current investigation also extended to study some markers in tumor bladder tissues including, pyruvate kinase enzyme (PK), lactate dehydrogenase (LDH), aspartate aminotransferase (AST) and alanine aminotransferase (ALT).
Results: Results showed that biharzial bladder cancer patients recored more significant elevation in serum XO, fructosamine, LDH, AST, ALT, hydroxyproline, IgE and TNF-α than in bladder cancer patients when compared to control ones. While, in tissues there were significant increase in PK, LDH, AST & ALT activities of schistosomal bladder cancer than in bladder cancer as compared to control healthy patients.
Conclusions: It could be concluded that, bilharzial and non-bilharzial bladder cancer showed distinct biochemical profile

of tumor development and progression which can be taken into consideration in diagnosis of bladder cancer.

Dept. of Radiation Oncology

179. Joint Genitourinary Cancer Symposium Between Egyptianand American Centers

Mohamed Saad Zaghloul

Expert Rev Anticanc, 11 (5): 697-699 (2011) IF: 2.976

Mansoura–Cleveland Clinic–UCSF Joint Genitourinary Symposium The Egyptian Cancer Society, Mansoura, Egypt, 6 January 2011 A joint symposium between Mansoura and Cleveland Universities, and the University of California, San Francisco (CA, USA) was held by the Egyptian Cancer Society in Mansoura, Egypt. The Symposium extensively discussed two topics: prostate and bladder cancer.

The experiences of American and Egyptian scientists were shared in a trial to increase understanding, improve management, increase treatment outcome and decrease morbidity. Comparisons between treatment policies, management techniques and survival end results in Egypt and the USA, as well as internationally, were performed in both bladder and prostate cancer in order to determine the best policies for their management. Joint genitourinary cancer symposium between Egyptian and American centers Expert Rev.

Anticancer Ther. 11(5), 697–699 (2011) multidisciplinary care of locally advanced prostate cancer was discussed by Mack Roach (University of California, San Francisco, CA, USA). Although there was no randomized trial comparing radical prostatectomy to radiotherapy, retrospective studies comparing the two modalities favored external-beam radiotherapy (EBRT) and hormonal treatment in 284 patients, especially when normalized for different covariants [2,3]. The addition of brachytherapy boost could also improve results.

Controversy regarding the volume of EBRT and the required techniques were extensively discussed. Roach emphasized the harmful effect of high-dose radiation to the penile bulb on the patient's future potency. He stressed the importance of different forms of image-guided radiotherapy (IGRT) as verification for intensitymodulated radiotherapy. Daily IGRT (either through portal imaging or cone-beam computed tomography) corrects for organ movements and other setup errors, and enables an increase of the dose to the target volume with lower acceptable dose levels achieved in organs at risk. May Abdel-Wahab (Cleveland Clinic, OH, USA) discussed factors affecting the development of second malignancy after prostate cancer treatment (second primary cancers [SPCs]). Radiation dose, radiotherapy technique, dose rate, fractionation and type of radiation are among the factors increasing SPCs. A Surveillance, Epidemiology and End Results (SEER)-dependent study proved Prostate and bladder cancers are the most common genitourinary cancer types found in males. They are among the five most common malignancies worldwide. These tumors hold special importance in both the USA and Egypt. Prostate cancer is the second most common cancer among males in USA after lung cancer, while bladder cancer is still the most common cancer type among males in Egypt. The aim of this symposium was to highlight the state of the art and the standard of care, as well as exchange ideas and experiences for the best management of prostate and bladder cancer.

180. Influence of Field Size, Depth, Nominal Dose Rate and Stem Lenghth on Ion Recombination Correction Factor in Therapeutic Photon Beam

A. I. Abd El-Hafez, Hany A. Shousha, M. S. Zaghloul and M. A. Abou Zeid.

Journal of American Science, (2011)

The use of ionization chamber in linear accelerator radiotherapy photon dosimetry requires various corrections to the measured charges, one of these being the ion recombination correction factor (ks). As stated by the IAEA (2000) TRS-398 dosimetry protocol, ks was characterized for the available thimble ionization chamber PTW 30006 using two pulsed megavoltage photon beams 6 and 10 MV. The dependence of the ks values against the changing of field size, water depth, nominal dose rate and stem length was studied.

For photon energy 10 MV, ks shows an increase with the field size and for photon energy 6 MV, ks values decrease from field size 4x4 cm2 to 10x10 cm2 and increase at field sizes larger than 10x10 cm2. Also, ks values are inversely proportional with the water depth and directly proportional with the nominal dose rate and stem length, for both photon energies. It is also recommended to determine the absorbed dose at lower (p.r.f) pulse repetition frequency or nominal dose rate. If the dose is determined at the highest (p.r.f), a correction must be introduced in the assessment of the dose related to the ion recombination correction factor ks difference at different p.r.fs. These measurements help to correct ks values at different dosimetry conditions and minimize the errors in the assessment of the radiotherapeutic dose calculations.

Keywords: Ion recombination correction factor; Ionization chamber; Megavoltage x-ray; Pulsed photon beams and linear accelerator.

Dept. of Surgical Oncology

181. Primary Repair of Rectovaginal Fistulas Complicating Pelvic Surgery by Gracilis Myocutaneous Flap

Omaya A.H. Nassar

Gynecol Oncol, (2011) IF: 3.76

Objectives: Complex rectovaginal fistulas repair are extremely challenging. Various surgical options have been suggested; nevertheless, none had been universally accepted as the procedure of choice. This study discussed a novel surgical technique using gracilis myocutaneous flap interposition.

Methods: Ten patients had fistulas as a complication post treatment of pelvic malignant tumors and one patient had fistula after resection of rectal endometriosis. Primary treatment was pelvic resection; nevertheless, 6 cases had adjuvant chemo-irradiation, 2 cases had post operative

irradiation and 2 patients had adjuvant chemotherapy. Fistulas mean diameter was 2±0.24 cm (1-3) and 8 patients (72.7%) had their fistulas in the middle vaginal third. All cases had synchronous diverting stomas and wide debridement of fistulas. According to vaginal defect diameter 5 patients were repaired by single gracilis myocutaneous flaps, 2 cases by simple gracilis muscle and 4 cases by double gracilis myocutaneous flaps.

Results: Patients had a mean follow-up time of 34.8±5.03 months (12-67) and all patients had definitive healing of their fistulas (100%). Median time to stoma closure was 2 months (1-5). Four women (36.4%) had at least one early postoperative complications including temporary leak (n=3), vaginal sepsis (n=1), partial skin paddle necrosis (n=1) and donor limb deep venous thrombosis (n=1). Late morbidities were seen in 3 cases (27.3%) including vaginal stricture, anorectal anastomotic stricture and anastomotic tumor recurrence.

Conclusion: Successful repair requires adequate debridement of necrotic devascularized tissues, tissue transposition to the rectovaginal septum and reconstruction of vaginal wall. Gracilis myocutaneous flaps are ideal for this issue.

Keywords: Rectovaginal fistula; Complicated fistula repair; Gracilis myocutaneous flap; Primary repair of rectovaginal fistula.

182. Modified Pseudocontinent Perineal Colostomy: A Special Technique

Omaya A. H. Nassar

Diseases of the Colon & Rectum, 14: 1-12 (2011) IF: 2.819

Background: Innovative techniques created to restore gastrointestinal perineal continuity after abdominoperineal resection in patients with anorectal cancer include pseudocontinent perineal colostomy, in which the colon is pulled to the perineum and wrapped with a sleeve of stretched colon segment to act as a new sphincter.

Objective: We investigated perineal reconstruction with a modified pseudocontinent perineal colostomy technique.

Design: Prospective cohort study.

Settings: Tertiary care university hospital in Egypt.

Patients: Patients with T2 or T3 anorectal cancer invading the sphincter who underwent Miles abdominoperineal resection and immediate total pelvic reconstruction between 2003 and 2007.

Intervention: Reconstruction consisted of a vertical rectus abdominis myocutaneous flap with modified perineal colostomy pulled through the flap to add the high-pressure zone of the flap to that of the colostomy and to create a persistent new anorectal angle.

Main Outcome Measures: Early and late complications were recorded. Functional results were evaluated at regular intervals by questionnaire, physical examination, and balloon manometry. Continence was graded according to Kirwan. Satisfaction with continence was assessed by questionnaire.

Results: A total of 14 patients (3 women) were included. Tumors were adenocarcinoma (n 11), squamous cell carcinoma (n 2), and melanoma (n 1). Complete (R0) resection was achieved in all patients without perioperative deaths, major postoperative morbidity, or conversion to permanent iliac colostomy. Early postoperative complications (perineal wound infection, flap dehiscence, and partial perineal stoma necrosis) occurred in the first 4 patients. Late complications occurred in 7 patients, with mucosal prolapse in 3, stomal stricture in 4, and tumor recurrence in 1. Fecal continence progressed consistently with time, and by the end of the first year 8 patients (57%) had complete continence (grade A), 5 (36%) were continent with minor soiling (grade C), and 1 (7%) still had major soiling (grade D). After 6 months, 9 patients (64%) were satisfied with continence; after 1 year, 13 patients (93%) were satisfied. Regular enemas were necessary during the first year to improve soiling, and 8 patients (57%) were not in need after that. At 37 months median follow-up, 8 of 9 evaluable patients (89%) were satisfied with continence (grade A) without regular enemas.

Limitations: This was a preliminary observational study with no control group.

Conclusions: Total orthotopic pelvic reconstruction with autologous tissue transposition to rebuild the principle anorectal continence elements is feasible with minor complications, and is oncologically safe. This new technique offered high continence satisfaction independent of regular enemas and electrical stimulation.

Keywords: Anorectal cancer; Abdominoperineal resection; Total perineal reconstruction; Vertical rectus abdominis myocutaneous flap; Continent perineal colostomy.

183. Experience with Ureteroenteric Strictures After Radical Cystectomy and Diversion: Open Surgical Revision

Omaya A. H. Nassar and Mohamed E. S. Alsafa

Reconstructive Urology, (2011) IF: 2.334

Objectives: To evaluate the long term results of the treatment of benign ureteroenteric strictures as a serious complication after urinary diversion and to highlight on the precautions for the active intervention. The outcomes of endoureteral and open surgical revisions in our patients are described.

Methods: Of 658 patients who had undergone radical cystectomy for bladder cancer from 1999 to 2009, 58 had developed benign stricture. The diversions used in this subgroup were orthotopic neobladder (53.4%), ileal conduit (27.6%), and ureterocolic (19%). The median interval to the diagnosis was 6 months, and 63.8% were on the left side. Endouretral interventions (dilation and stent or endoureterotomy) were the initial treatment in 37 patients. Thirty-two patients including patients who failed endoluminal interventions and patients with bilateral strictures underwent open surgery. Success was defined as radiologic improvement and the absence of flank pain, infection, or the need for a ureteral stent or nephrostomy tube.

Results: Endoscopic intervention was successful in 19 (51.3%) of 37 patients, principally those with strictures 1 cm with no difference between side, diversion type, or implantation technique. A total of 32 patients underwent

open stricture resection and repair by direct implantation or tissue interposition to bridge long defects (6 Boari flaps and 7 ileal segments). At a median follow-up of 47 months, 25 patients had long-term success (78%) and 36 (83.7%) of 43 repaired units had improvement. Improvement was superior for right-sided strictures compared with left-sided strictures (100% vs 75.8%) and for neobladder compared with other diversions (90% vs 69%). Both anastomotic and ureteral strictures were repaired with equivalent results (87.5% vs 82.8%).

Conclusions: Although endouretral procedures are viable treatment alternatives, open surgical revision is the preferred long-term definitive treatment. Bilateral and long left-sided strictures 1 cm long are indications for early open surgery.

184. Salvage Mastectomy for Ipsilateral Breast Tumor Recurrence After Breast Conserving Therapy

Abd-El Hamid H. Ezzat, Ashraf H. Ibrahim and Reda Tabashy

Breast, (2011) IF: 2.089

The role of breast conserving surgery (BCS) with radiation therapy (RT) in the treatment of early breast cancer has been firmly established over the past 25 years. Large randomized controlled trials have confirmed that long term survival is not impacted by the choice between initial mastectomy and BCS with RT [1-4]. Specifically, the National Surgical Adjuvant Breast and Bowel project (NSABP) B-06 trial demonstrated that the 20 year survival was equivalent for mastectomy and BCS with RT [2]. Unfortunately, conservative surgery is still associated with higher rates of local recurrence in the form of IBTR compared with mastectomy [2-4].

Veronesi and his colleagues report a cumulative 20 year incidence of local failure after BCS of 8.8 per cent compared with a rate of 2.3 per cent after mastectomy [3]. Because IBTR is not uncommon after BCS, physicians should be cognizant of risk factors for recurrence.

Studies have reported that in addition to administration of radiation therapy, younger age at lumpectomy [5-8], positive surgical margin [9-11] and clinical tumor size [12, 13] are risk factors for IBTR. Recent data from the NSABP found that older age, black race, higher body mass index, larger tumors and occurrence of IBTR were all associated with higher overall mortality [13].

Outcomes after IBTR show a trend towards worse prognosis and higher rates of distant metastasis compared with recurrence- free patients [1, 2, 12-16].The implications of an IBTR on distant metastasis remain a source of debate. In the original article outlining the significance of IBTR using data form NSABP B-06, Fisher and his colleagues reported that recurrence after lumpectomy increases the risk of subsequent distant metastasis by 3.41 times [2].

However, it been argued that IBTR is not the cause of metastasis, but is instead a marker of increased risk regardless of treatment method [2, 14, 17]. When BCS was initially proposed, the surgical community feared the possibility of IBTR. The establishment of BCS with RT as a standard alternative to mastectomy for the treatment of most early stage breast caner makes IBTR an important focus for research. Presently, mastectomy is the standard of care for patients with IBTR. Despite this, there is a paucity of literature regarding outcomes after mastectomy for IBTR. Therefore, we chose to evaluate our experience and outcomes in this specific population.

Keywords: Breast conserving therapy (BCT); Ipsilateral breast tumor recurrence (IBTR); Post mastectomy recurrence (PMR).

185. Evaluation of Nephron Sparing Surgery for Renal Tumors: A Single Institution Experience

Hytham Abd-elkareem Ahmed, Abdelhamid Hussein Ezzat and Ismael Mourad

The Chinese-German journal of clinical oncology, (2011)

Objective: The aim of the study was to report the experience of National Cancer Institute (NCI), Cairo University, Egypt, in managing various benign and malignant renal tumors with nephron sparing surgery (NSS), and to assess its safety and feasibility.

Methods: Reviewing the literature for NSS, and records of patients who underwent NSS in the period from January 2000 to December 2009 at National Cancer Institute, Cairo University regarding the patient and tumor related characteristics, the indication for NSS, operative technique, postoperative complications, full histopathological data, and follow up results.

Results: The total number of patients was 17. Mean age at surgery was 30.7 years (range 1.5–65 years). Five patients had bilateral tumors during surgery. The mean tumor size was 4.5 cm (range 1–9 cm). All patients had normal preoperative kidney functions. Seven patients had an absolute indication for NSS, 6 patients had a relative indication, and 4 patients had an elective indication. All the 5 patients with bilateral tumors underwent bilateral simultaneous surgery. Cold ischemia was used in 8 patients, 1 patient was exposed to warm ischemia, manual compression was used in 2 patients, and no vascular control was applied in 6 patients. Complications were encountered in 2 patients, one of them had urinary leakage which needed reoperation, and the other had subcutaneous hematoma which was treated conservatively. Histopathological analysis revealed Wilm's tumor (8 patients), angiomyolipoma (4 patients), renal cell carcinoma (4 patients), and hydatid cyst (1 patient). All patients had negative surgical margin. For patients with Wilm's tumor, the mean follow up was 21.4 months (range 0–94 months), 2 patients had local recurrence, and 1 patient had distant metastasis. For patients with RCC, the mean follow up was 15.3 months (5–33 months), no patients had local recurrence or distant metastasis. All patients had normal kidney functions during postoperative and follow up periods. Conclusion: NSS is a feasible safe procedure that can be done with acceptable complications rate and it provides a good solution for patients with bilateral tumors, early localized renal cell carcinoma, and benign tumors.

Keywords: Nephron sparing surgery (NSS); Renal tumors; Evaluation.

186. Genotypic Characterization of Helicobacter Pylori Isolates Among Egyptian Patients with Upper Gastrointestinal Diseases

Abdel Hamid H. Ezzat, Mona H. Ali, Eman A. El-Seidi, Iman E.Wali, Nagwa A.Sedky and Sherif M. M. Naguib

The Chinese-German Journal of Clinical Oncology, (2011)

Objective: Over 50% of the world populations are infected with Helicobacter pylori (H. pylori). Most subjects are asymptomatic; however, in 1994, H. pylori has been categorized as group I carcinogen. The aim of the study was to investigate the relationship between H. pylori infection and gastric cancer.

Methods: Thirty gastric cancer patients (GCs) and 30 gastritis patients were enrolled in the study. H. pylori were cultured on non-selective and selective medias, infection densitywas assessed by quantitative culture. Antibiotic sensitivity testing was performed. PCR was done for the H. pylori 16S rRNAgene in addition to cagA, vacA and iceA genes.

Results: H. pylori could be cultured from 100% of specimens obtained from all patients. The density of H. pylori was higher in cancer cases than in gastritis patients. The 16S rRNA was detected in all GC patients (100%) while it was only detected in 70% of gastritis patients. The cagA gene was found in 53.3% vs 13.3% of GC and gastritis patients, respectively. The vacA gene was present in all GC patients (by at least one of its alleles) while it was only found in 33.3% of gastritis patients. The vacA s1m1 combination was the most predominant genotype in GC patients, while m2 was the commonest allele in gastritis patients (10%). The iceA gene was found in 86.7% vs 40% of GC and gastritis patients, respectively. Simultaneous presence of multiple H. pylori strains was proved, both phenotypically and genotypically.

Conclusion: The development of GC is linked to infection with H. pylori harboring certain virulence genes. Higher infection density of H. pylori was found in GC patients. Co-existence of more than one strain of H. pylori in the same patient occurs inboth malignant and benign lesions.

Dept. of Tumor Biology

187. Interaction of Celecoxib with Different Anti-Cancer Drugs is Antagonistic in Breast but Not in Other Cancer Cells

Raafat A. El-Awady, Ekram M. Saleh, Marwa Ezz and Abeer M. Elsayed

Toxicology and Applied Pharmacology, (255): 271-286 (2011) IF: 3.993

Celecoxib, an inhibitor of cyclooxygenase-2, is being investigated for enhancement of chemotherapy effica in cancer clinical trials. This study investigates the ability of cyclooxygenase-2 inhibitors to sensitize cells from different origins to several chemotherapeutic agents. The effect of the drug's mechanism of action and sequence of administration are also investigated. The sensitivity, cell cycle, apoptosis and DNA damage of five different cancer cell lines (HeLa, HCT116, HepG2، MCF7 and U251) to 5-FU, cisplatin, doxorubicin and etoposide±celecoxib following different incubation schedules were analyzed.

Wefound antagonismbetween celecoxib and the four drugs in the breast cancer cellsMCF7following all incubation schedules and between celecoxib and doxorubicin in all cell lines except for two combinations in HCT116 cells.Celecoxib with the other three drugs in the remaining four cell lines resulted in variable interactions.

Mechanistic investigations revealed that celecoxib exerts different molecular effects in different cells. In some lines, it abrogates the drug-induced G2/M arrest enhancing pre-mature entry into mitosiswith damaged DNA thus increasing apoptosis and resulting in synergism. In other cells, it enhances drug-induced G2/M arrest allowing time to repair drug-induced DNA damage before entry into mitosis and decreasing cell death resulting in antagonism. In some synergistic combinations, celecoxib-induced abrogation of G2/M arrest was not associated with apoptosis but permanent arrest in G1 phase.

These results, if confirmed in-vivo, indicate that celecoxib is not a suitable chemosensitizer for breast cancer or with doxorubicin for other cancers.Moreover, combination of celecoxib with other drugs should be tailored to the tumor type, drug and administration schedule.

Keywords: Celecoxib; MCF7; Pharmacological interaction; Apoptosis; Cell cycle.

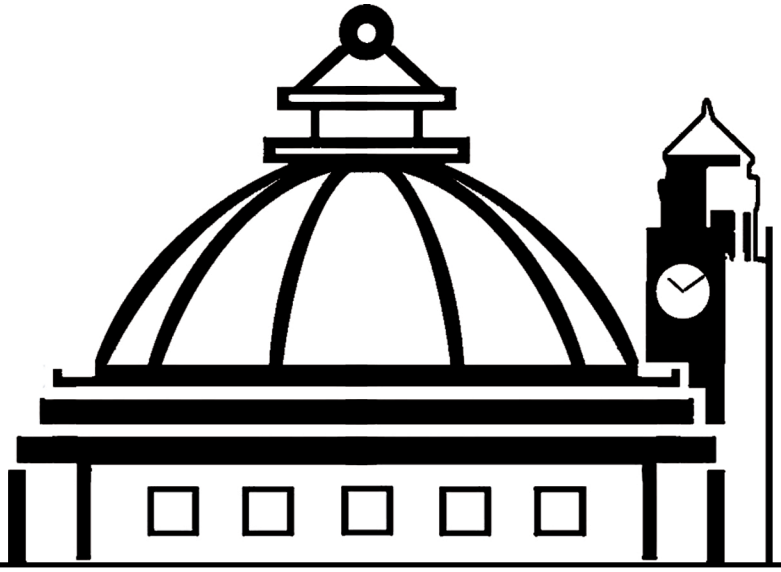
Dept. of Tumor Pathology

195. Chapter 7: Schistosomasis and Bladder Cancer

Saad S. Eissa, M. Nabil El-Bolkainy and Mohab S. Eissa

Schistosomasis InTech Open access, (2011)

Schistosomiasis also known as bilharziasis is a parasitic disease that dates back to antiquity. The ancient Egyptians, through settling and cultivating the Nile valley, were among the first to contract the disease. Thus, the main symptom hematuria was mentioned in Egyptian papyri (1500-1800 B.C.), and schistosome eggs were identified in Egyptian mummies through paleopathologic studies. In 1852, Theodor Bilharz, a German pathologist working in Cairo, discovered the worms in the portal circulation and was the first to describe the Pathology of the disease. Ferguson in 1911 was the first to report on the high frequency of bladder cancer in Egypt and to suggest an etiologic relation with urinary Schistosomiasis, a fact which is now generally accepted (Bolkainy & Chu 1981a). The aim of this article is to review the pathobiology of Schistosoma associated bladder cancer (SACB), describe the relationship between Schistiosomiasis and bladder cancer with respect to the mechanisms of carcinogenesis with emphasis on special features of SABC and recent methods of early detection.



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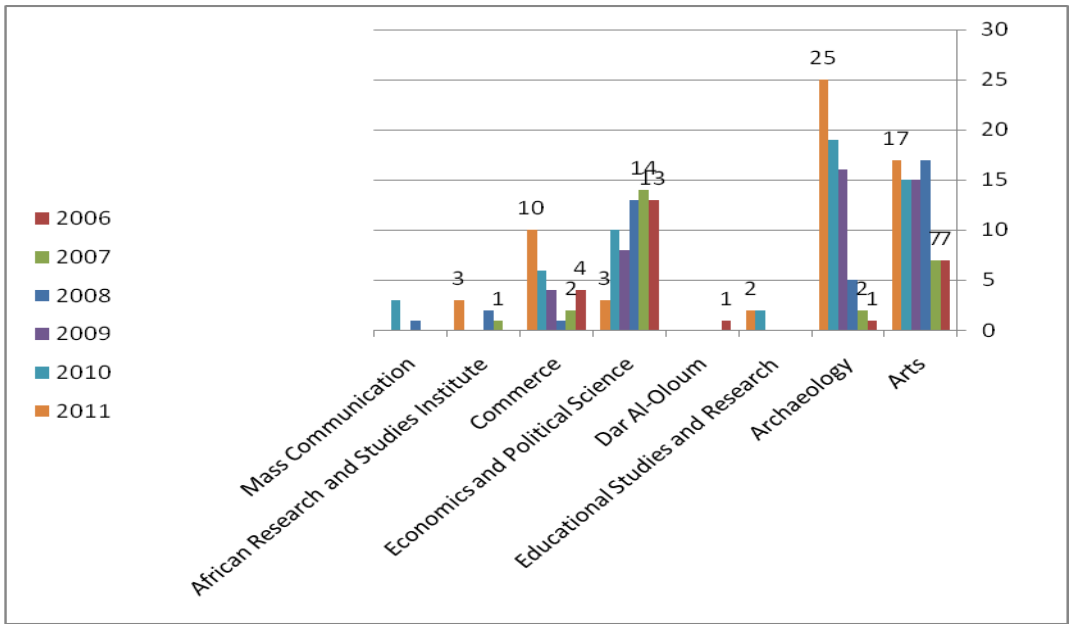
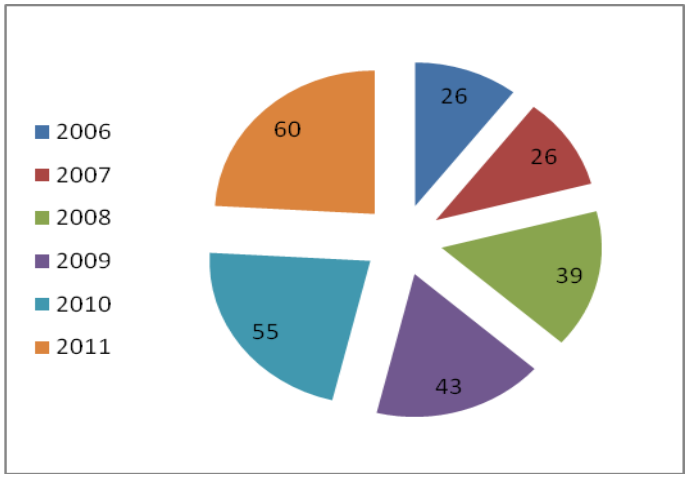
Social & Humanity Sciences Sector

Total No. of Publication for Social & Humanity Sciences Sector

Faculty	2006	2007	2008	2009	2010	2011	Total
Arts	7	7	17	15	15	17	78
Archaeology	1	2	5	16	19	25	68
Educational Studies and Research					2	2	4
Dar Al-Oloum	1						1
Economics and Political Science	13	14	13	8	10	3	61
Commerce	4	2	1	4	6	10	27
African Research and Studies Institute		1	2			3	6
Mass Communication			1		3		4
Total	26	26	39	43	55	60	249





Faculty of Economics and Political Science

Dept. of Political Science

191. The Content of the Right to Peace

AliaaSaraya

Mediterranean Journal of Human Rights, (2011*)*

This paper aims at critically evaluating the content of the right to peace, one of the rights that raise debates, or in other words its significance. It tries to identify not only other human rights but also other international texts, besides the Declaration on the right of peoples to peace adopted by the United nations on the 12th of November 1984, that are related to this content. The two fundamental ideas that form its essence are the rejection of aggression and the consolidation of the value of tolerance.

Keywords: Right to peace; Content of a human right.

Dept. of Statictics

192. An Alternative Randomized Response Model using two Decks of Cards

S. Abdelfatah, R. Mazloumand S. Singh

Statistica, (3): (2011)

Randomized Response (RR) techniques first introduced by Warner (1965) provideda way to encourage honest answers on sensitive questions and increase therespondent's willingness for cooperation by maintaining the respondent's privacythrough randomizing his response by making use of a random device.Warner (1965) assumed that a proportion π of the population possessed a sensitivecharacteristic (*A*) while the remainder of the population did not possess thischaracteristic. He developed a model to estimate π without requiring the person toreport his actual classification, whether it is *A* or not-*A* to the interviewer.In this procedure, a simple random sample with replacement (SRSWR) of *n*persons is drawn from the population and each respondent is provided with arandom device in order to choose one of two statements of the form:

I am a member of group *A* "selected with probability *P0*"

I am not a member of group *A* "selected with probability (*1-P0*)"

Keywords: Estimation of proportion; Randomized response sampling; Two decks of cards.

193. Health Outcome Inequities and the Health System:A Case Study of Egypt

Hassan H.M. Zaky and Somaya Ahmed Aly Abdel-Mowla

Research in World Economy, 2 (2): 71- 86 (2011)

The documentation of health outcome inequities between population groups and/or geographical areas is important toprovide evidence for policy actions and for promoting health equity. This paper aims to support the development of adata base on health inequities, consisting of indicators based on aspects of the wider health system, including healthinputs, process and outcome indicators. A framework for the health system indicators is used as well as equity measuresare applied to highlight inequities in health outcomes and link them to inequities in the health system to answer thequestion of whether the health system in Egypt is pro-disadvantaged groups. It is found that health outcome inequitiespose a challenge for Egypt. Analyzing both determinants and symptoms of health outcome inequities in Egyptdemonstrates that the current health system does not help reduce such inequities; on the contrary it leads to increasethem.

Keywords: Health economics; Equity; Health system; Health insurance; Egypt.

Faculty of Commerce

Dept. of Accounting

194. Intellectual Capital Reporting in Knowledge Economy of Egypt

Tariq H. Ismail

International Journal of Critical Accounting, 3: 2-3 (2011)

This study examines voluntary intellectual capital reporting (ICR) in annual reports of the top 30 companies listed in Cairo and Alexandria Stock Exchange[1] (CASE) as well as eliciting the barriers that could hamper the development and implementation of ICR in an Egyptian setting. The study contributes to the body of research done in this area, as most of research has been conducted in developed countries. There is a lack of empirical research at organisational level in the field of intellectual capital in Egypt, which is, socially, economically and culturally different from developedcountries.The results indicate that levels of voluntary disclosure of IC items are relatively low while disclosures are dominated by customer relations items. Additionally, reporting of IC is in qualitative rather than quantitative style. The most important barriers that might impact the development and implementation of IC are cost and time associated with developing IC indicators.

Keywords: Intellectual capital; Intellectual capital reporting; ICR; Cairo and Alexandria Stock Exchange; CASE; Annual reports; the CASE 30 companies; Egyptian accounting standards.

195. Ethical Perceptions on Earnings Manipulation In Turkey: an Exploration of Differences in Preparers and Users' Perspectives

AsumanAtik

Research Journal of Finance and Accounting, 2 (3):(2011)

This study focuses on the impact of a more comprehensive set of scenarios that might be followed byaccounting practitioners and leading to earnings manipulations, where such scenarios are yet to beinvestigated in Turkey and this study is the first to explore this issue. This study examines the ethicalperception differences concerning the three types of earnings manipulations; which are incomesmoothing, earnings management and big bath accounting, between

users and preparers' perspectives offinancial information in Turkey.

A structured questionnaire composed of seven scenarios was used toelicit responses from users; based on 82 financial analysts and portfolio managers'responses, and preparers of financial statements; using responses from 56 independent and 56company affiliated accountants.The results reveal that there are significant differences between the ethical perceptions of users andpreparers related to some types of earnings manipulations. Additionally, the most unethical tool ofearnings manipulations is fraudulent accounting, followed by manipulation through accountingchanges and manipulation through operational changes. The study provides insight on the current andpotential direction of earnings manipulation in Turkey and help regularity bodies in their efforts totighten and improve reporting standards and regulations.

Keywords: Earnings manipulat ion; Income smoothing; Earnings management; Big bath; Accounting; Financial information;User of financial information; Preparers of financial information; Turkey.

196. Do Conditional and Unconditional Conservatism Impact Earnings' Quality and Stock Prices in Egypt

Tariq H. Ismail and Rash M. Elbolok

Research Journal of Finance and Accounting, 2 (12):(2011)

The purpose of this paper is to examine the impact of conditional and unconditional conservatism onearnings' quality and stock prices in Egyptian context and provide further insights on the effects ofearnings' quality on stock prices. This paper follows the asymmetric timeliness of earnings measure ofBasu (1997) with further extension to measure the effect of conditional and unconditional on the quality ofearnings and stock prices.

This study employs cross sectional data analysis and multiple regression usingdata available for a sample of the largest 30 Egyptian listed firms during the period of 2005 to 2009.

Theresults suggest that (i) conditional conservatism negatively affects both earnings quality and stock prices ofEgyptian firms, and (ii) unconditional conservatism does not affect earnings quality but has a negativeassociation with stock prices of Egyptian firms.

The findings of this study would help Egyptian accountingstandards setters to recommend accounting choices and policies that lead to high quality of earnings and provide financial reports that rationalize investors' decisions. This study is the first to test the impact ofboth conditional and unconditional conservatism on earnings' quality and stock prices in Egyptian setting.

Keywords: Conservatism; Conditional conservatism; Unconditional conservatism; Earnings' quality; Stock prices; Basu model; Listed firms; Egyptian Stock Market; Egypt.

197. Review of Literature Linking Corporate Performance to Mergers and Acquisitions

Tariq H. Ismail, Abdulati A. Abdou and Radwa M. Annis

Review of Financial and Accounting Studies Journal, (2011)

There are inconclusive results on the literature on the consequences of mergers andacquisitions (M&A) on corporate performance as well as factors that might affect suchidentify synergies. This paper aims at synthesizing and analyzing prior literature of mergersand acquisitions and its effects on the financial performance in an attempt to determinefactors that might influence post-mergers and acquisitions performance. Previous studiesare using varieties of measures to examine the impact of M&A on corporate performance,where measures might be accounting measures-based, market measures-based, mixedmeasures, or qualitative measures-based. This study concluded that there is a disputeregarding the factors that affect the reported performance, where eight factors might affectperformance as follows: (1) method of payment (Cash or Stock), (2) book to market ratio,(3) type of merger or acquisition transaction (related or unrelated), (4) cross-border versusdomestic M&A, (5) mergers versus tender offers, (6) firm size, (7) macro economicconditions, and (8) time period of transaction. Managers should be aware of such factorsand their impact on post-merger/acquisition corporate performance to accurately evaluateproposed offers of mergers and acquisitions and take sound decisions.

Keywords: Mergers and acquisitions; Corporate performance; Business synergies.

198. Exploring Improvements of Post-Merger Corporate Performance- the Case of Egypt

Tariq H. Ismail, Abdulati A Abdou and Radwa M.Annis

The IUP Journal of Business Strategy,(1): (2011)

This paper examines the operating performance of a sample of Egyptian companies involved in Mergers andAcquisitions (M&A) transactions for the period 1996 to 2003. The analysis is based on the accounting measuresto test the effects of M&A on the corporate performance of the construction and technology sectors. The studytests two hypotheses: first, whether there have been significant improvements in corporate performance followingthe M&A event, and second, whether the industry sector has an impact on the corporate performance. Empiricalresults revealed that some measures of corporate performance like profitability, suggested statistically significantgains in the years following M&A, especially in the construction sector. Other performance measures such asefficiency, liquidity, solvency, and cash flow position do not show significant improvements after mergers in theshort-run analysis in both the sectors. The paper concludes that mergers in the Egyptian technology sector donot lead to improved corporate performance in the short run. The findings of this study significantly contributeto the empirical literature on M&A in the emerging markets of Egypt.

Dept. of Business Administration

199. The Adoption 0f Web Based Marketing in the Travel and Tourism Industry: an Empirical Investigation in Egypt

Hussein, Rania

LAP Lambert Academic Publishing (Book), (2011)

The main objective of this research is to increase academic understanding as well asprovide managerial implications in relation to the determinants of the levels of webadoption for marketing purposes by small and medium sized enterprises (SMEs) inEgypt. Web adoption is specifically defined in this research as the ownership of a websiteto communicate and/or deliver travel services to a target market. Providing facilities forinquiry, reservation, communication and booking are examples of adoption of the web toprovide travel services. This research is thus interested in how the web is being used tointeract with customers. Additionally, the levels of adoption represent the different levelsthat SMEs go through in their adoption process starting with not owning a website tobeing a simple adopter to being a sophisticated adopter. Non-adopters do not own a website. Simple adopters own web pages that have facilities for information provision andcommunication whereas sophisticated adopters own web pages that have facilities foronline booking and completing a full transaction online. It is worth noting that the levelsof adoption are interrelated and are not static but are part of a process of eEvolution.This research provides an empirical contribution by studying the tourism sector as anexample of a service industry and investigating the relative importance of the factors thatdetermine the different levels of web adoption by SMEs in the context of a developingcountry. In order to achieve this objective, the research integrates existing theories inorder to develop a conceptual framework for the determinants of Web adoption in thetourism sector. Besides Roger's model of innovation adoption, the Resource-based viewof the firm, a theory that deals specifically with firm resources and capabilities, is used toprovide valuable information about the firm-specific factors that are thought to have aninfluence on innovation adoption. The model developed in this research is based purelyon existing research and it integrates different theoretical perspectives. In addition, theresearcher empirically tests this framework using both qualitative and quantitative datafrom travel agents in Egypt.

200. Electronic Marketing Practisesin Developing Countries: the Case of Egyptian Business Enterprises

Hatem El-Gohary

VDM, (2011)

The major aims of this book are to analyse the current practises of Electronic Marketing (E- Marketing) by Egyptian business enterprises, the different factors affecting the adoption of E- Marketing as well as the different forms, implementation levels and tools of E-Marketing used by these enterprises. It aims to test a theoretical model that can help to understand and interpret these relationships and seeks to evaluate the potential of E-Marketing in developing countries (Egypt). This work builds on previous research in the fields of E-marketing and adds to the relatively limited empirical research that has been conducted on E-Marketing in an Egyptian business context. In terms of contribution to knowledge, this book provides an insight for entrepreneurs, policy makers, practitioners, researchers, and educators by providing a clearer view and deep understanding of the issues related to E-Marketing adoption and practices by Egyptian business enterprises. It addresses some research gaps in the field, particularly in terms of the factors affecting E- Marketing adoption.

Faculty of Arts

Dept. of English Language and its Literature

201. Compensation Strategies Adopted in Translating Arabic-Bound Ambiguity in the Holy Qur'an: A Study of three Translations

Khaled Mahmoud Tawfik

Metamorphoses, (2011)

The translator of the meanings of the Holy Qur'an faces a variety of substantial difficulties: cultural (including culture-specific phenomena, cultural peculiarities, cultural details), ideological (different concept of the deity, different aspects of faith and monotheism) and linguistic (syntactic, semantic, morphological). In this paper, I will focus on how Arabic-bound ambiguity can be an obstacle to translators and one of the causes of translation loss on both the lexical and grammatical (structural) levels in addition to analyzing the compensation strategies adopted by the three translators in question to alleviate the different types of loss. For this paper, I have selected three translations of the Holy Qur'an: Rodwell published his translation in the 19th century, in 1861, (the edition used is that of 1995), Muhammad Asad published his translation in the 20th century, in 1980 and Abdel Haleem published his in the 21st century, in 2004 (the edition used is that of 2005).

Keywords: Qur'an; Translation; Ambiguity; Compensation.

202. Rendering Body-Part Idioms in the Holy Qur'an: A Study of three English Translations

Khaled Mahmoud Tawfik

Sayyab Translation Journal, (2011)

This paper is concerned with reviewing the difficulties faced by translators rendering body-part idioms in three English translations of the Holy Quran, and raises the question of whether the translation choices suggested by three selected translators to express the intended meaning of the body-part idiom in question are accepted by native speakers, who belong to different nationalities, or not. Hence the major concern of this paper is acceptability: do the suggested choices achieve the level of acceptability targeted by the three translators or not? This area has been neglected by scholars and researchers and this what makes this study substantial and academically-needed. In other words, researchers who attempted a contrastive analysis of the use

of body-part idioms before focused on the differences and similarities between them in English and Arabic or in some Arabic and/or English dialects. For this study, three translations have been selected, namely, those of Arthur J. Arberry's The Koran Interpreted published in 1955 (edition used is that of 1983), M.H. Shakir's The Quran published in 1959 (edition used is that of 1995) and Muhammad Mahmud Ghali's Towards Understanding the Ever Glorious Quran published in 1997. To collect the data needed for this paper, an open-closed questionnaire is used to be filled in by native speakers of English to judge whether the translations provided achieve the level of acceptability needed in such a translation of an important religious, and sensitive, text like the Holy Quran. The participants' answers are statistically analyzed to reach an objective and reliable conclusion that can act as guidelines for other future translators of the Holy Quran. The participants' answers also indicate that many of the choices suggested by the three translators failed to achieve the level of acceptability, communicativeness and informativeness needed by native speakers who describe many of them, i.e. the choices as "weird" and "odd". This therefore indicates the inappropriateness of some the professional strategies adopted by the three translators as indicated by the answers, comments and responses of the participants.

Keywords: Bodypart idioms; Acceptability; Collocation; Functional approach; Strategies and Quan.

Dept. of French Language and its Literature

203. Les Lectures Du Pèlerinet Son Écriture

InèsSaad El- Serfi

Cahiers d'Histoires des LittératuresRomanes, (2011)

De toutes les écrituresviatiques, le Pélerinageseraitpeut-être le plus livresque. Au cours de ce voyage quebiend'autresavantluiontentrepris de la mêmefaçon, suivant les mêmeschemins, le pèlerin part moins à la recherche de l'inattenduqu'envue de resterdans son monde. Monde du retour, voire de l'éternel retour (MirceaEliade), du trop-connu (notammentdans le cas du pélerinage à Jérusalem) qui ne reste pas moinsattrayant pour cela, monde oùfoisonnent les histoires des autres (Jésus, le tout premier) et oùrésonnentleursvoix, le Pèlerinages'offrecommeuneexpériencedanslaquelle le voyageur, souventseul par le corps, esttoujoursaccompagné. Le livre du pélerin, qu'ilsoit Bible ou Guide de voyageur hante son voyage, son regard et sa relation. D'oùl'idée de soumettre à l'analyse la lecture et l'écriture du voyageur dévot.

Keywords: Bible; Jérusalem;Guide de Voyage; Pèlerin; Pèlerinage; Orient.

Dept. of German Language and its Literature

204.Motivs of Reality in Büchner's Novel "Lenz"

M. Noueshi

Higher Humanities Education in the 21st Century: Challenges and Perspectives". Ministry of Education and Science of the Russian Federation)", (2011)

In this paper, the author undertakes a stylistic analysis of the novel "Lenz" written by Büchner. The analysis focuses on the influence of Büchner's philosophic and natural science studies on "Lenz". The study examines this influence on the language, the description of the figures and nature, and the exportation of the development of the figure sickness, Lenz'. This research gives also a comparative analysis examining the relationship between "Lenz" and Oberlin's diary.

205. The Biedermeier and the Turn of the Century– Style Lines and Trends

M. Noueshi

Higher Humanities Education in the 21st Century: Challenges and Perspectives". Ministry of Education and Science of the Russian Federation), (2011)

Biedermeier was the early part of The Biedermeier period refers to an erea in Central Europe during which the middle-class grew and arts appealed to common sensibilities in the historical period between 1815 and 1848. Although the term itself is a historical referenceFollowing the Napoleonic wars

206. Laughing Pessimists from East and West

Nahed El- Dib

InterkultrelleKommunikationPerspektiveneineranwendungsorientiertenGermanistik, (2011)

The paper aims mainly by the juxtaposition of life and works of two poets from Germany and Egypt to hypothesize that the desired cross-cultural communication can draw on other, fresher sources than from the direct dialogue.I am of the opinion that the intercultural communication between cultures is possible if it is done the right way.
The thesis, which I represent, is that the literature is able, without raising the moral high ground, to permit the dialogue partners to hold a mirror in which they can see a real picture with all differences and similarities, which is free from prejudice.The comparison of the life and work of two poets, painters and cartoonists, namely the German Wilhelm Busch and the Egyptian Salah Gaheen, known as humorists, may be a literary introduction to the topic of intercultural communication.

Dept. of Greek and Latin Studies and its Literature

207. Homer in The Arab World

AhmedM. Etman

Receptions of Antiquity, (2011)

Homer is the greatest Greek poet and the most famous all over the world. Has he been translated by the Arabs in the Abbasid Age? The Arabs translated from Greek, Syriac, Persian and Indian the major scientific books. But they did not translate the two Homeric Epics the "Iliad" and the "Odyssey".The present paper tries to answer many questions around this problem; It deals also with the modern translations especially of Soliman El Bostani (1904) and Ahmed Etman (2004).

Faculty of Archaeology

Dept. of Conservation

208. Identification of Plant Materials Used in the Coiled Basketry Collection at the Agricultural Museum (Giza, Egypt)

Rim Hamdy and Nesrin M.N. El Hadidi

Windows on the African Past Current Approaches to African Archaeobotany, (2011)

The Agricultural Museum in Giza, Egypt, has interesting basketry collections that vary in material, production technique and function. A collection of pot stands, coiled baskets, lids, decorated lids, a coffin and one sieve were chosen for this study. In total, twenty five objects of coiled basketry were examined using anatomical and morphological features to identify plant species used, coiling technique employed in their manufacture, and the state of preservation. All baskets were made of plant materials that were identified using a light microscope. In rare cases leather and coloured plant materials were used for decorating the baskets. Eight fibre plants were identified including halfa grass (Desmostachyabipinnata), date palm (Phoenix dactylifera), doum palm (Hyphaenethebaica), sharp rush (Juncusacutus), bitter rush (Juncusrigidus), papyrus (Cyperus papyrus), flax (Linumusitatis¬simum) and garawan (Ceruanapratensis).

Keywords: Coiled basketry; Ancient Egypt; Plant materials; anatomical and morphological features.

Faculty of Law

Dept. of Puplic Law

209. Constitution et DroitPénalen Egypte

Yossri M. El- Assar

AnnuaireInternational de Justice Constitutionnelle, (2011)

Cetterecherche a pour objet les fondementsconstitutionnels du droitpénal et du droit des procédurespénales en Egypte à la lumière des pricipes du droitcomparé. Il traitetro-ispoints: d'une part, les principesconstitution-nelsque le législateurdoit respecter dans la détermination des crimes, d'autre part, les principesconstitutionnels qui régissent les sanctions pénales, et enfin, l'aspet international du droitpénal et dudroit des procédurespénales.

Keywords: Constitution; Droitpénal; Crimes; Sanctions pénales; Contrôle de la constitutionnalite des loispenales.

Faculty of Mass Communication

Dept. of Radio and Tv.

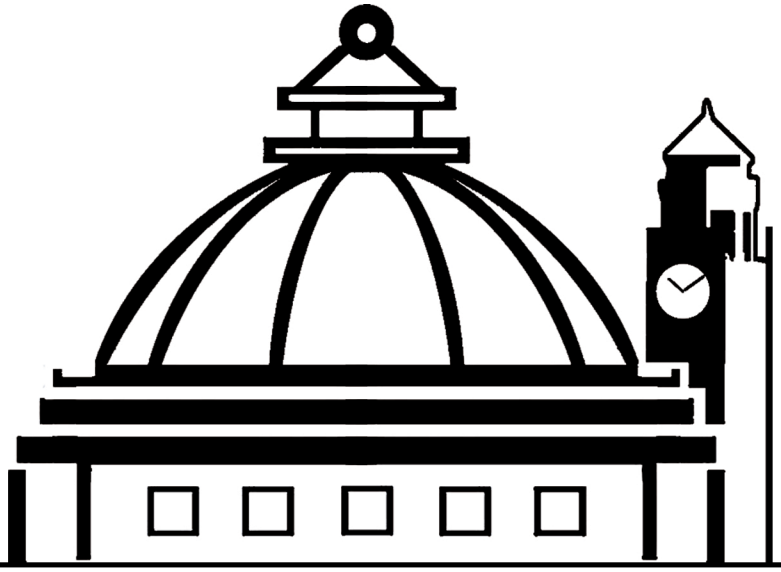
210. Television Exposure and Internet Use: their Relationship to Political Tolerance in Egyptian Society

Shaima'a Z.Zoghaib

The Journal of the South East Asia Research centre for Communication and Humanities, 3: 49-69 (2011)

Drawing on a survey of 450 Egyptians aged 18 to 70 representing different socio-economiccategories and different geographical regions, this study compared the effects of televisionexposure and Internet use on political tolerance in Egyptian society, taking into accountother social, political and psychological variables. The study also investigated the targetsof intolerance and how they differed among different groups. The findings shed light on theimportance of TV exposure in promoting political tolerance, in addition to the significantnegative effects of threat perception and religiosity. There were no significant differencesin levels of political tolerance between respondents with different demographiccharacteristics. The implications of the findings are discussed.

Keywords: Television esposure; Internet use; Political tolerance; Egyption society.



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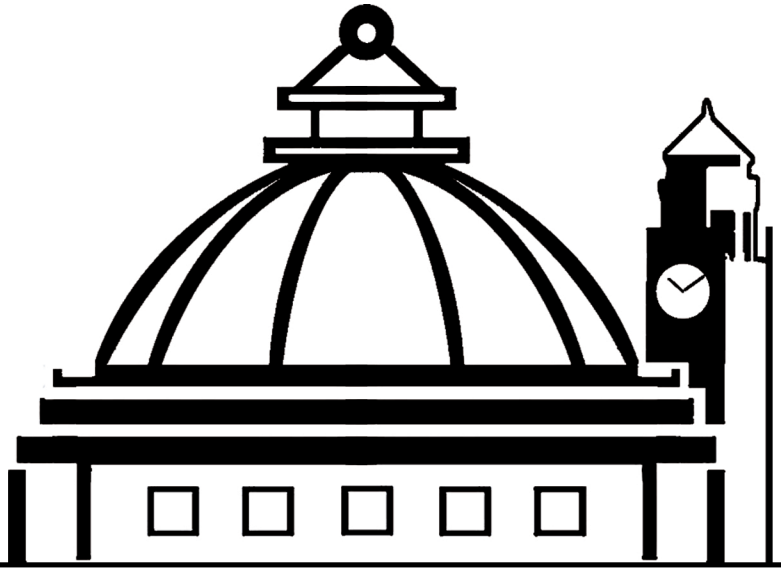

Appendix

Appendix 1

Statistical Data

List of top 10 authors according to the number of publications (Year 2011) Issue 6(2)

Rank	Name	Faculty	No. of Pub
1	Hussein Mostafa Khaled	National Cancer Institute	7
2	Abdou Abdou Soaud	Agriculture	6
3	Ramzia Esmail El-Bagary	Pharmacy	5
4	Tariq Mohamed Ismail	Commerce	5
5	Wafaa Abd El-Ghany Abd El-Ghany	Veterinary Medicine	5
6	Yehia Ahmed Mostafa	Oral Dental Medicine	5
7	Gehad Genidy Mohamed	Science	4
8	Mohamed Hesham Soliman	Engineering	4
9	Mohamed Moustafa Hassan	Engineering	4
10	Mourad Abd El-Meged AboulSoud	Agriculture	4
11	Tamer Atef Gheita	Medicine	4

Statistical Data

List of top 10 authors according to the sum of their impact factor (Year 2011) Issue 6(2)

Rank	Name	Faculty	Sum IF
1	Hussein Mostafa Khaled	National Cancer Institute	27.868
2	Hassan Fathy Ibrahim	Science	20.499
3	Omaya Khalil Nassar	National Cancer Institute	8.913
4	Yehia Ahmed Mostafa	Oral Dental Medicine	8.472
5	Tamer Atef Gheita	Medicine	8
6	Ayman Hassan Mahmoud	Engineering	6.266
7	Ramy Karam Aziz	Pharmacy	6.058
8	Ali Yehia Ellithi	Science	6.0489
9	Badawy Abu-Ibrahim Sarhan	Science	5.968
10	Suaad Sayed Moussa	Medicine	5.561

Statistical Data

List of top 10 authors according to highest single impact factor (Year 2011) Issue 6(2)

Rank	Name	Faculty	Max. IF
1	Hussein Mostafa Khaled	National Cancer Institute	17.764
2	Hassan Fathy Ibrahim	Science	7.622
3	Ali Yehia Ellithi	Science	6.049
4	Suaad Sayed Moussa	Medicine	5.562
5	Rasha Mohamed Gamaleldin	Medicine	5.391
6	Hassan Fathy Ibrahim	Science	5.255
7	Yehia Ahmed Mostafa	Oral Dental Medicine	4.411
8	Ekram Mahmoud Saleh	National Cancer Institute	3.993
9	Hania Ibrahim Ammar	Medicine	3.881
10	Mohamed Taha El Shewy	Medicine	3.821
11	Omaya Khalil Nassar	National Cancer Institute	3.76

Statistical Data

List of faculties with highest score of impact factor (Year 2011)

Faculty	Count	%	Tot IF	Max	Min
Science	**425**	**24.82**	**587.621**	**10.88**	**0.052**
Medicine	**350**	**20.44**	**608.352**	**36.377**	**0.158**
Engineering	**198**	**11.56**	**167.107**	**5.101**	**0.158**
Pharmacy	**224**	**13.08**	**307.385**	**9.771**	**0.13**
Agriculture	**136**	**7.94**	**86.1**	**4.411**	**0.263**
Veterinary Medicine	**136**	**7.94**	**91.934**	**4.976**	**0.082**
National Cancer Institute	**52**	**3.04**	**106.928**	**17.764**	**0.682**
National Institute of Laser Enhanced Sciences	**33**	**1.92**	**81.27**	**8.508**	**0.347**
Economics and Political Science	**6**	**0.35**	**0.469**	**0.469**	**0.469**
Arts	**22**	**1.28**	**0.195**	**0.195**	**0.195**
Statistical Studies and Research Institute	**17**	**0.99**	**9.993**	**3**	**0.351**
Archaeology	**26**	**1.51**	**16.11**	**5.528**	**0.561**
Computers and Information	**32**	**1.86**	**34.124**	**4.877**	**0.545**
Oral and Dental Medicine	**23**	**1.34**	**31.223**	**4.411**	**0.77**
Physical Therapy	**3**	**0.17**	**5.993**	**2.239**	**1.718**
Nursing	**5**	**0.29**			
Commerce	**17**	**0.99**			
Educational Studies and Research	**2**	**0.12**			
African Research and Studies Institute	**3**	**0.17**	**1.535**	**1.535**	**1.535**
Law	**1**	**0.058**			
Mass Communications	**1**	**0.058**			
Total	**1712**	**100**	**2136.23**		

Statistical Data

List of faculties with highest score of impact factor (Issue 6(1)- May 2012)

Faculty	Count	%	Tot. IF	Max. IF	Min. IF
Science	**388**	**25.94**	**533.304**	**10.88**	**0.052**
Medicine	**305**	**20.39**	**537.678**	**36.377**	**0.158**
Engineering	**175**	**11.70**	**155.536**	**5.101**	**0.158**
Pharmacy	**202**	**13.50**	**290.616**	**9.771**	**0.13**
Agriculture	**109**	**7.29**	**69.958**	**4.411**	**0.263**
Veterinary Medicine	**123**	**8.22**	**87.953**	**4.976**	**0.082**
National Cancer Institute	**35**	**2.34**	**61.089**	**6.188**	**0.682**
National Institute of Laser Enhanced Sciences	**28**	**1.87**	**72.917**	**8.508**	**0.347**
Economics and Political Science	**3**	**0.20**	**0.469**	**0.469**	**0.469**
Arts	**15**	**1.00**	**0.195**	**0.195**	**0.195**
Statistical Studies and Research Institute	**17**	**1.14**	**9.993**	**3**	**0.351**
Archaeology	**25**	**1.67**	**16.11**	**5.528**	**0.561**
Computers and Information	**31**	**2.07**	**34.124**	**4.877**	**0.545**
Oral and Dental Medicine	**17**	**1.14**	**20.5**	**3**	**0.77**
Physical Therapy	**3**	**0.20**	**5.993**	**2.239**	**1.718**
Nursing	**5**	**0.33**			
Commerce	**10**	**0.67**			
Educational Studies and Research	**2**	**0.13**			
African Research and Studies Institute	**3**	**0.20**	**1.535**	**1.535**	**1.535**
Total	**1496**	**100**	**1897.97**		

Statistical Data

List of faculties with highest score of impact factor (Issue 6(2) – Oct. 2012)

Faculty	Count	%	Tot. IF	Max. IF	Min. IF
Medicine	**45**	**20.83**	**70.674**	**5.562**	**0.158**
Science	**37**	**17.12**	**54.317**	**7.622**	**0.158**
Agriculture	**27**	**12.5**	**16.031**	**1.969**	**0.477**
Engineering	**23**	**10.64**	**11.571**	**2.131**	**0.397**
Pharmacy	**22**	**10.18**	**16.769**	**3.029**	**0.158**
Veterinary Medicine	**13**	**6.018**	**3.981**	**1.869**	**0.158**
The National Cancer Institute	**17**	**7.870**	**35.735**	**17.764**	**2.089**
Arts	**7**	**3.24**			
Commerce	**7**	**3.24**			
Oral Dental Medicine	**6**	**2.77**	**10.723**	**4.411**	**1.354**
National Institute of Laser Enhanced Sciences	**5**	**2.31**	**8.353**	**2.24**	**1.633**
Economics and Political Science	**3**	**1.38**			
Law	**1**	**0.46**			
Mass Communications	**1**	**0.46**			
Computers and Information	**1**	**0.46**			
Archaeology	**1**	**0.46**			
Total	**216**	**100**	**228.154**		

Statistical Data

List of number of publications
(2006-2011)

Faculty	2006	2007	2008	2009	2010	2011	Total
Science	142	162	241	242	290	425	**1502**
Medicine	49	64	124	154	226	350	**967**
Engineering	56	79	109	140	131	198	**713**
Pharmacy	27	40	77	104	126	224	**598**
Agriculture	8	14	35	83	75	136	**351**
Veterinary Medicine	11	20	47	53	86	136	**353**
Institute National Cancer	9	16	16	27	37	52	**157**
Laser Enhanced Sciences National Institute of	13	11	9	21	27	33	**114**
Political Science Economics and	13	14	13	8	10	6	**64**
Arts	7	7	17	15	15	22	**83**
and Research Institute Statistical Studies	8	6	11	7	4	17	**53**
Archaeology	1	2	5	16	19	26	**69**
Information Computers and	2	3	4	11	6	32	**58**
Medicine Oral and Dental			1	15	19	23	**58**
Physical Therapy					1	3	**4**
Nursing			1	4	2	6	**13**
Commerce	4	2	1	4	6	17	**34**
Mass Communication			1		3	1	**5**
Educational Studies and Research					2	2	**4**
Studies Institute African Research and		1	2			3	**6**
Dar Al-Oloum	1						**1**
Law						1	**1**
Total	**351**	**441**	**814**	**926**	**1089**	**1712**	**5333**

Appendix 2

Top 50 authors of Cairo University
(According to no. of publications)

Rank	Author Name	Affiliation	No. of Pub
1	**Ahmed A. Shafik**	Kasr El-Aini School of Medicine, Dept. of Surgery and Experimental Research	534
2	**Ahmed M. Soliman**	Faculty of Engineering, Dept. of Electronics and Communication Engineering	366
3	**Mohamed Hilmy Elnagdi**	Faculty of Science, Dept. of Chemistry	243
4	**Yousry M. Issa**	Faculty of Science, Dept. of Chemistry	200
6	**Said S. E. H. Elnashaie**	Faculty of Engineering, Dept.of Chemical Engineering	186
7	**Mohamed A. Aboulghar**	Faculty of Medicine, Dept. of Obstetrics and Gynecology	170
8	**Hesham G. Al-Inany**	Faculty of Medicine, Dept. of Obstetrics and Gynecology	147
9	**Waheed A. Badawy**	Faculty of Science, Dept. of Chemistry	135
10	**Ahmad S. A. S. Shawali**	Faculty of Science, Dept. of Chemistry	130
11	**Said R. Grace**	Faculty of Engineering, Dept. of Engineering Mathematics	127
12	**Yasser M. Kadah**	Faculty of Engineering, Dept. of Biomedical Engineering	127
13	**A. M. Abd El-Aty**	Faculty of Veterinary Medicine, Dept. of Pharmacology	109
14	**Gehad Genidy Mohamed**	Faculty of Science, Dept. of Chemistry	104
15	**Ismail A. Shafik**	Kasr El-Aini School of Medicine, Dept. of Surgery and Experimental Research	100
16	**Amir F. Atiya**	Faculty of Engineering, Dept. of Computer Engineering	98
17	**Mohamed Mohamed Shoukry**	Faculty of Science, Dept. of Chemistry	94
18	**Yahia A. kh. Badr**	National Institute of Laser Enhanced	92
19	**Abdou Osman Abdelhamid**	Faculty of Science, Dept. of Chemistry	90
20	**Mohamed T. Khayyal**	Faculty of Pharmacy, Dept. of Pharmacology	88
21	**Mohamed El-Nadi**	Faculty of Science, Dept. of Physics	86
22	**Mohamed A. Zayed**	Faculty of Science, Dept. of Chemistry	85
23	**Hussien M. Khaled**	National Cancer Institute, Dept. of Oncology	84
24	**Kamal Mohammed Dawood**	Faculty of Science, Dept. of Chemistry	83

Rank	Author Name	Affiliation	No. of Pub
25	**Amr Amin Adly**	Faculty of Engineering, Electrical Power	82
26	**Taymour Mostafa**	Kasr El-Aini School of Medicine, Faculty of Medicine	80
27	**Olfat Gamil Shaker**	Faculty of Medicine Dept. of Biochemistry	79
28	**Fathy A. Abdel-Ghaffar**	Faculty of Science, Department of Zoology	78
29	**Rashika R. El Ridi**	Faculty of Science, Dept. of Zoology	78
30	**Ahmad M. Farag**	Faculty of Science, Dept. of Chemistry	77
31	**Mohamed Abdel Harith**	National Institute of Laser Enhanced	77
32	**Gamal Esmat**	Faculty of Medicine, Dept. of Tropical Medicine	76
33	**Mohammed Talaat Abdel Aziz**	Faculty of Medicine, Dept. of Medical Biochemistry	75
34	**Magdy W. Sabaa**	Faculty of Science, Dept. of Chemistry	72
35	**Maher Zaki Elsabee**	Faculty of Science, Dept. of Chemistry	71
36	**Rafat Milad Mohareb**	Faculty of Science, Dept. of Chemistry	68
37	**Abdel Latif Elshafei**	Faculty of Engineering, Electrical Power and Machines Dept.	66
38	**Mohsen Mohsen Ibrahim**	Faculty of Medicine, Dept. of Cadiology	66
39	**Abdel Rahman Zekri**	National Cancer Institute	65
40	**Mohamed A. Zayed**	Faculty of Science, Dept. of Chemistry	65
41	**Samir I .Shaheen**	Faculty of Engineering, Dept. of Computer Engineering	63
42	**Amr M. Shaarawi**	Faculty of Engineering, Dept. of Engineering Mathematics	61
43	**Rany M. Shamloul**	Faculty of Medicine, Dept. of Andrology	61
44	**Ahmed A Soliman**	Faculty of Science, Dept. of Chemistry	60
45	**Mohamed Shaarawy**	Kasr El-Aini School of Medicine, Dept. of Obstetrics and Gynecology	59
46	**Maher H. Khalifa**	Cairo University Faculty of Science, Department of Zoology	58
47	**Rashad S. Barsoum**	Kasr El-Aini School of Medicin	57
48	**Nour Tawfik Abdel-Ghani**	Faculty of Science, Dept. of Chemistry	56
49	**Magdy A. El- Tawil**	Faculty of Engineering, Dept. of Engineering Mathematics	56
50	**Samy A. Madbouly**	Faculty of Science, Dept. of Chemistry	54
51	**Fakiha El-Taib Heakal**	Faculty of Science, Dept. of Chemistry	53

Top 50 authors of Cairo University
(According to total no. of citations)

Rank	Author Name	Affiliation	Tot. Citation
1	**Mohamed A. Aboulghar**	Faculty of Medicine, Dept. of Obstetrics and Gynecology	3448
2	**Ahmed A. Shafik**	Kasr El-Aini School of Medicine, Dept. of Surgery and Experimental Research	3197
3	**Mohsen Mohsen Ibrahim**	Faculty of Medicine, Dept. of Cadiology	2562
4	**Mohamed Hilmy Elnagdi**	Faculty of Science, Dept. of Chemistry	2261
5	**Mona Bakr Mohamed**	National Institute of Laser Enhanced	2125
6	**Said S. E. H. Elnashaie**	Dept. of Chemical Engineering	1517
7	**Ahmed M. Soliman**	Dept. of Electronics and Communication Engineering	1462
8	**Waheed A. Badawy**	Faculty of Science, Dept. of Chemistry	1427
9	**Amir F. Atiya**	Faculty of Engineering, Dept. of Computer Engineering	1410
10	**Hesham G. Al-Inany**	Dept. of Obstetrics and Gynecology	1342
11	**Ramy K. Aziz**	Cairo University Faculty of Phamacy	1216
12	**Yousry M. Issa**	Faculty of Science, Dept. of Chemistry	1208
13	**Gehad Genidy Mohamed**	Faculty of Science, Dept. of Chemistry	1164
14	**Ahmad S. A. S. Shawali**	Faculty of Science, Dept. of Chemistry	1053
15	**Hussien M. Khaled**	National Cancer Institute	1027
16	**Mohamed Ali Farag**	Faculty of Pharmacy	1008
17	**Kamal Mohammed Dawood**	Faculty of Science, Dept. of Chemistry	919
18	**Rabab M. Gaafar**	National Cancer Institute	883
19	**Rashad S. Barsoum**	Kasr El-Aini School of Medicin	808
20	**Mohamed Mohamed Shoukry**	University of Erlangen-Nuremberg, Institute of Inorganic Chemistry	806
21	**Gamal Esmat**	Faculty of Medicine, Dept. of Tropical Medicine	767
22	**Ahmad M. Farag**	Faculty of Science, Dept. of Chemistry	751
23	**A. M. Abd El-Aty**	Faculty of Veterinary Medicine, Dept. of Pharmacology	729
24	**Said R. Grace**	Faculty of Engineering, Dept. of Engineering Mathematics	704
26	**Khaled M. Ismail**	Faculty of Science, Dept. of Chemistry	687
27	**Magdy W. Sabaa**	Faculty of Science, Dept. of Chemistry	670

Rank	Author Name	Affiliation	Tot. Citation
28	**Mohamed Shaarawy**	Kasr El-Aini School of Medicine, Dept. of Obstetrics and Gynecology	645
29	**Yasser M. Kadah**	Faculty of Engineering, Dept. of Biomedical Engineering	624
30	**Ahmed Mohamed Galal**	Faculty of Science, Dept. of Chemistry	590
31	**Taymour Mostafa**	Kasr El-Aini School of Medicine, Faculty of Medicine	571
32	**Tamer A. EIbatt**	Cairo University Faculty of Engineering,	571
33	**Samy A. Madbouly**	Faculty of Science, Dept. of Chemistry	566
34	**Rashika R. El Ridi**	Faculty of Science, Dept. of Zoology	559
35	**Maher Zaki Elsabee**	Faculty of Science, Dept. of Chemistry	538
36	**Abdel Rahman Zekri**	National Cancer Institute	535
37	**Ayman Wahba Erian**	Faculty of Science, Dept. of Chemistry	531
38	**Rany M. Shamloul**	Dept. of Andrology	521
39	**Nadia Ahmed Mohamed**	Faculty of Science, Dept. of Chemistry	507
40	**Fawzy A. Attaby**	Faculty of Science, Dept. of Chemistry	503
41	**Mohamed T. Khayyal**	Faculty of Pharmacy, Dept. of Pharmacology	502
42	**Nadia Mokhtar**	National Cancer Institute	493
43	**Amr M. Shaarawi**	Faculty of Engineering, Dept. of Engineering Mathematics	480
44	**Nour Tawfik Abdel-Ghani**	Faculty of Science, Dept. of Chemistry	476
45	**Amal El-Beshlawy**	Dept. of Biochemistry, Genetics and Molecular Biology	472
46	**Ahmed A. Soliman**	Faculty of Science, Dept. of Chemistry	465
47	**A. H. M. Elwahy**	Faculty of Science, Dept. of Chemistry	464
48	**Mohamed A. Zayed**	Faculty of Science, Dept. of Chemistry	458
49	**Amr Amin Adly**	Faculty of Engineering, Electrical Power and Machines Department	456
50	**Radwan S. Farag**	Faculty of Agriculture, Dept. of Biochemistry	450
51	**Fakiha El-Taib Heakal**	Faculty of Science, Dept. of Chemistry	444
52	**Mohamed Abdel Harith**	National Institute of Laser Enhanced	440
53	**Tamer Ahmed Macky**	Kasr El-Aini School of Medicine, Faculty of Medicine, Dept. of Ophthalmology	423

Top 50 authors of Cairo University
(According to h-index)

Rank	Author Name	Affiliation	h-index
1	**Mohamed A. Aboulghar**	Faculty of Medicine, Dept. of Obstetrics and Gynecology	28
2	**Ahmed M. Soliman**	Communication Dept. of Electronics and Engineering	25
3	**Mohamed Hilmy Elnagdi**	Faculty of Science, Dept. of Chemistry	20
4	**Hesham G. Al-Inany**	Faculty of Medicine, Dept. of Obstetrics and Gynecology	20
5	**Gehad Genidy Mohamed**	Faculty of Science, Dept. of Chemistry	20
6	**Mona Bakr Mohamed**	National Institute of Laser Enhanced	19
7	**Mohamed Saada El-Deab**	Faculty of Science, Dept. of Chemistry	19
8	**Ahmed A. Shafik**	Kasr El-Aini School of Medicine, Dept. of Experimental Research Surgery and	18
9	**Hussien M. Khaled**	National Cancer Institute	18
10	**Kamal Mohammed Dawood**	Faculty of Science, Dept. of Chemistry	18
11	**Said S. E. H. Elnashaie**	Cairo University Faculty of Engineering	16
12	**Waheed A. Badawy**	Faculty of Science, Dept. of Chemistry	16
13	**Ahmad M. Farag**	Faculty of Science, Dept. of Chemistry	16
14	**Mohamed Shaarawy**	Kasr El-Aini School of Medicine, Dept. of and Gynecology Obstetrics	16
15	**Ramy K. Aziz**	Faculty of Pharmacy, Dept. of Microbiology and Immunology	15
16	**Ahmad S. A. S. Shawali**	Faculty of Science, Dept. of Chemistry	15
17	**Ahmed Mohamed Galal**	Faculty of Science, Dept. of Chemistry	15
18	**Abdel Rahman Zekri**	National Cancer Institute	15
19	**Yousry M. Issa**	Faculty of Science, Dept. of Chemistry	14
20	**Mohamed Ali Farag**	Faculty of Pharmacy	14
21	**Gamal Esmat**	Faculty of Medicine, Dept. of Tropical Medicine	14
22	**A. M. Abd El-Aty**	Faculty of Veterinary Medicine, Dept. of Pharmacology	14
23	**Khaled M. Ismail**	Faculty of Science, Dept. of Chemistry	14
24	**Magdy W. Sabaa**	Faculty of Science, Dept. of Chemistry	14
25	**Rany M. Shamloul**	Faculty of Medicine, Dept. of Andrology	14

Rank	Author Name	Affiliation	h-index
27	**Fawzy A. Attaby**	Faculty of Science, Dept. of Chemistry	14
28	**Amir F. Atiya**	Faculty of Engineering, Dept. of Computer Engineering	13
29	**Mohamed Mohamed Shoukry**	Faculty of Science, Dept. of Chemistry	13
30	**Taymour Mostafa**	Kasr El-Aini School of Medicine, Faculty of Medicine	13
31	**Samy A. Madbouly**	Faculty of Science, Dept. of Chemistry	13
32	**Nadia Ahmed Mohamed**	Faculty of Science, Dept. of Chemistry	13
33	**Mohsen Mohsen Ibrahim**	Faculty of Medicine, Dept. of Cadiology	12
34	**Rabab M. Gaafar**	National Cancer Institute	12
35	**Rashad S. Barsoum**	Kasr El-Aini School of Medicin	12
36	**Yasser M. Kadah**	Faculty of Engineering, Dept. of Biomedical Engineering	12
37	**Rashika R. El Ridi**	Faculty of Science, Dept. of Zoology	12
38	**Mohamed A. Zayed**	Faculty of Science, Dept. of Chemistry	12
39	**Yahia A. kh. Badr**	National Institute of Laser Enhanced	12
40	**Tamer Ahmed Macky**	Faculty of Medicine, Dep. Of Ophthalmology	12
41	**Noha Nabil Salama**	Faculty of Phamacy	12
42	**Said R. Grace**	Faculty of Engineering, Dept. of Engineering Mathematics	11
43	**Nadia Mokhtar**	National Cancer Institute	11
44	**Nour Tawfik Abdel-Ghani**	Faculty of Science, Dept. of Chemistry	11
45	**Amal El-Beshlawy**	Faculty of Medicine, Dept. of Biochemistry, Genetics and Molecular Biology	11
46	**Ahmed A. Soliman**	Faculty of Science, Dept. of Chemistry	11
47	**A. H. M. Elwahy**	Faculty of Science, Dept. of Chemistry	11
48	**Hala G. El-Shobaky**	Faculty of Science, Dept. of Chemistry	11
49	**Barsoum, B. Barsoum**	Faculty of Science, Department of Chemistry	11
50	**Mahmoud Mohamed Ghorab**	Faculty of Phamacy	11
51	**Mohamed A. Zayed**	Faculty of Medicine	11
52	**Rafat Milad Mohareb**	Faculty of Science, Dept. of Chemistry	10
53	**Eid H. Doha**	Faculty of Science, Dept. of Mathematics	10
54	**Olfat Gamil Shaker**	Faculty of Medicine, Dept. of Biochemistry	10
55	**Mohamed Abdel Harith**	National Institute of Laser Enhanced	10
56	**Youssef F. Rashed**	Faculty of Engineering, Dept. of Structural Engineering	10

Appendix 3

Top 5 authors of Cairo University Faculties
(According to no. of publications from Top 50)

1- Kasr El-Aini School of Medicine,

Rank	Author Name	No. of Pub
1	**Ahmed A. Shafik**	534
2	**Mohamed A. Aboulghar**	170
3	**Hesham G. Al-Inany**	147
4	**Ismail A. Shafik**	100
5	**Taymour Mostafa**	80
6	**Olfat Gamil Shaker**	79

2- Faculty of Engineering,

Rank	Author Name	No. of Pub
1	**Ahmed M. Soliman**	366
2	**Said S. E. H. Elnashaie**	186
3	**Said R. Grace**	127
4	**Yasser M. Kadah**	127
5	**Amir F. Atiya**	98

3- Faculty of Science,

Rank	Author Name	No. of Pub
1	**Mohamed Hilmy Elnagdi**	243
2	**Yousry M. Issa**	200
3	**Waheed A. Badawy**	135
4	**Ahmad S. A. S. Shawali**	130
5	**Gehad Genidy Mohamed**	76

4- Faculty of Pharmacy,

Rank	Author Name	No. of Pub
1	**Mohamed T. Khayyal**	88
2	**Ramy K. Aziz**	32
3	**Mohamed Ali Farag**	31
4	**Mohamed Mahmoud Ghorab**	28

5- National Cancer Institute,

Rank	Author Name	No. of Pub
1	**Hussien M. Khaled**	84
2	**Abdel Rahman Zekri**	65
3	**Nadia Mokhtar**	42
4	**Rabab M. Gaafar**	34

6- Natl. Inst. of Laser Enhanced Sci.

Rank	Author Name	No. of Pub
1	**Yehia A. Kh. Bard**	92
2	**Mohamed Abdel Harith**	77
3	**Mona Bakr Mohamed**	45

7- Faculty of Veterinary Medicine,

Rank	Author Name	No. of Pub
1	**A. M. Abd El-Aty**	109
2	**Ayman M. Goudah**	45

7- Faculty of Agriculture,

Rank	Author Name	No. of Pub
1	**Hany A. El Shemy**	51
2	**Radwan S. Farag**	43
3	**Hossam Saad El-Beltagi**	36

Top 5 authors of Cairo University Faculties (According to total no. of citations from Top 50)

1- Kasr El-Aini School of Medicine,

Rank	Author Name	Tot. Citation
1	**Mohamed A. Aboulghar**	3448
2	**Ahmed A. Shafik**	3197
3	**Mohsen Mohsen Ibrahim**	2562
4	**Hesham G. Al-Inany**	1342
5	**Gamal Esmat**	767

2- Faculty of Science,

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