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2	<p>Tracheary elements characteristics of <i>Kigelia africana</i> (Lam) Benth and <i>Newbouldia laevis</i> (P. Beauv) Seemann ex. Bureau growing in rainforest and derived savanna regions of Edo State, Nigeria.</p>	Full Text	2

	<p style="text-align: center;">Okoegwale. E.E, Ogie-Odia E and Idialu J.E Department of Botany, Ambrose Alli University, P.M.B 14, Ekpoma, Edo state effexing@yahoo.com</p> <p>ABSTRACT: Variations in dimensions of tracheary elements of <i>Kigelia africana</i> (Lam) Benth. and <i>Newbouldia laevis</i> (P.Beauv.) Seemann ex Bureau growing in the rainforest and derived savanna areas of Edo State are reported. Both taxa exhibit short vessel lengths (<350µm), with medium-sized (100-200µm) diameters in the two vegetation zones. Vessels are thick-walled (>3.0µm) and decrease in wall thickness from derived savanna to the rainforest area. Taxa vessels are tailless having simple perforation with simple pits arranged in rows. Fibres are long (1600 µm), medium (900-1600µm) except in <i>K. africana</i> growing in the derived savanna areas where short lengths (<900µm) were encountered. Variations in fibre dimensions were significant at 1% and 5% probability levels between <i>K. africana</i> growing in the two ecological zones but were only significant at 5% probability level in fibre diameter of <i>N. laevis</i> growing in the two ecological zones. Taxa fibres were non-pitted and septations were only encountered in species found in the rainforest zone. Fibre /vessel length ratio in both taxa is greater than 1 and ratios approaching 10 are phylogenetically more advanced and specialized. Higher mean maximum values were obtained in vessel element lengths of <i>K. africana</i> and <i>N. laevis</i> growing in the rain forest zone. <i>N. laevis</i> from the derived savanna had thicker fibre walls than its counterpart in rain forest. Both species are suitable for various end-uses but are however not suitable for high grade pulp because of their relative low fibre length and runkel ratio (<1) which was low.</p> <p>[Okoegwale. E.E, Ogie-Odia E and Idialu J.E. Tracheary elements characteristics of <i>Kigelia africana</i> (Lam) Benth and <i>Newbouldia laevis</i> (P. Beauv) Seemann ex. Bureau growing in rainforest and derived savanna regions of Edo State, Nigeria. Life Science Journal 2010;7(4):7-13]. (ISSN: 1097-8135).</p> <p>Key words: Tracheary elements, <i>Kigelia africana</i>, <i>Newbouldia laevis</i>, rainforest, derived savanna, ecological zones</p>		
3	<p style="text-align: center;">Plant Biotechnology on a flight: Is Africa on board?</p> <p style="text-align: center;">Olawole O. Obembe^{1,2}</p> <p>¹Department of Biological Sciences, Covenant University, PMB 1023, Ota, Ogun State, Nigeria. ²Present Address: Plant Transformation Group, International Centre for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi 110067, India E-mail: obembe@covenantuniversity.com or odun_wole@yahoo.co.uk</p> <p>Abstract: The rate of development of plant biotechnologies has been huge in recent times, especially in the developed countries. The technologies have created a new branch of biotechnology known as molecular farming, where plants are engineered to produce pharmaceutical and technical proteins in commercial quantities. An evaluation of the status of plant biotechnology development in Africa revealed that the very few countries, with the exception of South Africa, that are involved in biotechnology activities are still at the level of tissue culture applications. This calls for sincere commitments on the part of various stakeholders in Africa, especially the governments, to the development of biotechnology capacity.</p> <p>[Olawole O. Obembe. Plant Biotechnology on a flight: Is Africa on board. Life Science Journal 2010;7(4):14-25]. (ISSN: 1097-8135).</p> <p>Keywords: molecular farming, bio-economy, developing countries, capacity building</p>	Full Text	3
4	<p style="text-align: center;">Model for Predicting the Concentration of Phosphorus Removed as Impurity during Hydro-Processing of Iron Oxide Ore Designated for Production of Orthopedics Devices</p> <p style="text-align: center;">C. I. Nwoye^{1*}, I. E. Mbuka¹, M. Obi² and K. Okeke³</p> <p>¹Department of Materials and Metallurgical Engineering Federal University of Technology, Owerri, Imo State. ²Department of Industrial Mathematics, Federal University of Technology, Owerri, Imo State Nigeria. ³Department of Dental Technology, Federal University of Technology, Owerri, Imo State Nigeria. chikeyn@yahoo.com</p>	Full Text	4

	<p>Abstract: A model for predicting the concentration of phosphorus removed as impurity during leaching of iron oxide ore in sulphuric acid solution has been derived. The model; $P = 10^{4.86}$ was found to depend on the value of the final pH of the leaching solution which varies with leaching time. It was observed that the validity of the model is rooted in the expression $\text{Log}P = N$ where both sides of the relationship are approximately equal to 2.3. The maximum deviation of the model-predicted phosphorus concentration (removed) from the corresponding value obtained from the experiment was found to be less than 8% which is quite within the acceptable deviation limit of experimental results.</p> <p>[C. I. Nwoye, I. E. Mbuka, M. Obi and K. Okeke. Model for Predicting the Concentration of Phosphorus Removed as Impurity during Hydro-Processing of Iron Oxide Ore Designated for Production of Orthopedics Devices. Life Science Journal 2010;7(4):26-30]. (ISSN: 1097-8135).</p> <p>Keywords: Model, Phosphorus Removal, Sulphuric Acid, Iron Oxide Ore, Leaching</p>		
5	<p>Sorption Energies Estimation Using Dubinin-Radushkevich and Temkin Adsorption Isotherms</p> <p style="text-align: center;">Itodo A.U.1 and Itodo H.U2 1Department of Applied Chemistry, Kebbi State University of Science and Technology, Aliero, Nigeria 2Department of Chemistry, Benue State University, Makurdi, Nigeria itodoson2002@yahoo.com</p> <p>Abstract: In this study, we add to scholarly knowledge in simple terms, the forces or energy defining certain adsorption phenomenon, using isotherm models. GCMS measurement of equilibrium phase atrazine after adsorption onto Sheanut shells (SS) acid derived activated carbon were fitted into the D-R and Temkin isotherm relationships for energy data estimation. Sorption energy value (BD), mean free energy (ED) and heat of sorption (B). They were estimated as 0.7600 mol²KJ⁻², 0.8111 kJmol⁻¹ and 0.790 Jmol⁻¹ respectively. The parameter predicting the type of adsorption was evaluated BD, $B < 20 \text{ kJ/mol}$ and $ED < 8$ which is an indication that physisorption (Non specific adsorption) dominates chemisorption and ion exchange. The D-R model with a higher correlation coefficient values, $R^2 = 0.979$ proves a better choice in explaining sorption energies. Generally, sheanut shells can be used as alternative precursors for activated carbon production via the two steps and acid treatment schemes.</p> <p>[Sorption Energies Estimation Using Dubinin-Radushkevich and Temkin Adsorption Isotherms. Life Science Journal 2010;7(4):31-39]. (ISSN: 1097-8135).</p> <p>Key words: Dubinin-Radushkevich, Temkin, Adsorption, GCMS, Isotherm, Sorption energy</p>	Full Text	5
6	<p>Periphyton Algae Dynamics at the University of Lagos Shoreline In Relation To Physico-chemical characteristics</p> <p>*Onyema, I.C., Onwuka, M. E., Olutimehin, A.O., Lawal, S.T., Babalola, R.M., Olaniyi, A.J., Morgan, P. and Suberu, T.B. *Department of Marine Sciences, University of Lagos, Akoka, Lagos, Nigeria. *iconyema@gmail.com</p> <p>ABSTRACT: Periphyton algae dynamics at the University of Lagos shoreline in relation to physico-chemical parameters were investigated for a period of 12 weeks (26th January – 13th April 2007). The physical and chemical factors showed weekly variation judged to be linked to tidal sea water incursion associated with the Lagos lagoon and rain events in the dry season. Water quality was brackish (mesohaline) and alkaline throughout the study. Of the 30 periphytic algal species recorded, 18 were diatoms, 9 blue-green algae, 3 green algae and 1 euglenoid species. With regard to density of species, the blue-green algae recorded 92.89%, while the green algae recorded 5.95% and the diatom and euglenoids recorded 1.11 and 0.06% respectively. Species abundance was generally higher at periods of reduced rainfall volume. It is possible that hydrological stability was favourable at this time and assisted the development of the periphyton community (January through April). Conversely micro-algal diversity generally reduced in the same period. The more important species quantitatively were <i>Oscillatoria limnosa</i>, <i>Lyngbya limnetica</i> (blue green algae) and <i>Cladophora glomerata</i> (green algae). The flood water inputs and regime cum dilution, probably lead to unfavorable hydrological stability. Salinity appeared to be a major factor regulating the</p>	Full Text	6

	<p>growth and dynamics of periphytic algae on the concrete slab. Generally, increases in salinity correlated with reduction in nutrient levels, oxygen related parameters, chlorophyll <i>a</i>, periphytic algae diversity and abundance as the dry season advanced. Whereas <i>Oscillatoria formosa</i> dominated initially, it was subsequently succeeded by <i>Lyngbaya limnetica</i> (to a large extent) and <i>Cladophora glomerata</i>. [Onyema, I.C., Onwuka, M. E., Olutimehin, A.O., Lawal, S.T., Babalola, R.M., Olaniyi, A.J., Morgan, P. and Suberu, T.B. Periphyton Algae Dynamics at the University of Lagos Shoreline In Relation To Physico-chemical characteristics. Life Science Journal 2010;7(4):40-47]. (ISSN: 1097-8135).</p> <p>Keywords: Periphyton, water chemistry, Lagos lagoon, physico-chemical, attached algae</p>		
7	<p style="text-align: center;">Gas Chromatography – Mass Spectroscopic analysis of <i>Lawsonia inermis</i> Leaves</p> <p style="text-align: center;">¹Hema R., ¹S. Kumaravel, ²S. Gomathi and ³C. Sivasubramaniam</p> <p style="text-align: center;">¹Food Testing Laboratory, Indian Institute of Crop Processing Technology, Thanjavur</p> <p style="text-align: center;">²Dept. of Biochemistry, KSR College of Arts and Science, Tiruchengode</p> <p style="text-align: center;">³Dept. of Environmental and Herbal Sciences, Tamil University, Thanjavur</p> <p style="text-align: center;">e-mail: hema.scientist@gmail.com</p> <p>Abstract: Due to uniqueness of <i>Lawsonia inermis</i> leaf property in curing different ailments this part was selected for the study. Hence the present investigation was carried out to determine the possible chemical components from <i>Lawsonia inermis</i> leaves by GC-MS. This analysis revealed that <i>Lawsonia inermis</i> leaves contain mainly á-D-Glucopyranoside, methyl (51.73%) and 1,4-Naphthalenedione, 2-hydroxy- [Synonyms: Henna] (19.19%), which were used in curing skin ailments caused due to Environmental Pollution of Air and Water.</p> <p>[Hema R., S. Kumaravel, S. Gomathi and C. Sivasubramaniam. Gas Chromatography – Mass Spectroscopic analysis of <i>Lawsonia inermis</i> Leaves. Life Science Journal 2010;7(4):48-50]. (ISSN: 1097-8135).</p> <p>Keywords: <i>Lawsonia inermis</i>, GC-MS analysis, 1,4-Naphthalenedione, 2-hydroxy- (Henna), Skin ailments caused due to Environmental Pollution of Air and Water</p>	Full Text	7
8	<p style="text-align: center;">Comparative efficiencies of the degradation of C.I. Mordant Orange 1 using UV/H₂O₂, Fenton, and photo-Fenton processes</p> <p style="text-align: center;">A.M. Gamal</p> <p style="text-align: center;">Chemistry Department, Faculty of Science, Al-Azhar University (Girls), Nasr City, Cairo, Egypt.</p> <p>Abstract: The kinetics of the photo degradation of C.I. Mordant Orange 1 imparted by UV/H₂O₂, Fenton and photo Fenton process were investigated. Negligible effects were observed in the presence of either UV light or H₂O₂ alone. As expected the Fenton-mediated degradation occurred much faster than the photolytic process. Photo Fenton showed higher in treatment efficiency than that of Fenton process. The effects of dye concentrations, H₂O₂ concentration, pH values and the presence of Fe²⁺ concentration on the degradation rate constant were also studied. The rate constant of dye degradation that occurred in both the photolytic as well as in the Fenton and photo-Fenton processes was found to pseudo first-order kinetics.</p> <p>[A.M. Gamal. Comparative efficiencies of the degradation of C.I. Mordant Orange 1 using UV/H₂O₂, Fenton, and photo-Fenton processes. Life Science Journal 2010;7(4):51-59]. (ISSN: 1097-8135).</p> <p>Keywords: C.I. Mordant Orange 1, Degradation, Kinetic, UV/H₂O₂ , Fenton, photo-Fenton processes</p>	Full Text	8

9	<p>The Efficacy of Community Based Intervention in Newborn Care Practices and Neonatal Illness Management in Morang District of Nepal</p> <ol style="list-style-type: none"> 1. Sirjana Khanal, Department of Biostatistics & Epidemiology, College of Public Health, Zhengzhou University, 100 Kexue Avenue, Zhengzhou, Henan, China, 450001. Email: khanalsirju@yahoo.com 2. Weidong Zhang, Professor & Director, Department of Biostatistics & Epidemiology, College of Public Health, Zhengzhou University, 100 Kexue Avenue, Zhengzhou, Henan, China, 450001, Email1: imooni@zzu.edu.cn; Email2: imooni@163.com 3. Sudhir Khanal, Project Director of Morang Innovative Neonatal Intervention Program, JSI R & T, Nepal Family Health Program, Nepal. P.O. Box – 1600. Email: sudhirkhanal@hotmail.com <p>Corresponding Author: Sirjana Khanal, Department of Biostatistics & Epidemiology, College of Public Health, Zhengzhou University, 100 Kexue Avenue, Zhengzhou, Henan, China, 450001. Telephone # +86 371 65257125. Email: khanalsirju@yahoo.com</p> <p>Abstract: Background: In developing countries like Nepal, most of the births take place in the home, where high-risk care practices are common. This study is focused to find the efficacy of a community based intervention in newborn care practices and neonatal illness management in Morang district of Nepal. Methods: In Morang district of Nepal, intervention (base line & follow on) and non intervention (control) area were randomly selected. A community based program was launched in intervention area. The program mobilized the female community health volunteer (FCHV) to provide antenatal service (ANC), essential newborn care (ENC) and identify, assess and basic management of sick newborn. The survey included 624, 620 and 613 eligible married women of reproductive age (MWRA) in baseline (BSL), follow on (FON) and non intervention (NI) group respectively. During the survey, data regarding ANC services, clean and safe delivery, implementing ENC practices and managing ill babies were collected. The data, thus collected were analyzed using SPSS for windows. Results: The population characteristics of all the three groups; BSL, FON and NI were similar. The number of women receiving ANC service increased from 85.4% to 89% after intervention. The practice of home delivery was low in FON (64.8%) than BSL (69.6%) and NI (70.1%). In case of home delivery, presence of skilled and trained attendant increased to 60.6% with introduction of intervention program. The total illness rate in BSL, FON and NI groups were 41.2%, 38.2% & 29.7% respectively. The most commonly observed danger sign was respiratory problem 38.1%, 41.8% and 30.2% respectively in three groups. A significant improvement was seen in ENC practices of early breastfeeding, cord care, warming baby and delay in bathing practices in FON group ($p < 0.005$). The fatality rate in FON group was low (3.2%) than BSL (14.1%) and NI (15.6%). Conclusion: Neonatal illness can be diagnosed and managed earlier if proper training is given to grass root level health worker. The intervention in Morang district showed the reduced neonatal fatality rate and this program can be extended in other rural areas of Nepal.</p> <p>[Sirjana Khanal, Weidong Zhang, Sudhir Khanal, The Efficacy of Community Based Intervention in Newborn Care Practices and Neonatal Illness Management in Morang District of Nepal. Life Science Journal 2010;7(4):60-67]. (ISSN: 1097-8135).</p> <p>Key words: Essential Newborn Care, Neonatal illness, Community Based Intervention</p>	Full Text	9
10	<p>Sorption Energies Estimation Using Dubinin-Radushkevich and Temkin Adsorption Isotherms</p> <p style="text-align: center;">Itodo A.U.¹ and Itodo H.U²</p> <p>¹Department of Applied Chemistry, Kebbi State University of Science and Technology, Aliero, Nigeria ²Department of Chemistry, Benue State University, Makurdi, Nigeria itodoson2002@yahoo.com</p> <p>Abstract: In this study, we add to scholarly knowledge in simple terms, the forces or energy defining certain adsorption phenomenon, using isotherm models. GCMS measurement of equilibrium phase atrazine after adsorption onto Sheanut shells (SS) acid derived activated carbon were fitted into the D-R and Temkin isotherm relationships for energy data estimation. Sorption energy value (BD), mean free energy (ED) and</p>	Full Text	10

	<p>heat of sorption (B). They were estimated as 0.7600mol2KJ-2, 0.8111 kJmol-1 and 0.790Jmol-1 respectively. The parameter predicting the type of adsorption was evaluated BD , B < 20kJ/mol and ED<8 which is an indication that physisorption (Non specific adsorption) dominates chemisorption and ion exchange. The D-R model with a higher correlation coefficient values, R2 = 0.979 proves a better choice in explaining sorption energies. Generally, sheanut shells can be used as alternative precursors for activated carbon production via the two steps and acid treatment schemes.</p> <p>[Sorption Energies Estimation Using Dubinin-Radushkevich and Temkin Adsorption Isotherms. Life Science Journal 2010;7(4):68-76]. (ISSN: 1097-8135).</p> <p>Key words: Dubinin-Radushkevich, Temkin, Adsorption, GCMS, Isotherm, Sorption energy</p>		
11	<p align="center">Maize (<i>Zea mays</i>) Response to Phosphorus and Lime on Gas Flare Affected Soils.</p> <p align="center">Uzoho, B.U¹, G.E Osuji¹, E.U Onweremadu¹ and Ibeawuchi I.I².</p> <p align="center">¹ Dept of Soil Science Technology, ² Dept of Crop Science Technology, Federal University of Technology, P.M.B 1526Owerri. Nigeria. ii_ibeawuchi@yahoo.co.uk</p> <p>Abstract: Response of maize to phosphorus and lime was evaluated on two gas flare affected sites. The experimental design was a 2 x 2 x 4 factorial of 2 sites (S₁ and S₂), 2 P rates (0 and 30 kg P₂O₅ ha⁻¹) and 4 lime rates (0, 1, 1.5 and 2.0 t ha⁻¹) in a CRD and replicated 3 times. Plant height, leaf area, dry matter yield, nutrient uptake (N and P) and residual soil properties (pH, Ca, Mg and P) increased with treatments up to 30 kg P₂O₅ ha⁻¹ and 1.5 t ha⁻¹ lime combined rates in both sites. Maize performance and residual soil properties were better in S₂ than S₁ due its higher fertility status and distance (400 m) from the gas flare pit. Performance of all measured parameters were best using 30 kg P₂O₅ ha⁻¹ and 1.5 t ha⁻¹ lime combined rates and hence could be the optimum rate for maize production in gas flare affected soils of the Niger Delta.</p> <p>[Uzoho, B.U, G.E Osuji, E.U Onweremadu and Ibeawuchi I.I. Maize (<i>Zea mays</i>) Response to Phosphorus and Lime on Gas Flare Affected Soils. Life Science Journal 2010;7(4):77-82]. (ISSN: 1097-8135).</p> <p>Keywords: maize; phosphorus; lime; Niger Delta</p>	Full Text	11
12	<p align="center">Study of the Influence of Environmental Tobacco Smoke To Trachea and Lung of the Animal Model</p> <p align="center">¹Shuling Wang, ¹Tianqi Wang, ²Shen Cherng</p> <p align="center">¹College of Basic Medical Science Zhengzhou University, Zhengzhou, Henan, China ²Department of Computer Science and Information Engineering, Chengshiu University, Niaosong, Kaohsiung, Taiwan, China</p> <p>Abstract: The environmental tobacco smoke (ETS) can influence the expression of androgen acceptor (AR) in organs of trachea and lung of animals of Wistar Rats. The rising of AR expression could be one of the mechanisms of smoking pathogenesis. Moreover, discontinuing ETS can not make the ascension of the AR back to normal level for the animals.</p> <p>[Shuling Wang, Tianqi Wang, Shen Cherng. Study of the Influence of Environmental Tobacco Smoke To Trachea and Lung of the Animal Model. Life Science Journal 2010;7(4):83-87]. (ISSN: 1097-8135).</p> <p>Key Words: Environmental tobacco smoke (ETS), androgen acceptor (AR), pathogenesis</p>	Full Text	12
13	<p align="center">Model for Calculating the Amount of Water Removable during Thermo-processing of Kaolin Based Bioceramic Material Designated for Production of Human Bone Replacement</p> <p align="center">C. I. Nwoye^{1*}, K. Okeke², C. C. Nwakwuo³, G. C. Obasi⁴ and S. U. Ofoegbu⁴</p> <p align="center">¹Department of Materials and Metallurgical Engineering, Federal University of Technology, Owerri, Nigeria. ²Department of Dental Technology, Federal University of Technology, Owerri, Imo State Nigeria. ³Department of Material Science, Oxford University, United Kingdom. ⁴Department of Material Science, Aveiro University, Portugal. chikeyn@yahoo.com</p>	Full Text	13

	<p>Abstract: Model for calculating the amount of water removable during thermo-processing of kaolin based bioceramic material (designated for production of human bone replacement) has been derived. The model; $= \exp[(9.8405/T^{0.34})]$ shows that the quantity of evaporated water during the drying process is dependent on the drying temperature, the evaporating surface being constant. It was found that the validity of the model is rooted on the expression $\ln = (A/T)^N$ where both sides of the expression are correspondingly approximately equal to 2. The maximum deviation of the model-predicted quantity of water removable from the corresponding experimental value was found to be less than 39.5% which is quite within the acceptable deviation range of experimental results, hence depicting the usefulness of the model.</p> <p>[C. I. Nwoye, K. Okeke, C. C. Nwakwu, G. C. Obasi and S. U. Ofoegbu. Model for Calculating the Amount of Water Removable during Thermo-processing of Kaolin Based Bioceramic Material Designated for Production of Human Bone Replacement. Life Science Journal 2010;7(4):88-92]. (ISSN: 1097-8135).</p> <p>Keywords: Model, Water Removed, Thermoproessing, Bioceramic Material</p>		
14	<p style="text-align: center;">Diarrhoea in Neonatal baraki kids-goats</p> <p style="text-align: center;">Mona S. Zaki¹; Nagwa S. Ata²; Shalaby, S. I.³ and Iman M. Zytoun⁴</p> <p style="text-align: center;">¹Dept. of Hydrobiology, National Research centre. Cairo, Egypt ²Dept. of Microbiology and Immunology, National Research centre. Cairo, Egypt ³Dept. of Reproduction, National Research centre. Cairo, Egypt ⁴Dept. of Microbiology, Central Lab. Zagazig University, Zagazig, Egypt dr_mona_zaki@yahoo.co.uk</p> <p>Abstract: A survey was carried out in 130 kids-goats aged from 2 days to 3 month from different private farms in El Mounofia and Kalubia Governorates. Out of these animals, 100 were suffering from diarrhoea. Bacteriological examination of the faecal samples revealed the presence of <i>E. coli</i> (58%), <i>Salmonella</i>, (27%), and <i>Shigella</i> (15%), as the main causative agents of diarrhoea. They were sensitive to common antibiotics and less sensitive to 10% garlic extract and 40% <i>Hibiscus subdarifa</i>. Haematological studies revealed significant decrease in hemoglobin content (Hb), erthrocytic (RBCs) count. On contrary, haematocrit value (PCV %) showed significant increase in affected animals. A significant decrease was detected in the values of serum total proteins, albumin, iron, copper, and growth hormone. On the other hand, there was a significant increase in cortisol hormone, lactate dehydrogenase (LDH), and alkaline phosphatase enzymes. We emphasize that the demonstrated diarrhoea caused many harmful clinopathological effects, reduced growth hormone, and caused severe anaemia in kids-goat.</p> <p>[Mona S. Zaki; Nagwa S. Ata; Shalaby, S. I. and Iman M. Zytoun. Diarrhoea in Neonatal baraki kids-goats. Life Science Journal 2010;7(4):93-97]. (ISSN: 1097-8135).</p> <p>Keywords: Kids-goat - kids - diarrhoea - haemogram - Salmonella - <i>E. coli</i> -serum biochemistry - LDH - alkaline phosphatase - hormones - trace elements - garlic extract - <i>Hibiscous subdarfa</i>.</p>	Full Text	14
15	<p style="text-align: center;">Endothelial Dysfunction In Systemic Lupus Erythematosus</p> <p style="text-align: center;">Aysha I.Z. Badawi[*], Randa F Abd Al Salam[*], Amal A El Wahab^{**}</p> <p style="text-align: center;">[*]Department of Internal Medicine, Faculty of Medicine, Cairo University. ^{**}Department of Clinical and Chemical Pathology, Cairo University. randa.favez@hotmail.com</p> <p>Abstract: Despite improved prognosis, patients with systemic Lupus, remain at increased risk of early vascular events due to premature atherosclerosis. We assessed the endothelial dysfunction in SLE as a marker of early atherosclerosis. In thirty seven (37) female patient endothelial dependant vasodilatation (EDD) was assessed at the brachial artery in response to shear stress and glyceril trinitrate administration (NMD), intima media thickness of the common carotid artery was also measured using high resolution B-Mode ultrasonography., anticardiolipin antibodies (done only in 18 patients) Lipid profiles, ANA were also assessed. No statistically significant difference between patients and control in basal FMD (D₁) (P=0.5) or percent change in flow mediated dilation (D₂) P = 0.3 and no change in NMD (P = 0.2). There was weak</p>	Full Text	15

	<p>but statistically significant correlation between FMD% and NMD% ($r = 0.3, P = 0.05$). Despite the disease activity according to SLEDAI (where 45.9% of patients were severely active) there was no correlation between either disease activity and FMD ($r = 0.03, P = 0.8$), or disease duration (2.4 ± 3.3 years) ($r = 0.7, P = 0.8$) Weak but statistically significant negative correlation between hypercholesterolemia and endothelial dysfunction ($r = 0.3, P = 0.05$). We tried to find differences between patients themselves dividing them into those with FMD <10% (n = 23 patient, 62.2%) FMD 10% (n = 14 patient, 37.8%) or FMD % / NMD % < 0.7 (n = 23 patient, 62%), FMD % /NMD> 0.7 (n = 14 patient, 38%). However no significant differences between them as regard clinical and laboratory data. In conclusion, FMD was not different between patients and control thus its use as a predictor of future cardiovascular events is questionable.</p> <p>[Aysha I.Z. Badawi, Randa F Abd Al Salam, Amal A El Wahab. Endothelial Dysfunction In Systemic Lupus Erythematosus. Life Science Journal 2010;7(4):98-104]. (ISSN: 1097-8135).</p> <p>Keywords: atherosclerosis-endothelium-systemic lupus erythematosus</p>		
16	<p style="text-align: center;">Influence of resin-tags on shear-bond strength of butanol-based adhesives</p> <p style="text-align: center;">M. Atef¹, H. Ragab¹, and W. El-Badrawy²</p> <p style="text-align: center;">¹Misr University for Science and Technology, Cairo, Egypt, ²University of Toronto, Toronto, ON, Canada mohatef16@hotmail.com</p> <p>Abstract: Objectives: The aim of this in vitro study was to assess micro-shear bond strength (μSBS) of tertiary-butanol-based adhesive under moist and dry conditions and correlate the results to resin-tags surface-area. Methods: Thirty-extracted human molars were used. Flat dentin surfaces were prepared on buccal and occlusal surfaces ready for bonding. Specimens were randomly divided into three-groups; G1: Prime&BondNT, applied to moist dentin (control), G2: XPBond, applied to moist dentin, and G3: XPBond, applied to dry dentin. Etch&Rinse technique was used for both adhesives as per manufacturer's instructions. For G3, dentin was air-dried for 10s before XPBond application. Three-microcylinders of composite-resin (TPH A2 shade, Dentsply) were bonded to buccal dentin of each specimen for μSBS testing, while 2mm composite-resin was bonded to occlusal dentin for tags surface-area analysis. Curing was performed for 40s (LED, Bluephase, Ivoclar/Vivadent). All specimens were stored in distilled water at 37°C for 24h. μSBS testing was performed using testing machine (Model LRX-plus; Lloyd-Instruments Ltd., Fareham, UK) and data were recorded using software (Nexygen-MT Lloyd Instruments). Each specimen was then sectioned mesio-distally to expose resin-dentin interface, examined at 1500X using Environmental-Scanning-microscope, and tags surface-area were calculated. Data were analyzed by Pair-wise Newman-Keuls multiple comparison and regression-analysis ($P < 0.05$). Results: G2 (29.06MPa) showed insignificantly higher μSBS than G1 (25.45MPa), while G3 (17.3MPa) showed significantly the lowest μSBS. G3 produced significantly highest tags surface-area (200.4μm²) compared to G1 (149.4 μm²) and G2 (94.54 μm²). Conclusion: - Butanol-based adhesive bonded to moist dentin, produced high μSBS and hybrid layer with short resin-tags that showed a perfectly infiltrated and sealed dentin-resin interface, - bonding to dry dentin showed lower μSBS, - there was significant correlation between tags surface-area and μSBS for G1&G2, - no correlation was found for G3. Acknowledgement: Dentsply/Caulk. The purpose of this in vitro study was to compare micro-shear bond strength (μSBS) of a tertiary-butanol-based adhesive to a 2-step etch and rinse one, under moist and dry conditions and correlate the results to resin-tags surface-area.</p> <p>[M. Atef, H. Ragab, and W. El-Badrawy. Influence of resin-tags on shear-bond strength of butanol-based adhesives. Life Science Journal 2010;7(4):105-113]. (ISSN: 1097-8135).</p> <p>Keywords: resin-tag; shear-bond; butanol-based adhesives; micro-shear bond strength (μSBS)</p>	<p style="text-align: center;">Full Text</p>	16
17	<p style="text-align: center;">Effect of palatal surface contouring techniques on the swallowing function of complete denture wearers.</p> <p style="text-align: center;">Tamer Abou-Elsaad 1, Ahmad Habib², Mohamed Elkhodary 2, and Abd-Allah Salem²</p> <p style="text-align: center;">1 Phoniatic Unit, ORL Department, Faculty of Medicine, Mansoura University, University, Mansoura, Egypt.</p> <p style="text-align: center;">2. Mansoura, Egypt Department of Removable Prosthodontics, Faculty of Dentistry, Mansoura</p> <p>Abstract: This study is aimed to investigate the effect of two different surface palatal contouring</p>	<p style="text-align: center;">Full Text</p>	17

<p>techniques; namely arbitrary versus functional on swallowing activity of maxillary complete denture wearers. Ten completely edentulous healthy male patients with their ages ranged between 46-65 years were selected for this study according to definite inclusion-exclusion criteria. The swallowing function was evaluated pre- and postdenture state by using Videofluoroscopy. The patient was asked to swallow different bolus consistencies (thin and thick liquids, semisolid and solid) in small and large volumes. The swallowing measures selected for this study were: (1) Temporal measures of bolus and hyoid movements during swallowing; (2) Oropharyngeal residue; (3) Laryngeal penetration/aspiration observation and (4) Oropharyngeal Swallow Efficiency score. The results revealed a statistically significant increase in temporal measures of swallowing after denture insertion compared to pre-denture state regardless the palatal surface contouring technique. Functional contouring of maxillary denture palatal surface demonstrated a statistically significant general decrease in durations of bolus and hyoid movements (except at duration of hyoid maximum elevation) during swallowing, and led to a more efficient swallowing compared to dentures with arbitrary contoured palate. It can be concluded that the difficulty of swallowing with an artificial prosthesis should be addressed before the patient first makes use of the denture to eat and drink. Functional contouring of the palatal polished surface is recommended for completely edentulous patients. A further research may be useful to study the effect of functionally contoured palate in completely edentulous patients with oropharyngeal dysphagia due to neurological etiologies.</p> <p>[Tamer Abou-Elsaad, Ahmad Habib, Mohamed Elkhodary, Abd-Allah Salem. Effect of palatal surface contouring techniques on the swallowing function of complete denture wearers. Life Science Journal 2010;7(4):114-118]. (ISSN: 1097-8135).</p> <p>Keywords: surface palatal; arbitrary; maxillary; edentulous healthy; patient; dysphagia; etiology</p>		
<p>The value of blood brain natriuretic peptide for predicting clinical severity and prognosis in patients with acute coronary syndromes</p> <p>Tong-wen Sun¹, Shu-xiang Zhang¹, Qing-li Xu¹, Xiao-juan Zhang¹, Ling Li², Jin-ying Zhang²</p> <p>1. Department of Emergency Medicine , The First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan 450052, China</p> <p>2. Department of International Exchange and Cooperation, Zhengzhou University, Zhengzhou, Henan 450052, China</p> <p>3. Department of Cardiology, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, Henan 450052, China</p> <p>suntongwen@163.com</p> <p>ABSTRACT: Background: B-type/brain natriuretic peptide (BNP) is a neurohormone synthesized predominantly in ventricular myocardium. Although the circulating level of this neurohormone has been shown to provide independent prognostic information in patients with heart failure, few data are available for Chinese patients with acute coronary syndromes (ACS). This study was designed to investigate the value of blood BNP for predicting clinical severity and prognosis in patients with ACS. Methods: Blood BNP concentration was measured in 106 ACS patients, 1-3 days after onset of ischemic symptoms. Patients were followed up for six months. The end-point were cardiac death, non-fatal myocardial infarction and readmission. Results: (1) The concentration of circulating BNP in patients with ACS were increased. (2) 1 month follow-up demonstrated that, levels of BNP in non- survivals were much higher than that in survivals (P<0.0005); step-wise Logistic regression analysis demonstrated that ST segment deviation 1 mm and BNP 596 ng/L were independent predictors of short-term cardiac death in patients with ACS [OR=3.467, 95% confidence interval (CI) 1.336-32.836, P=0.002; OR=21.168, 95% CI 4.419-107.990, P<0.0005]. (3) area under the curve (AUC) of the receiver-operating-characteristic (ROC) of BNP to predict short-term cardiac death in patients with ACS was 0.878 (95% CI 0.781-0.974, P<0.0005) . (4) Kaplan-Meier survival curve showed that the survival curve of patients with BNP above 596 ng/L was significantly lower than that of patients with BNP below 596 ng/L (Log-rank test, P<0.0005) . Cox proportional hazards regression models demonstrated that BNP and cardiac troponin I were risk factors which related to ACS</p>	<p>Full Text</p>	<p>18</p>

	<p>prognosis (RR = 2.507, 95% CI 1.081-3.914, P =0.028; RR =2.208, 95% CI 1.609-3.874, P=0.030). Conclusions: (1) The circulating levels of BNP are significantly increased in patients with ACS. Myocardial ischemia and / or left ventricular systolic dysfunction are the main cause of stimulating BNP secretion. (2) BNP could provide important clinical value for predicting clinical severity and prognosis. It could be used for risk stratification in patients with ACS, especially when there is only ischemia without infarction and when blood is sampled very early after the onset of ischemia that would be missed by markers of myocyte necrosis.</p> <p>[Tong-wen Sun,Shu-xiang Zhang, Qing-li Xu,Xiao-juan Zhang,Ling Li,Jin-ying Zhang. The value of blood brain natriuretic peptide for predicting clinical severity and prognosis in patients with acute coronary syndromes. Life Science Journal 2010;7(4):119-123]. (ISSN: 1097-8135).</p> <p>Key words: B-type / brain natriuretic peptide; Acute coronary syndromes; Prognosis</p>		
19	<p style="text-align: center;">Bioformulations of Bacillus Spores for using as Biofertilizer</p> <p style="text-align: center;">Amal. M. Omer Soil Microbiology Unit, Desert Research Center, Cairo, Egypt.</p> <p>Abstract: A maximum spore percentage of <i>Bacillus megatherium</i> (<i>B. megatherium</i>) (89 %) was recorded after 96 hours of inoculation into a modified nutrient medium containing a mixture of 500 ppm of MnSo₄, CaCl₂, ZnSo₄ and KCL. These spores were incorporated into 21 different talc, cellulose and clay based formulations and their viability were assessed over 6 months at room temperature. Of these bioformulations, Talc - glucose, Talc - yeast and Cellulose - clay based powder formulations were selected for additional in vivo testing because of their highest levels of viability . Field experiment was conducted to evaluate the efficiency of the treatment of bean seeds with selected powder bioformulations on the growth , yield parameters and root colonization ability of <i>B. megatherium</i> .</p> <p>The powder bioformulations as well as the free spore suspension effectively enhanced plant biomass ,increased the yield and accelerate the rhizosphere colonization by the bacterium under field condition . So, the commercially acceptable powder bioformulations of the <i>B. megatherium</i> which have a long storage life , aid product delivery, and promote the plant growth parameters were prepared to be used instead of the traditionally used free spore suspension.</p> <p>[Amal. M. Omer. Bioformulations of Bacillus Spores for using as Biofertilizer. Life Science Journal 2010;7(4):124-131]. (ISSN: 1097-8135).</p> <p>Key words: Formulations, Sporulation, Bacillus megatherium, Talc, Cellulose, Clay</p>	Full Text	19
20	<p style="text-align: center;">Eusyllinae, Anoplosyllinae, and Exogoninae (Polychaeta: Syllidae) for the Mediterranean Coasts of Egypt, Together the Description of One New Species</p> <p style="text-align: center;">F. A. Abd-Elnaby^{*1} and G. San Martín²</p> <p style="text-align: center;">¹National Institute of Oceanography and Fisheries, Alexandria, Egypt ² Departamento de Biología (Zoología), Facultad de Ciencias, Universidad Autónoma de Madrid, calle Darwin, 2, 28049 Madrid, Spain. *faiza_abdelnaby@yahoo.com</p> <p>Abstract: In this paper, 18 species of the subfamilies Exogoninae, Anoplosyllinae, and Eusyllinae (Syllidae, Polychaeta) are reported from the Mediterranean Egyptian coasts, 8 of them are new records for the area: <i>Odontosyllis fulgurans</i> (Audouin and Milne Edwards, 1833); <i>Syllides japonicus</i> Imajima, 1966; <i>Salvatoria clavata</i> (Clapare de, 1863); <i>Salvatoria euritmica</i> (Sardá, 1984); <i>Sphaerosyllis glandulata</i> Perkins, 1981; <i>Parapionosyllis labornica</i> Cognetti, 1965; <i>Sphaerosyllis</i> sp.; and <i>Prosphaerosyllis</i> sp. Five species were reported previously in the area. Four species are new records for Mediterranean Sea: <i>Palposyllis prosostoma</i> Hartmann-Schröder, 1977; <i>Paraehlersia weissmaniodes</i> (Augener,1913); <i>Streptosyllis compoyi</i> Brito, Núñez and San Martín, 2000; and <i>Exogone africana</i> Hartmann-Schröder, 1974); <i>P. weissmaniodes</i> and <i>Exogone africana</i> are two widely distributed Indo-Pacific species, so they could be considered as Lessepsian</p>	Full Text	20

	<p>migrants. Finally, one new species is described, <i>Parapionosyllis aegyptia</i>. [F. A. Abd-Elnaby and G. San Martín. Eusyllinae, Anoplosyllinae, and Exogoninae (Polychaeta: Syllidae) for the Mediterranean Coasts of Egypt, Together the Description of One New Species. Life Science Journal 2010;7(4):132-139]. (ISSN: 1097-8135).</p> <p>Keywords: <i>Eusyllinae, Anoplosyllinae, Exogoninae, Taxonomy, Mediterranean, Egypt, New species.</i></p>		
21	<p style="text-align: center;">Evaluation of Human Telomerase Activity as a Novel Tumor Marker for Hepatocellular Carcinoma</p> <p>Afaf Abdel Hady, Faten El Shanawany, Mona M. Hassan, Amgad Anas*, Ibrahim Mostafa*, Ahmed Abdel Hadi **</p> <p style="text-align: center;">Departments of Clinical Chemistry, Hepatology and GIT* and Pathology** Theodor Bilharz Research Institute</p> <p>Abstract: Objectives: Liver cancer is the most common neoplasm and the most common cause of cancer death within the world. Early detection of hepatocellular carcinoma (HCC) will increase the potential for curative treatment and improves survival. Telomerase is reactivated in various types of malignant tumors and may contribute to the development of HCC. To explore its clinical implications for early diagnosis of HCC, we analyzed its activity in peripheral blood mononuclear cells (PBMC).The diagnostic accuracy of telomerase activity and other conventional tumor markers such as serum -fetoprotein (AFP) and prothrombin induced by vitamin K antagonist (PIVKA-II) were evaluated to select the most reliable diagnostic and prognostic markers in HCC. This study was conducted on 25 healthy controls, 25 cirrhotic patients and 30 patients with HCC. All patients had been diagnosed with HCV-associated chronic liver disease. Methods: Serum PIVKA-II and AFP were measured by enzyme linked immunosorbent assay (ELISA),while telomerase activity in peripheral blood was estimated by polymerase chain reaction- enzyme-linked immunosorbent assay (PCR- ELISA method). Results: Mean telomerase activity, PIVKA-II and AFP levels were significantly higher in HCC patients as compared to both cirrhotic patients and controls, also a significant elevation in cirrhotic patients were found as compared to controls. Positive correlation was found between telomerase activity and size of hepatic focal lesions. Also, a positive correlation was found between both telomerase activity and PIVKA-II and between the pathological grades of HCC. In HCC the sensitivity/specificity (88.2/79.6) of telomerase activity was much higher than both PIVKA-II (80.5/69.3) and AFP (72.6/61.5). Conclusion: The usefulness of telomerase activity assay in HCC diagnosis and it's superiority to other tumor marker were recorded. Therefore, telomerase activity is a novel, available detector and prognostic marker for HCC diagnosis.</p> <p>[Afaf Abdel Hady, Faten El Shanawany, Mona M. Hassan, Amgad Anas, Ibrahim Mostafa, Ahmed Abdel Hadi. Evaluation of Human Telomerase Activity as a Novel Tumor Marker for Hepatocellular Carcinoma. Life Science Journal 2010;7(4):153-161]. (ISSN: 1097-8135).</p> <p>Key words: hepatocellular carcinoma; telomerase; PIVKA-II; molecular diagnostic marker; telomerase PCR ELISA</p>	<p style="text-align: center;">Full Text</p>	21
22	<p style="text-align: center;">Formation physiology of Mosquitocidal Toxin by a novel Bacillusthuringiensis isolate from under Solid State Fermentation</p> <p style="text-align: center;">M.S.Foda,1 * Fawkia M. El-Beih,2 Maysa E. Moharam.1 Nora N.A.El-Gamal1</p> <p style="text-align: center;">1Microbial Chemistry Department, Genetic Engineering & Biotechnology Division, National Research Center, Dokki, Giza, Egypt.2Faculty of Science, Ain Shams University, Cairo, Egypt.</p> <p style="text-align: center;">foda302002@yahoo.com</p> <p>Abstract: Sixty eight cultures were isolated from soil of different locations in El-Sharkia governorate that were cultivated by cereals, rice, clover, cotton, and maize crops. Based on the LC50 and LC90 values, the Egyptian isolate No 4 was selected for further study due to its lower LC50 and LC90 than the international Bacillus thuringiensis var.israelensis (Bti) upon bioassay against second instars larvae Culex pipiens. The Egyptian isolate No 4 is defined morphologically and biochemically as Bacillus thuringiensis. Physiological factors affecting growth and toxin biosynthesis in B. thuringiensis No 4 in comparison to Bti under solid state fermentation were studied. Talcum powder and silica gel were the best carriers yielding highest mosquitocidal activity for Bacillus thuringiensis No.4 and Bacillus thuringiensis var.israelensis, respectively. The highest mortality were obtained upon utilization of kidney beans (3%) and black eyed beans (6%) as base solid substrate for B. thuringiensis isolate No.4 and B.thuringiensis var.israelensis,</p>	<p style="text-align: center;">Full Text</p>	22

	<p>respectively. Toxicity increased with extended the incubation period up to 9 days for both of tested organisms. Highest values for growth and toxicity were obtained in cultures with initial moisture content adjusted at 60% (w/w) for both organisms. Mosquitocidal toxin activity were fairly stable within a wide range of increasing aeration level up to a ratio of 10g culture/250ml conical flask and 10g culture/500ml for growth and toxicity of <i>Bacillus thuringiensis</i> var. <i>israelensis</i>, and <i>Bacillus thuringiensis</i> isolate No.4, respectively.</p> <p>[M.S.Foda, Fawkia M. El-Beih, Maysa E. Moharam, Nora N.A.El-Gamal. Formation physiology of Mosquitocidal Toxin by a novel <i>Bacillus thuringiensis</i> isolate from under Solid State Fermentation. Life Science Journal 2010;7(4):144-152]. (ISSN: 1097-8135).</p> <p>Key Words: <i>Bacillus thuringiensis</i>, isolation, characterization, mosquitocidal toxin, physiology, solid state fermentation.</p>		
23	<p>Evaluation of Human Telomerase Activity as a Novel Tumor Marker for Hepatocellular Carcinoma Afaf Abdel Hady, Faten El Shanawany, Mona M. Hassan, Amgad Anas*, Ibrahim Mostafa*, Ahmed Abdel Hadi **</p> <p>Departments of Clinical Chemistry, Hepatology and GIT* and Pathology** Theodor Bilharz Research Institute</p> <p>Abstract: Objectives: Liver cancer is the most common neoplasm and the most common cause of cancer death within the world. Early detection of hepatocellular carcinoma (HCC) will increase the potential for curative treatment and improves survival. Telomerase is reactivated in various types of malignant tumors and may contribute to the development of HCC. To explore its clinical implications for early diagnosis of HCC, we analyzed its activity in peripheral blood mononuclear cells (PBMC). The diagnostic accuracy of telomerase activity and other conventional tumor markers such as serum α-fetoprotein (AFP) and prothrombin induced by vitamin K antagonist (PIVKA-II) were evaluated to select the most reliable diagnostic and prognostic markers in HCC. This study was conducted on 25 healthy controls, 25 cirrhotic patients and 30 patients with HCC. All patients had been diagnosed with HCV-associated chronic liver disease. Methods: Serum PIVKA-II and AFP were measured by enzyme linked immunosorbent assay (ELISA), while telomerase activity in peripheral blood was estimated by polymerase chain reaction- enzyme-linked immunosorbent assay (PCR- ELISA method). Results: Mean telomerase activity, PIVKA-II and AFP levels were significantly higher in HCC patients as compared to both cirrhotic patients and controls, also a significant elevation in cirrhotic patients were found as compared to controls. Positive correlation was found between telomerase activity and size of hepatic focal lesions. Also, a positive correlation was found between both telomerase activity and PIVKA-II and between the pathological grades of HCC. In HCC the sensitivity/specificity (88.2/79.6) of telomerase activity was much higher than both PIVKA-II (80.5/69.3) and AFP (72.6/61.5). Conclusion: The usefulness of telomerase activity assay in HCC diagnosis and its superiority to other tumor marker were recorded. Therefore, telomerase activity is a novel, available detector and prognostic marker for HCC diagnosis.</p> <p>[Afaf Abdel Hady, Faten El Shanawany, Mona M. Hassan, Amgad Anas, Ibrahim Mostafa, Ahmed Abdel Hadi. Evaluation of Human Telomerase Activity as a Novel Tumor Marker for Hepatocellular Carcinoma. Life Science Journal 2010;7(4):153-161]. (ISSN: 1097-8135).</p> <p>Key words: hepatocellular carcinoma; telomerase; PIVKA-II; molecular diagnostic marker; telomerase PCR ELISA</p>	<p>Full Text</p>	23
24	<p>Role of Selenium in Attenuating Cardiac and Hepatic Damages Induced By the Antitumor Agent, Doxorubicin</p> <p>Safinaz S. Ibrahim*, Maged A. Barakat, Hebatalla M. Helmy Biochemistry Department, Faculty of Pharmacy, Cairo University, Cairo, Egypt safinazsibrahim@cu.edu.eg; dr_safinaz_747@hotmail.com; barakat_maged_1950@yahoo.com; drhebasamy@hotmail.com</p> <p>Abstract: Background and Objectives: The clinical use of doxorubicin, one of the most effective antitumor agents, soon proved to be hampered by such serious problems as the development of cardiomyopathy and liver damage. The current study aims at evaluating the role of trace element, selenium, in attenuating cardiac and hepatic damages induced by the antitumor agent, doxorubicin. Materials and</p>	<p>Full Text</p>	24

Methods: Animals were divided into normal control group and doxorubicin -treated group injecting doxorubicin i.p. as 6 equal doses of 2.5 mg/kg, twice weekly/ 3 weeks. The doxorubicin - treated animals were divided into 2 groups, one kept without further treatment (doxorubicin -group), second group, (doxorubicin + selenium) received selenium (Na Selenite) 0.5 mg/kg orally, 3 times/week/4 weeks including one week before the doxorubicin 1st dose. Serum creatine phosphokinase, lactate dehydrogenase, as cardiac damage markers, and alanine aminotransferase, as indicator of hepatic damage, were measured. Malondialdehyde and nitric oxide levels, as cardiac oxidative status indices, cardiac glutathione content, glutathione peroxidase, glutathione-S-transferase and superoxide dismutase activities, as measures for cardiac antioxidant capacity, were also investigated. Histopathological changes in cardiac and liver tissues were examined. The results were analyzed statistically by one-way analysis of variance with subsequent multiple comparisons using Tukey test. **Results:** doxorubicin induced significant increase in serum lactate dehydrogenase; creatine phosphokinase; alanine aminotransferase activities, cardiac nitric oxide, malondialdehyde levels, superoxide dismutase, glutathione peroxidase, glutathione-S-transferase activities, and reduction in glutathione content. Selenium co-administration caused significant decrease in serum lactate dehydrogenase and creatine phosphokinase levels; normalization of serum alanine aminotransferase; significant decrease in cardiac malondialdehyde, nitric oxide levels, glutathione peroxidase, glutathione-S-transferase, superoxide dismutase activities and significant elevation in cardiac glutathione content, compared to doxorubicin -treated group values. Histopathological examination of cardiac and liver tissues supported the previous biochemical results. **Conclusions:** Chronic doxorubicin administration caused cardiomyopathy and hepatic damage. Selenium co-administration produced partial, but significant, protection against cardiomyocyte damage; however, it alleviated hepatic damage-induced by the antitumor agent, doxorubicin.

[Safinaz S. Ibrahim, Maged A. Barakat, Hebatalla M. Helmy. Role of Selenium in Attenuating Cardiac and Hepatic Damages Induced By the Antitumor Agent, Doxorubicin. Life Science Journal 2010;7(4):162-172]. (ISSN: 1097-8135).

Key words: Doxorubicin, cardiomyopathy, liver damage, selenium

Opacification of a CeeON 911A Silicone Intraocular Lens Caused by Deposits on the Optic without Asteroid Hyalosis

[Full Text](#)

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25 Abstract: This study reports a case of calcific opacification on an implanted silicone intraocular lens (IOL) without asteroid hyalosis. A 72-year-old female was referred for blurred vision in her left eye. Her history showed she had undergone uneventful phacoemulsification with in the bag implantation of a silicone foldable hydrophobic IOL (CeeON 911A, Pharmacia Corporation) 39 months earlier. Under slit-lamp examination, multiple diffuse granular –appearing opacification in the optic were noted. The surgery for IOL explanation and replacement was performed because of significant visual disturbance. Crystals of calcium phosphate in brush form were found under light microscopy. It looked like the feather beside the brush. The scanning electron microscopy revealed a morpous crust-like layer on the curved posterior optic surface of the lens. The transmission detecting systems showed that the transmission rate of the opacified silicon IOL was near 0%. It may have decreased the visual acuity of the patient and limited her daily-activities and stereo-acuity. To our knowledge, this is the first report of surface calcification of a silicone IOL in the absence of asteroid hyalosis. Although the mechanism of calcification has not been determined, careful clinical follow-up of patients with implanted silicone lenses is necessary to determine if this phenomenon is rare and sporadic or if it is more widespread.

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[Feng-Chi Lin, Han-Yin Sun, Ming-Liang Tsai, Jeng-Shuan Shiang, Shang-Tao Chien, Chi-Ting Horng.
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KEY WORDS: silicon intraocular lens, opacified intraocular, asteroid hyalosis

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