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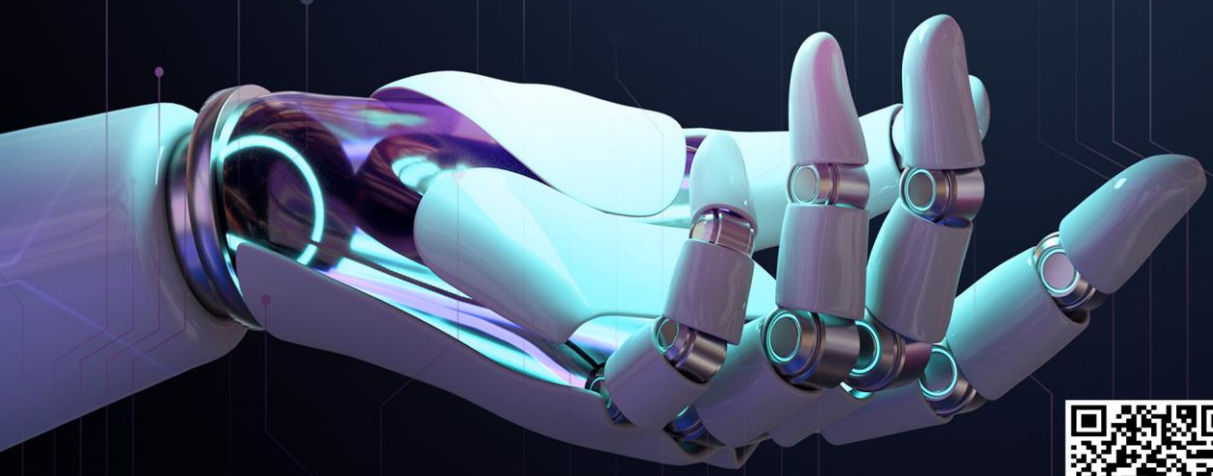
2022
Benha University

1st Annual Conference Of Post Graduate Studies for Applied Science

المؤتمر السنوي الأول للدراسات العليا
للعلوم التطبيقية بجامعة بنها

7-8 May 2022

ABSTRACTS BOOK



Capacity Building of Young Researchers

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ABSTRACTS BOOK

Organized by

Benha Journal of Applied Science

Benha University, Egypt

(Website: http://www.pgasc.bu.edu.eg)

Table of Contents

About Conference

The annual conference for graduate studies in the field of applied sciences.

Organized annually by the Post Graduate Studies and Research Sector at Benha University.

Conference Objectives:

1) **Opportunities for networking between Benha University graduate students and other universities.**
2) **Deepening the scientific research methodology for postgraduate students.**
3) **Providing an environment for students to present their scientific research experiences in their theses.**
4) **Giving the opportunity for postgraduate students to participate in the exhibitions of ideas.**
5) **Achieving the university's objectives in supporting students' research projects.**

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President word

Prof. Gamal Sosa

Scientific research is one of the most important duties of universities and research centres in order to qualify scientific Pioneers to improve society and meet the development and policy requirements.

Benha University always strives to support, motivate and appreciate outstanding faculty members, young researchers and students, affirming their important and influential role in developing the educational and research process and serving the community. The university's interest in scientific research comes as one of the pillars of creativity and innovation, the development, enrichment and dissemination of knowledge and seeking to use it to solve the various problems facing society and the industrial sector.

Since scientific research holding the name of the university is one of the most important indicators of quality and excellence in its classification locally, regionally and internationally, Benha University is keen to support the activities of scientific research and those in charge of it from faculty members, researchers and students to achieve its goals of growth, economic development and raising the standard of living for members of society. This may lead to changing the quality of life for the entire community and increasing its prosperity.

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Conference President word

Vice President
for Post Graduate Studies and Research

Prof. Nasser El-Gizawy

The new competitive conditions resulting from the knowledge economy and the challenges of the fourth and fifth industrial revolution make it imperative that universities put in place new policies that promote innovative capacity-building and innovation. The development tools are used to connect universities with the industrial sector as an effective step towards achieving one of the State's objectives in the Science, Technology, and Innovation Strategy 2030, namely, "to create a conducive and supportive environment for science, technology and innovation", to encourage the application of scientific research outputs and to deepen local industrialization.

In view of the Egyptian universities distinction in a number of scientific disciplines (engineering and technological sciences, physical sciences, life sciences, clinical and health sciences) according to the British Times rating of higher education institutions, Benha University is currently aiming to serve as a leading model for Egyptian universities in education, scientific research and undergraduate and community life. The university is encouraging innovators to contribute to the community, and to turn innovative ideas and inventions into economically valuable products, raising the university to a top regional and global level of innovation.

Therefore, the university is seeking to invest in knowledge and transform third-generation universities to harness knowledge to build a positive work environment and culture that supports innovation and continuous development in the service of development and the national economy, and to apply systems and mechanisms that promote the participation of government institutions and the private sector in the application of innovation efforts and participation in achieving the strategic goals of the state in critical areas. This will lead to achieving an active and sustainable partnership between the university and the public and private sectors, contributing to development, and helping to support new projects based on the generation of ideas and creativity.

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Conference Coordinator word

Vice Dean for Post Graduate Studies and Research
Faculty of Medicine

Prof. Hesham Rashid

In the beginning, I would like to thank His Excellency the President Benha University Prof. Gamal Sosa and His Excellency the Vice President of Benha University for Post Graduate Studies and Research Prof. Nasser Al-Gizawy for their confidence to participate in organizing the 1st Annual Conference of Post Graduate Studies for Applied Science Benha University, which aims to bring together young researchers at the university and abroad under the slogan "Building the capabilities of young researchers".

The conference, which lasts for two consecutive days, is structured around four main themes: Medical, Basic Science, Engineering Sciences, Applied Biosciences, and the best research will be presented.

My sincere thanks and appreciation to my colleagues in the organizing committee of the conference, and my wishes to graduate students for a distinguished scientific conference to realize our aspirations in distinguished applied scientific research beneficial to our society and our beloved Egypt.

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Under Auspices of :

Prof. Dr. Gamal Sosa
President of Benha University

Prof. Dr. Nasser El-Gizawy
Vice President for Post Graduate Studies and Research of Benha University
(Conference President)

Prof. Dr. Hesham Rashid
(Conference Coordinator)

Prof. Dr. Aly Abd-Elmaboud Aly
(Conference Secretary General)

Prof. Dr. Mohamed H. Refaat
(Associate Editor Benha Journal of Applied Sciences)

Conference Committees

Scientific Committee

Name	Position
Prof. Nasser El-Gizawy	**Vice President for Post Graduate Studies and Research of Benha University.** **(President of the Conference)**
Prof. Hesham Rashid	**Vice Dean for Post Graduate Studies and Research Faculty of Medicine.** **(Conference Coordinator)**
Prof. Aly Abd-Elmaboud Aly	**Vice Dean for Post Graduate Studies and Research Faculty of Science.** **(Secretary General of Conference)**
Prof. Mohamed H. Refaat	**Vice Dean for Post Graduate Studies and Research Faculty of Agriculture at Moshtohor.** **(Associate Editor Benha Journal of Applied Sciences)**
Prof. Ghada M. Amer	**Vice Dean for Post Graduate Studies and Research Faculty of Engineering at Benha.**
Prof. Hanaa Abd El- Gawad	**Vice Dean for Post Graduate Studies and Research Faculty of Nurcing.**
Prof. Osama Nada	**Vice Dean for Post Graduate Studies and Research Faculty of Applied Arts.**
Prof. Ali A. El- Sagheer	**Vice Dean for Post Graduate Studies and Research Faculty of Engineering at Shoubra.**
Prof. Ayman Samir Fraid	**Vice Dean for Post Graduate Studies and Research Faculty of Veterinary Medicine.**
Prof. Mohamed Taha Abd El-Fatah	**Vice Dean for Post Graduate Studies and Research Faculty of Computer and Artificial Intelligence.**

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Organizing Committee

Name	Position
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Prof. Dr. Tamer Samir	Vice President for Education and students Affairs
Prof. Dr. Hesham Rashid	Vice Dean for postgraduate and Research, Faculty of Medicine
Prof. Dr. Aly Abd-Elmaboud Aly	Vice Dean for postgraduate and Research, Faculty of Science
Prof. Dr. Mohamed H. Refaat	Vice Dean for postgraduate and Research, Faculty of Agriculture
Prof. Dr. Osama Nada	Vice Dean for postgraduate and Research, Faculty of Applied Arts
Prof. Dr. Ghada Amer	Vice Dean for postgraduate and Research, Faculty of Engineering at Benha
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Prof. Shima Salah	Supervisor of the Educational Studio
Dr. Haidy Yousef	Supervisor of the printing and publishing centre
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Dr. Mervat Gameel Hassan	Faculty of Science
Dr. Riham El Gendy	Faculty of Applied Arts
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Mr. Ahmed Ragab	General Manager of Scientific and cultural relations
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Ms. Nehal El Farghaly	Vice President office for postgraduate &Research

Ms. Shimaa Ragab	**Vice President office for postgraduate &Research**
Ms. Ansaam Alshamy	**Vice President office for postgraduate &Research**
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Ms. Nehal Gamal Mohamed	**Scientific Research Fund**
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Ms. Samah Rashed	**Scientific Research Fund**
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Mr. Asmy Rashad Farih	**Administration of Postgraduate studies & Research**
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Mr. Adel Abdallah	**Media office**
Mr. Ibrahim Gouda Khaled	**Media office**
Ms. Nfessa Aly Ismael	**Media office**

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Scientific Sessions

Plenary Session
Keynote Speakers

Climate Changes

Biography

Prof. Ali Shams El Din: Professor Emeritus, Former President of Benha University, Dr. Shams El Din holds a PhD in Agricultural Chemistry from Agro Paris-Tech France. Currently, he is the President of Edugate, Egypt and President of Massira (NGO). Member of the Board of Directors and Executive Committees of several organizations like the Federation of African Agricultural Engineers, and the Board of the Arab European Leadership Network in Higher Education (ARELEN). He was Member of the board of Information Industry Technology Development Agency (ITIDA), holding Company for Biological Products and Vaccines (VACSERA). Participates in key projects with organizations such as the British Council, Fulbright Commission, Former Cultural and Educational Attaché in the Egyptian Embassy in London.

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4th Industrial Revolution and Future Jobs

Biography

Prof. GhadaAmer: is Vice Dean for Postgraduate Studies and ResearchFaculty of Engineering – Benha University, the President of Centre for Strategic Studies of Science and Technology, and V.P. at Arab Science and Technology Foundation. She holds few more positions within her profession, like the Director of Innovation and Entrepreneurship Centre at Benha University, the CEO, and the Co-founder of ASTF innovation Lab, the ex-Head of Electrical Engineering Department at Benha University, and the CEO of the Global Awqaf Research Centre.

because she believes on the important of R&D and innovation for community, she selected in 2016 to be one of the Rolex Enterprise Awards for Innovation Jury members. Also, she selected from the International Federation of Engineering Education Societies (IFEES) and the Global Engineering Deans Council (GEDC) as one of the inspiring stories for women in STEM filed in Rising to the Top Book Volume IV: African Women Engineering Leaders Share Their Journeys to Professional Success.

This webinar will feature five co-authors listed below from Rising to the Top Volume IV, set to be published in July 2021.

She was names in Jan 2014 as one of "Top 20 Influential Muslim Women Scientist in the World", by on Muslim-Science Magazine. And named as the "Personality of the Year", from Muslim Science magazine, United Kingdom 2015, Also she ranked the first place for the 50 most prominent leader in entrepreneurship of the Arab woman in 2014 issued by the Sayidaty magazine, and in 2016,2017 she named one of the "the 500 Most Influential Muslims in 2016", in the field of science and technology, by The Royal Islamic Strategic Studies Centre.

She published about 42 papers in international journals Prof Ghada is an active advocate on socio-economic development that is based on RDI within her country and the region. She worked since 2009 as a volunteer with the Arab Science and Technology Foundation and later joined as a volunteer Manager for Women Programs. For her active participation, Prof. Ghada elected as a member of the Board of Directors (2011) then the VP.of the Foundation (since 2012). Within her involvement with the ASTF, she developed and led more than twenty projects and programs to support scientific development and entrepreneurship. During the past three years (by fundraising), she was able to raise more than $ 2 million, to support research, innovation, and entrepreneurship activities that aim to create jobs and to support the Arab community. She helped to established 142 startups on innovative ideas from the region.

****

Deep Technology Incubators Toward Sustainable Universities

Biography

Dr. Amr Al-Awamry: is CEO of Benha University Biotechnology incubator. He is also a certified mentor by Mowgli, a certified Ideation Camp trainer from Intel and TIEC (Technology Innovation and Entrepreneurship Center), and a certified Enterprise Design Thinking Practitioner by IBM. He has a long track record in providing training in innovation management and entrepreneurship. Dr. Amr is also an Assistant Professor at the Faculty of Engineering in Benha University. He received his Ph.D degree from St. Petersburg Electrotechnical University, Russia in 2012, his M.Sc. from Communication department in Benha Faculty of Engineering Egypt in 2005 and the B.Sc. degree in Communication Engineering –Benha Faculty of Engineering, Egypt, in 1999.

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MEDTECH Incubator : The Idea & The Challenge

Biography

Dr. Ayman Nada: the principal investigator of MEDTECH Incubator, currently is the head of Mechanical Engineering Department - Benha Faculty of Engineering. He is the founder of FABLAB-Jazan, the largest FABLAB in southern KSA. He was a scientific member in the Innovation and Entrepreneurship Unit, Jazan University from 2008-2018. He attended many courses during his stay in KSA in talent, creativity and critical thinking by Johns Hopkins University. He also has earned a MircoMaster program certified in managing technology & Innovation from RWTH Aachen University - Germany. Dr. Nada has many international publications in mechatronic, medical and multibody systems design and synthesis.

****

Development of rechargeable Magnesium Battery : from Lab to the Market?

Biography

Prof. Eslam Sheha: currently holds Professor in physics Department, Benha University. Eslam received his PhD from Benha University in 2007.

Overall research goal is to elucidate the mechanisms that govern ion transport and applying such an understanding to the development of advanced solid electrolytes and functional nano and micro-scale materials for and advanced batteries for grids large scale storage energy storage. He aims establishing a new class of magnesium cells based on non-traditional materials and demonstrated record power densities for these cells. His more recent and future work on electrolyte and cathode for magnesium battery will create new avenues to meet energy demands. Characterization tools range from A.C. impedance spectroscopy in a variety of configurations to x-ray, electrochemical and thermal analysis. Eslam is the author and co-author of more than 45 peer-reviewed journal articles, 1 book chapter.

****

The Role of TICO-Benha University in Strengthening the Management of Intellectual Property

Biography

Prof. Ayman Samir Farid: Vice-dean for postgraduates and research affairs.
Professor of Clinical Pathology, Faculty of Veterinary Medicine, Benha University, EGYPT.

- PhD from United Graduate School of Veterinary Medicine, Yamaguchi University, Japan (2009)
- Awarded "Yamaguchi University President Award for the Best PhD Graduate" (2009)
- Ex-JSPS fellow (2009~2011) and ex-postdoctoral fellow (2011-2012) at University of Miyazaki.
- Awarded Best Practical Research in Japan (2011).
- Awarded the Incentive University Award (2016); from Benha University, EGYPT.
- Director, Innovation and Entrepreneurship Center (IEC), Benha University (2018~till now)
- Director, Technology Innovation Commercialization Office (TICO), Benha University (2020~till now)
- Have more than 50 REFERRED PUBLICATIONS.

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Topics of Heath & Clinical Science

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1.Comparative Study Between Results of Fixation of Unstable Metacarpal Fractures Using Bouquet Technique Versus Mini-plate and Screws.

Basiony, H. A.; Tabl, E. A. and *Ahmed A. A.
Orthopedic Surgery, Dept., Faculty of Medicine, Benha Univ., Egypt.
*E-mail: Ahmed.abdelMajed21@fmed.bu.edu.eg

Abstract

Metacarpal fractures are difficult to treat since there is no clear evidence on the optimal course of action. The goal of this research was to compare the clinical and radiological outcomes of displaced metacarpal fractures treated with an antegrade intramedullary nail (Bouquet procedure) vs a low-profile micro plate. Methods: A total of 20 metacarpal fractures were deemed surgically fixable, and 10 were treated using the Bouquet approach (antegrade intramedullary nailing) (group I), whereas the other 10 were treated using the low profile micro plate (group II). For one year, all patients were followed up on subjective and objective criteria (PVAS, Q-DASH, grip strength TAM, blesky score radiography (union and residual deformity), complications, operational time, and time to union) to evaluate the success of the procedure. Time to radiological union was not significantly different between PVAS, Q-DASH, and TAM. Remaining malformations or grip strength blesky score In the k-wire group, operative time and time off work were dramatically reduced. It was found that antegrade intramedullary K-wire nailing (Bouquet technique) was superior for the management of unstable metacarpal fractures because it required less operative time and anaesthesia. A low-cost, low-tech solution that does not upset the fractured biosphere.

Keywords: Metacarpal,Bouquet,Mini plate.

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2.A systematic Review to Compare between Bridging Plate and Spanning External Fixator in Management of Comminuted Distal End Radius Fractures

Kazem, G. E.; Bakr, A. I. and *El-Deeb, M. F.
Orthopedic Surgery, Dept., Faculty of Medicine, Benha Univ., Egypt.
*E-mail:meldeep73@gmail.com

Abstract

Background: The use of a spanning external fixator in the treatment of distal radius fractures is well-established. It is a relatively new technique that builds on the concept of spanning and fixing a reduced and distracted distal radius fracture, but it has some additional potential benefits, including less obvious hardware complications, the ability to keep the hardware in position for longer, and the ability to allow immediate weight bearing over the fractured distal radius. Upper extremity surgeons benefit from having both methods at their disposal. In this study, researchers compared the effects and outcomes of internal fixation with bridging plates and external fixation of comminuted distal end radius fractures. Methods: Searches were conducted using keywords (Distal radial fractures, Bridging plate fixation, Radius, Comminuted radial fractures, external fixation, distal radius spainning external fixator). It was necessary to conduct a complete literature search from the SCI, PubMed, Cochrane Library, and Embase between January 2000 and October 2021 in order to identify all publications related to the research aim. The number of patients, average age, and length of time between internal and exterior fixation were all statistically examined. PubMed, MEDLINE and Life Science Citations were all searched. As a result, in 37% of patients treated with spanning external fixation, a pin track infection developed. An advantage of using a bridge plate over a spanning external fixator was shown in our analysis of individuals who had had treatment with the device. According to the DASH system, there was no difference between the two groups. For distal radius fractures, bridge plating looks to be a viable option to Spanning external fixation. In terms of clinical superiority and safety, there are only a limited number of comparison trials to make conclusions. For distal radius fractures, bridge plating looks to be a viable option to Spanning external fixation. In terms of clinical superiority and safety, there are just a few comparison trials to make conclusions. Preliminary comparison studies comparing the Spanning external fixator and bridge plating might be useful in the future, looking at both functional and radiographic results and problems.

Keywords: Bridging Plate, Spanning External Fixator, Management, Comminuted Distal End Radius Fractures.

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3.Minimally Invasive Sinus Tarsi Approach for Open Reduction and Internal Fixation of Intra Articular Calcaneal Fracture with Subtaler Joint Depression

Bayomy, E. M.; Esmail, A.; Alewa, M. and Allam, A. M.
Orthopaedic Surgery, Dept., Faculty of Medicine, Benha Univ., Benha, Egypt

Abstract

Diagnosis and surgical treatment of displaced intraarticular calcaneal fractures have long been hotly debated topics in orthopaedics. In these individuals, it's important to keep an eye out for any soft tissue issues or coexisting diseases. Stability, anatomic reduction of the fracture, and preservation of soft tissue may all be achieved with the minimally invasive sinus tarsi technique. 31 individuals with 34 fractures were included in our research, with an average age of 34. (typell 47 percent and type lll 53 percent) There was a mean follow-up time of 20.45 months, a mean AOFAS of 91.38 percent, and a mean MFS of 94.79 percent for all patients. A less invasive incision allows for better vision and anatomic reduction of the articular surfaces while minimising the risk of complications.

Keywords: Fracture calcaneus, Sanders, Sinus tarsi, Limited open, Intra-articular fractures, less invasive.

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4.Evaluation of the Results of Local Injection of Corticosteroid Versus Platelet Rich Plasma in Treatment of Plantar Fasciitis

***Bashareef, B.; Essmat, E. E.; Bayomy, S. and Abouzied, M.**
Orthopaedic Surgery, Dept., Faculty of Medicine, Benha Univ., Benha, Egypt
*E-mail:Bahaa124@gmail.com

Abstract

An orthopaedic illness that may be difficult to cure, chronic plantar fasciitis is a prevalent one. In the treatment of chronic instances of plantar fasciitis refractory to typical nonoperative care, autologous platelet-rich plasma (PRP), a concentrated blood component high in growth factors, was compared to steroid injection in this research. Methods: PRP or steroid injections were given to 30 patients with chronic plantar fasciitis who had previously failed to respond to conservative therapy. Roles-Maudsley, Visual Analogue, and American Orthopaedic Foot and Ankle Society (AOFAS) scores were used to evaluate each patient. Pre-treatment, three weeks after injection, and three months afterwards, data was gathered and compared. Results: There was no statistically significant difference between the two groups before injection. All three outcome scores increased considerably from their pretreatment level in both groups, although after 3 months, the scores of the RM, VAS and AOFAS scores in the PRP arm (1.47, 2.20 and 98.00) were significantly better than the Steroid arm (2.80, 4.00 and 71.46) When it comes to relieving the symptoms of persistent plantar fasciitis, PRP is just as effective as steroid injections, but unlike steroids, its impact does not wear off. At three months, PRP outperforms steroid injections in treating chronic recalcitrant instances of plantar fasciitis, making it a better and more long-lasting therapy option. Disabling, intractable plantar fasciitis may benefit from the use of PRP injections as a therapy option.

Study design: Cohort study.
Level of Evidence: Level I, prospective randomized comparative study.

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5.Factors Associated with Dysfunctional Low Back Pain in Patients with Rheumatoid Arthritis

Fouda, A. I.; Ali, A. Y.; Ibrahim, N. H.; Galal, O .T. and * Sakr, R. M.
Rheumatology, Rehabilitation and Physical, Dept., Faculty of Medicine, Benha Univ., Egypt
*E-mail: ranasaker76@yahoo.com

Abstract

Background: An estimated one-tenth of the population suffered from Rheumatoid Arthritis (RA), the most prevalent chronic inflammatory arthritis. The purpose of this study is to identify the risk factors for dysfunctional low back pain in RA patients, as well as to examine the relationship between these variables and the severity, activity, and clinical symptoms of the illness**. Methods:** This study included 40 RA patients and 40 age and sex matched healthy individuals with low back discomfort. All patients were subjected to back examination, assessment of RA disease activity using the disease activity score (DAS28), clinical assessment of RA disease severity using RA severity score (RASS) and the modified Larsen score (MLS). Structural radiographic changes were evaluated by plain radiograph and magnetic resonance image (MRI) on lumbar spine. **Results:** RA patients had higher DAS, visual analogue score (VAS), RASS, increased Platelet count, low Hemoglobin percentage and total leukocyte count, vertebral endplate and/or facet erosion, disc bulge and disc prolapse in MRI of the back which are linked to dysfunctional lower back pain. **Conclusion:**Radiological lumbar abnormalities, particularly lumbar spondylolisthesis, are common among RA patients. Furthermore, despite the fact that LBP in RA patients was effectively managed, the activity of daily living may be more influenced by LBP, which was higher among patients with active disease status. These findings show that RA patients' lumbar therapy should focus on disease management as well.

Keywords: Dysfunctional Low Back Pain, Rheumatoid Arthritis, modified Larsen score, RA severity scale.

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6.Comparison of Rebound Tonometry and Goldman Applanation Tonometry in Measuring Intraocular Pressure in Healthy Subjects

Nawwar, M. T.; *Ahmed, R. M.; Ourouk, W. M. and Higazy, M. T.
Orthopaedic Surgery, Dept., Faculty of Medicine, Benha Univ., Benha, Egypt
*E-mail:Rana.ahmed.abdelaziz86@gmail.com

Abstract

Background: Intraocular pressure (IOP) is an eye parameter of fundamental importance for the diagnosis of several eye conditions, including glaucoma, ocular hypertension, uveitis and trauma. This study aimed to evaluate the difference between IOP measurements taken by a Goldman Applanation Tonometer and those taken by -care Tonometer. Methods: this cross-sectional study comprised 180 eyes from 90 subjects' males and females with age ranged between 16:62 years old. All patients in this study underwent Full history and full ophthalmic examination and assessment of visual acuity: Uncorrected visual acuity (U.C.V.A.), best corrected visual acuity (B.C.V.A.), Refraction using NIDEK Auto-Refractometer-Keratometer, anterior segment examination by slit-lamp biomicroscopy, Intraocular pressure (IOP) measurement using Goldman Applanation Tonometer (Haag – Streit At 900˚ Swiss Made) and Handheld non-contact icare IC100 , fundus examination (including posterior vitreous, disc and macular examination). Results: There were highly significant differences between IOP measurements taken by I care and IOP measurements taken by Goldman Applanation Tonometer ($p < 0.001$); the mean of IOP measured by I care (15.73±3.58) was significantly lower than the mean IOP measured by Goldman (17.35±1.99), Conclusion: the I-care tonometer almost constantly produces IOP measurements lower than those of the gold standard Goldman Applanation Tonometry.

Keyword: Tonometry, Goldman Applanation, Intraocular Pressure, Glaucoma.

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7.Evaluation of Neuropathic Pain in Rheumatoid Arthritis Patients: Relation to Clinical and Laboratory Findings

Elbrashy, A.S.; Soliman, A. F.; Khalil, M. E.; Ibrahim, N. H. and *El Saeid, O. G.
Rehabilitation and Physical Medicine, Dept., Faculty of Medicine, Benha Univ., Egypt
*E-mail:olfatgamal20@yahoo.com

Abstract

Background: Rheumatoid arthritis is a multi-system autoimmune disorder predominantly involving multiple small and large joints along with certain extra-articular manifestations with the incidence of around 39.19% as per previous studies. The presence of peripheral neuropathy in patients with rheumatoid arthritis contributes significantly to the functional limitation in patients with rheumatoid arthritis. Early diagnosis and treatment of peripheral neuropathy has been shown to improve both physical and functional disabilities of patients with RA. Objectives: The objective was to assess neuropathic pain in patients with rheumatoid arthritis (RA) having neuropathic symptoms and to evaluate the relationship between electrophysiological findings and clinical &laboratory findings of RA.Materials and Methods: Consecutive patients of RA were recruited. Detailed clinical examination and electrophysiological tests were done to diagnose peripheral neuropathy. The demographic and clinical parameters were noted and tabulated. Student's t-test was used to analyze continuous variable, whereas Chi-square test was used for analysis of categorical variables. **Results:** Of 60 patients with RA, 75.28% (n = 45) patients had peripheral neuropathy electro-physiologically. Statistically significant association between the presence of neuropathy and age of the patients, disease duration, use of disease-modifying antirheumatic drugs, disease severity (disease activity score-28), and activity in ultrasonography ($P < 0.05$).**Conclusion:** Patients with RA, especially elderly patients, should undergo electrophysiological testing to rule out peripheral neuropathy. Electrophysiological study is a diagnostic and gold standard tool to diagnose subclinical neuropathy in patients with RA.

Keywords: Rheumatoid arthritis, Neuropathic pain, Peripheral neuropathy.

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8.Evaluation of Different Concentrations of Hydrogen Peroxide Gel *(*10% and 20%*)* as a Potential New Therapeutic Option of Genital Warts

Sanad, E. M. K.; Ibrahim, S. E. and *Abdulemam, H. A.
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Abstract

Background: Genital warts are a kind of sexually transmitted diseases caused by certain types of human papillomavirus (HPV). The main clinical manifestation of genital warts is benign hyperplasia of the skin and mucous membrane in the genitalia, anus and perineum. Genital warts not only affect physiological function but also cause psychological stress. HPV is the most common sexually transmitted infection globally, and most people are infected at some point in their lives. One major benefit of the H2O2 gel does not destroy healthy, uninfected tissues nor results in significant systemic side effects, local side effects such as irritation, necrosis of tissue surrounding the wart, allergic rashes, scarring, disfigurement, or discomfort to the human treated there with. The aim of the present study was to assess the evaluation of different concentrations of hydrogen peroxide gel (10% and 20%) as a potential new therapeutic option of genital warts.**Methods:**This study is an interventional study which included 30 patients suffering from genital warts. All patients were selected from the outpatient clinic of dermatology and andrology department at Benha university hospitals. **Results:**There was no Statistical difference regarding age and gender between study groups. There was no statistical difference regarding disease duration.There was no statistical difference regarding Numbers and size of warts before treatment.Number of lesions decreased significantly in the three studied groups after 6 weeks of treatment.size of lesions decreased significantly in the three studied groups after 6 weeks of treatment.There is statistical difference regarding partial Treatment responses of study groups after 2 and 6 weeks.There is significant statistical difference regarding complete Treatment responses of study groups after 2 and 6 weeks.Size and number of lesions had negative impact on treatment responses. There was no statistical difference regarding Side effects recorded. **Conclusion:** Hydrogen Peroxide Gel **(10% and 20%)** was effective as treatment for genital warts with more efficacy of Hydrogen Peroxide Gel 20% than 10% with no severe side effects and more response rate. A once-daily application of topical H2O2 gel at bedtime for 6 weeks can be considered a an effective, safe, cheap, and easy to use new topical treatment for genital warts with low recurrence rates.

Keywords: Hydrogen Peroxide Gel, Concentrations, Therapeutic Option, Genital Warts.

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9.Serum Level of Programmed Death Ligand1 in Alopecia Areata Patients in Relation to Disease Severity

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Abstract

There is an estimated lifetime risk of 1.7% for sufferers of autoimmune hair loss condition Alopecia areata (AA). Alopecia areata (AA) is a common symptom of AA, and it may affect any part of the body. Prevalence among young and middle-aged individuals ranges from 0.9% to 6.9 percent. Most individuals (50–60 percent) acquire AA before they are 20 years old, however the condition may arise at any time. However, genetic and environmental variables have been shown to have a significant role in the development of AA. It has been suggested that the collapse of the immune privilege of the hair follicle is a crucial factor in the development of Alzheimer's disease. As a 40kDa type 1 transmembrane protein, programmed death-ligand 1 (PD-L1) plays a crucial role in dampening the adaptive arm of the immune system, according to some researchers. Additionally, PD-L1 helps to build immunological privilege sites. PD-L1 levels in patients with AA were studied to see whether they were associated with disease severity. Researchers used 60 men and women with AA and 20 healthy volunteers for this case-control research at the Dermatology and Andrology Clinic at the Benha University Hospitals. An ELISA method and the SALT score were used to determine the severity of illness in the patients' group for programmed death ligand 1 serum levels. There were no significant variations in age or sex between the groups in this investigation. There are no major variations in family history between the two groups. In 10% of instances, a member of the patient's family had a history of alcoholism. SALT scores were used to determine severity. There was a significant difference between the AA group and the control group in terms of PD-L1 levels in the present research. SALT score was positively correlated with PD-L1 level. PD-L1 was shown to be an independent predictor of AA severity. The findings of this research show that PD-L1 has a role in the aetiology of AA. As an indicator of the severity of the condition, PD-L1 might be employed. In addition, this research might lead to the development of novel treatment options for AA patients.

Keywords: Serum Level of Programmed Death Ligand1,Alopecia Areata.

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10.Serum Uric Acid and Folic Acid Levels in Acne Vulgaris Patients

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Abstract

Many people are plagued with acne vulgaris, a common skin disorder that has a negative impact on their lives. Recently, the topics of serum folic acid and uric acid (UA) have come up. It is our goal to examine the uric acid levels in acne vulgaris patients with and without a history of folic acid deficiency in healthy individuals. The following are the research topics and procedures: The patients' group contained 60 people with mild or moderate acne vulgaris, whereas the control group included twenty healthy volunteers of the same age and sex. The worldwide acne grading system was used to determine the severity of the acne (GAGS). All individuals had their serum folic acid and uric acid tested using ELISA as well as a colorimetric method. Results: There was no statistically significant difference in age, gender, or BMI between the patients and control groups (BMI). The median folic acid and UA levels were significantly different between the patient and control groups (P= 0.001, 0.009, respectively). It was shown that individuals with a favourable family history and those with scars had substantially higher median UA (P= 0.001, 0.001). There were significant connections between BMI and GAGS score (P = 0.01, 0.007). Serum UA and folic acid, according to the results of this investigation, may have a role in the inflammation of acne. The specific method by which serum UA and folic acid rise in acne sufferers is unknown at this time, and additional research is needed to corroborate this.

Keywords: Uric Acid, Folic Acid, Acne Vulgaris.

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11.Tissue Expression of Survivin in Hypertrophic Scars before and after Intralesional Bleomycin

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Abstract

This 16.5 kDa protein is a member of the IAP gene family, which controls cell division, proliferation, and survival by inhibiting the apoptotic process. No detectable or only extremely low levels of survivin expression are present in normal tissues; on the other hand it is present at comparatively larger levels in certain malignant tissues, embryonic and foetus tissues, as well as in only few adults and some of their normal tissues, such as their skin. Antitumour, antibiotic, and antiviral properties are all present in the cytotoxic substance, bleomycin. pyrimidine and purine bases are eliminated by binding to DNA and producing strand scission. Purpose of Study: To discover how survivin plays a role in hypertrophic scar (HTS) aetiology as well as to measure tissue levels of survivin before and after intralesional bleomycin therapy. In this study, the intralesional bleomycin was administered to 20 patients with HTS, while 20 healthy persons of same age and sex served as a control group (Group B). Real-time polymerase chain reaction was used to measure the serum levels of survivin in all of the participants in the study (RT-PCR). Survivin gene expression was considerably elevated in the HTS group prior to treatment compared to healthy control gene expressions. The HTS group, on the other hand, demonstrated a substantial decrease in survivin gene expression after treatment as compared to the control group and before to treatment. Substantial positive link with scar size and total baseline VSS score was found for survivin gene expression at baseline; however, significant negative correlations were found for improvement. There was a substantial positive link between total VSS score after therapy and survivin, whereas a significant negative correlation with improvement. Survivin did not have any significant associations with any of the other HTS parameters. Using age, gender, smoking, and baseline survivin gene expression as confounders, logistic regression analysis was used to predict the development of HTS. Survivin was believed to be a risk factor for HTS. Age, gender, smoking, duration, previous treatment, and baseline survivin gene expression were all taken into account as potential confounders in a linear regression model used to estimate the severity of HTS (higher VSS score). Survivin gene expression was shown to be an independent risk factor for the severity of HTS (B=6.586, p=0.045) at the beginning of the study. Survivin gene expression may have a role in HTS pathogenesis, according to our results in addition, its level may be used as a predictor of HTS vulnerability and severity on its own.

Keywords: Bleomycin, Hypertrophic scar, Survivin.

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12.Serum 3 alpha diol G level Evaluation in Female Patients with Acne Vulgaris

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Abstract

Objectives: to evaluate the serum level of 3 alpha diol G in patients with Acne Vulgaris (AV). Background : AV is a clinical sign of Cutaneous Hyperandrogenism (CHA), one of the most frequent endocrine disorders in women of reproductive age .Women referred to the endocrine clinics for skin symptoms of hyperandrogenism (HA) should undergo laboratory work up; to evaluate hormone measurments and receive anti androgen therapy. Materials and methods: This study included 20 female patients with AV presented to the Outpatient Clinic of Dermatology and Andrology Department of Benha University Hospitals between March 2021 and September 2021 and 20 healthy female volunteers were included in this study. The serum 3 alpha diol G was measured by ELISA method. Results: The current findings confirmed that there was statistically significant difference between patient group and control group as regard to the 3 alpha diol G levels. Conclusion: The 3 alpha diol G may have arole in the etiopathogenesis of AV.

Keywords: Acne vulgaris, Hyperandrogenism, Cutaneous Hyperandrogenism, 3 alpha diol G.

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13.The Efficacy of Fractional Co_2 Laser in Treatment of Post Acne Scars

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Abstract

One of the most common dermatological diseases is acne. Acne scars and pigmentation may have a dramatic psychological effect on people who suffer from severe breakouts. Laser, radiofrequency, chemical, surgical, microneedling, fillers, and/or fat injections are all current therapeutic methods. With less reported downtime than lasers or chemical peels, fractional radiofrequency-based treatments have lately been utilised to reduce acne scars with less risk of scarring or hyperpigmentation. Fractional Co_2 Laser therapy of acne scars is the focus of this study. There were 15 individuals with post-acne scars who participated in this research. Fractional Co_2 Laser was used on the right side of the patients. They had three monthly sessions of treatment. The sessions were completed in all instances. The mean pain score for the first session of fractional CO_2 laser treatment was 60. Within two sessions, it dropped to 57.3 and then to 52.7, indicating a substantial reduction in discomfort with time (p=0.039). Mean improvement scores increased significantly over time (p0.001), according to the findings of this investigation. It was shown that there was a significant difference in the improvement grades across sessions when the improvement score was stratified into grades of moderate and outstanding. Erythema (100 percent) and edoema (20 percent) were the most common side effects of fractional CO_2 laser treatment. There aren't any hyperpigmentation or scars to be seen here. Conclusion: Fractional Co_2 improved the patient's score greatly, but it was also related with more severe pain and more erythema than usual.

Keywords: Fractional Co_2 Laser, Treatment, Post Acne Scars.

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14.Assessment of Serum Level of C1q/TNF Related-Protein Isoform 15 inPsoriatic Patients

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Abstract

Background: Psoriasis is a chronic inflammatory skin disease, affecting 1.5–3% of the world population. The pathogenesis of psoriasis is complex and depends on many factors, including genetic, neurogenic, hormonal and autoimmune. The present study aims to evaluate serum C1q/TNF-related protein isoform 15(CTRP15)level in psoriatic patients. This case control study included 80 subjects divided into 2 groups **Group A** included 50 patients suffering from generalized plaque psoriasis and **Group B** included30 apparently healthy individuals of matched age and sex were chosen as a control group. All subjects were selected from the Outpatient Clinic of Dermatology and Andrology at Benha University Hospital from October 2020 to April 2021. Patients were told to stop using topical therapy for 2 weeks or systemic therapy for 4 weeks before the study. Psoriasis was diagnosed clinically and confirmed by dermoscopic examination and curttage test. All the patients were subjected to full history taking, complete clinical examination, and laboratory investigations as Fasting blood glucose, Lipid profile (TC,TG,HDL and LDL). Results & Conclusion: The present studyshowed that the mean age of psoriasis group was 46.3 years, they were 32 males (64%) and 18 females (36%). In addition to 30 healthy control group of matched age and gender ($p>0.05$ for each). no significant differences were found between studied groups regarding blood pressure. The present work found that patients had significantly higher BMI and WC when compared to control group and positive family history of psoriasis.

Keywords: C1q, TNF, Related-Protein Isoform, Psoriasis.

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15.Assessment of Serum Vitamin B12 Level in Patients with Acne after Isotretenoin Therapy and its Correlation to Adverse Mood Changes

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Abstract

Acne is a long-term, debilitating skin condition that mostly affects young people between the ages of 11 and 16, peaking at the age of 16, and lasting into their 20s and 30s. Depression, anxiety, and a lack of enjoyment in life on par with those who suffer from chronically crippling conditions such as asthma, epilepsy, diabetes, and arthritis are all common side effects. Vitamin B12 (cyanocobalamin) has also been linked to acne flare-ups and the emergence of acneiform eruptions, particularly in those with pre-existing conditions. Serum vitamin B12 content in individuals with acne vulgaris was examined in this research to see whether there was a link to probable unfavourable mood changes caused by isotretinoin. Methods: A total of 40 people with moderate to severe acne vulgaris were involved in this investigation. For a period of six months, all patients took oral isotretinoin at a dose of 0.5-2 mg/kg/d. For a complete course, the total cumulative dosage was 120-135 mg/kg. The average age of the participants was 20.8 years. Only 15% of the patients were men, whereas 85% of the patients were women. One-half or more of patients had one or more of the following risk factors: a healthy diet high in sugar, a family history of the disease, or psychological stress. All of the patients evaluated had a problem with their face, with the exception of one. In 5 instances, the back was harmed, but in 65 percent of cases, the course progressed. Thirty-three (72.5 percent) instances were classified as severe, while only eleven (27.5 percent) were classified as light. After using isotretinoin theraby for six months, there was a substantial decrease in blood vitamin B12 concentrations ($p = 0.0371$). Prior to therapy, 13 patients had little depression, 9 patients had mild depression, and one patient had strong depression, according to their pretreatment depression levels. Moderate acne differed significantly from severe acne. $p = 0.0285$), the severity of depression. After therapy, 14 patients had minimum depression, 16 had mild depression, and 4 had significant depression, all according to the degree of depression. Patients who received oral isotretinoin for six months showed a significant change in their level of depression before and after treatment ($p = 0.0371$). Patients with acne who are taking isotretinoin for acne may benefit from having their vitamin B12 levels checked to see whether they are at increased risk for depression. Acne patients on isotretinoin and suffering from depression may benefit from vitamin B12 supplementation.

Keywords: Serum Vitamin B12 –Acne - Isotretenoin Therapy.

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16.Role of Chest Ultrasound to Differentiate between Acute Cardiogenic Pulmonary Edema and Non-cardiogenic Pulmonary Edema (acute respiratory distress syndrome)

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Abstract

Introduction Chest Ultrasound can help in rapid treatment of acute respiratory failure in intensive care units when rapid decisions are needed and especially when patients' transport is a big difficult. Therefore, CUS can be considered an attractive complementary diagnostic tool and one of the most promising techniques for differentiation and management of critically ill patient with either acute cardiogenic pulmonary edema (APE) or acute respiratory distress syndrome (ARDS). Aim :This study was aim to clarify the role of chest ultrasonography to differentiate between ARDS(Acute respiratory distress syndrome) and Acute cardiogenic pulmonary edema in patients admitted to ICU with acute dyspnea. Patients and methods Lung US was applied to respiratory distressed patients In Benha University Hospital ICUs on 60 patients who divided into APE group (23 cases) or ARDS group (37 cases). LUS examination focused on detecting the following pleuropulmonary signs in both groups: alveolar–interstitial syndrome(AIS), absent or reduced lung sliding,spared areas ,subpleural consolidation pleural line abnormalities, and pleural effusion. Result Alveolointerstitial syndrome (AIS)was observed in 100% of APE patients and in100% ofARDS patients . Absent or reduced lung sliding was observed in 0% of APE patients and in 97.3% of ARDS patients(P=0.001). spared areas were found in 0% of APE patients and100% in ARDS patients(=0.001),lungConsolidations were present in 4.3% of APE patients in 94.6% of ARDS patients with (P=0.001). Pleural line abnormalities were observed in 13% of APE patients and in 100% of ARDS patients(P=0.001),and Pleural effusion was present in 100% Of APE patients and in 40.5% of ARDS patients with APE (P=0.001). All these signs, except the AIS sign,presented a statistically significant difference in differentiation between ARDS and APE, resulting in specific ultrasonographic pleuropulmonary signs of ARDS and APE. Conclusion Results of the current study demonastrated that LUS play asignificant role in management of respiratory failure patients especially cases of ARDS and APE in ICU by helping in rapid diagnosis and differentiation between both types in accompanying with EChocardiodraohy and IVC diameter measurement. Absence of reduced lung sliding,sparedareas,suppleural consolidation, pleural line abnormalities, on a background of AIS considered specific features for differentiation between ARDS and APE.

Keywords: acute cardiogenic pulmonary edema, acute respiratory distress syndrome, lung ultrasonography, chest ultrasound.

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17.Role of Diaphragmatic Ultrasound in Mechanically Ventilated Patients Versus Non-Mechanically Ventilated Patients with Diaphragmatic Dysfunction in Intensive Care Unit

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Abstract

Respiratory muscle ultrasound is used to evaluate the anatomy and function of the respiratory muscle pump. It is a safe, repeatable, accurate, and non-invasive bedside technique that can be successfully applied in different settings, Mastery of this technique allows the intensivist to rapidly diagnose and assess respiratory muscle dysfunction in critically ill patients either mechanically ventilated or non-mechanically ventilated.This paper provides an overview of the basic and advanced principles underlying ultrasonography of the diaphragm. We review different ultrasound techniques useful for monitoring of the respiratory muscle pump and possible therapeutic consequences. Ideally, respiratory muscle ultrasound is used in conjunction with other clinic laboratory components of critical care to obtain a comprehensive evaluation of the critically ill patient. Introduction:Over the last 25 years, numerous studies have supported the advantage of ultrasonography (US) in the assessment of diaphragmatic function. Various ultrasonographic methods, such as measurement of diaphragmatic excursions by two dimensional (BD)[1,2] or M-mode[3,4] and changes in diaphragm thickness during inspiration[5], have been proposed. In this review, we report the role of diaphragmatic ultrasound in mechanically ventilated patients versus non mechanically ventilated patients with diaphragmatic dysfunction in Intensive Care Unit Aim of the Work This work aimed to illuminate the role of diaphragmatic ultrasound in mechanically ventilated patients versus non mechanically ventilated patients with diaphragmatic dysfunction in Intensive Care Unit Methods: 100 Patients were allocated into two main groups:

- Group I : Non mechanically ventilated patients
- Group II : Mechanically ventilated patients
- Each group was divided into three subgroups
- Subgroup I : Respiratory failure patients
- Subgroup II : Stroke patients
- Subgroup III : Sepsis patients

Diaphragmatic ultrasound was done for all allocated patients and different parameters asdiaphragmatic thickness (DT), diaphragmatic thickness fraction (DTF) and diaphragmatic excursion (DE) were measured on the first day of admission and on the seventh day of admission. **The results**Evaluation of diaphragmatic thickness (DT)and diaphragmatic thickness fraction (DTF) : as percentage from the formula: (thickness at end inspiration– Thickness at end-expiration)/Thickness at end Expiration * 100. and diaphragmatic excursion (DE) are easily obtained and comparable parameters with clinical and laboratory parameters to evaluate either mechanically ventilated or non mechanically ventilated critically ill patients**Conclusion**: Diaphragmatic ultrasound parameters are useful in conjunction with other clinicolaboratory components of critical care to obtain a comprehensive evaluation of the critically ill patient**.**

Keywords: diaphragmatic ultrasound, and diaphragmatic excursion, and diaphragmatic thickness, diaphragmatic thickness fraction.

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18.The Role of early Use of Corticosteroids (Pulse Steroid Versus Regular dose of Steroid) In Patients of Severe Illness of Covid 19

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Abstract

Background:Coronaviruses are ribonucleic acid viruses, in humans the viruses may infect the respiratory, gastrointestinal, hepatic, and central nervous systems. Infection with four of the most common coronaviruses strains. usually lead to mild, self-limiting upper respiratory tract infections However, other corona viruses, are associated with severe acute respiratory syndrome (SARS-CoV) and the Middle East respiratory syndrome (MERS-CoV). **Aim:**to assess the use of systemic steroid either pulse steroid or regular dose of steroid in patient with severe form of covid 19 as regard hospital stay, need for mechanical ventilation. **Methods:** a cross sectional study, carried out on50 patients who were suspected with covid 19 by history, laboratory investigation, chest imaging and confirmed with PCR selected from the critical care unit and isolation critical care unit at Benha university Hospital. And were classified into two groups, Group1: 25 patients were received dexamethasone (8 mg per day) and Group 2: 25 patients were received solumedrol (2mg per Kg). All data will be tabulated and statistically analyzed. **Results**: the mean ICU length of stay in critically ill patients who received Dexamethasone was 12.5±4.286 versus 14.68±7.851 in critically ill patients who received Methylprednisolone (p-value=0.08). Patients in Dexamethasone group, by the 10th day, had a significantly better D dimer (1153.04±725.34 vs 1633.12±1244.8, p=0.020), ferritin, (899.14±344.22 vs 1523.8±994.44, p<0.001), NLR (3.108±0.430 vs 3.506±0.536, p<0.001), however, Methyl prednisolone group had lower mortality rate (p0.001). **Conclusion** Covid 19 is global pandemic with worldwide mortality rate that need urgent interventions from all world to face this catastrophe. However, ICU stay, d dimer, ferritin, NLR among patients who treated with Dexamethasone lower than among patients who treated with Methylprednisolone, those treated with Methylprednisolone had better mortality rates.

Keywords: Covid 19, pandemics, SARS viruses, ARDS, Corticosteroids.

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19.Lung Ultrasound: A Novel Technique for Detecting Fluid Overload in Children on Hemodialysis

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Abstract

Adult hemodialysis patients have benefited from studies on the use of lung ultrasounds. Despite this, it is still difficult to use in paediatric patients. The purpose of this research is to determine whether or not juvenile hemodialysis patients can be monitored for dry weight using lung ultrasonography to measure volume overload. Sources and Procedures: An observational research in the nephrology unit of Benha University Hospital's hospital nephrology department was conducted. The B-line scores of the dry-weight and non-dry-weight groups were compared before and after dialysis. Dialysis sessions and interdialytic periods were documented for changes in body weight and B-line scores, and the association was examined. A total of 40 lung ultrasounds were done on 20 children before to and after hemodialysis, respectively. After dialysis, all patients' B-line scores dropped significantly (p 0.001). r=0.811, p0.01 and r=0.59, p0.001 and r=0.75, p0.001 respectively) were shown to be associated with an increase in interdialytic weight, blood pressure, and the clinical fluid score prior to dialysis. When it comes to B-line score decrease, dialytic weight loss (r=0.891, p0.01) is directly and positively connected (r=0.891). Pediatric hemodialysis patients' fluid volume changes may be assessed using lung ultrasonography. In addition, lung ultrasonography may be used to assess dry weight in children undergoing hemodialysis.

Keywords: Hemodialysis, Dry weight, Fluid overload, Lung ultrasound, Ultrasonographic B-line.

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20.Magnetic Resonance Imaging for Detection of Kidney Stones in Correlation with Computed Tomography

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Abstract

The most frequent illness of the urinary system is kidney stone disease. Men in their 20s and 30s make up the vast majority of patients. An alternative to CT imaging for kidney stones is MRI, which avoids radiation risks. Since of this, traditional clinical imaging cannot catch the MR signal before it decays, because the echo times (TE's) utilised in this kind of imaging are too long. The goal of this study is to assess the effectiveness of MRI and CT in the detection of kidney stones. Methods: Those who had a kidney stone on plain X-ray, ultrasonography, or CT were part of our research. A nod of approval from the Benha University Institutional Review Board was received before the research could begin (IRB). There were 36 patients in our study, and each one signed an informed consent form after learning about the details of our research. CT and MRI scans were performed on each of them. Age ranged from 19 to 61, with 72.2 percent males and 27.8 percent females in our study sample. Workers accounted for 41.7% of the population, followed by housewives 22.2%, farmers 19.4%, and employees 16.7%. Stone density ranged from 815.63 to 340.99, with a low of 159 and a maximum of 1500, while the stone size ranged from 14.91 to 8.67, with a minimum of 6 and a maximum of 55. In contrast, the distribution of stone size and density by MRI was 15.648.16 with a minimum of 10 and a maximum of 50, respectively. We found that MRI was only able to identify 25 of the 36 instances discovered by the gold technique (CT). This indicates that MRI has a low sensitivity when it comes to stone identification (69.4 percent). The difference in stone size and density found by CT and MRI, when compared just those instances sharing positive, was extremely significant. Although CT is the gold standard for the diagnosis of renal stones because of its high sensitivity for their direct detection, MRI also plays an important role in their identification. More sequences are needed to inhibit fat in this function, which is dependent on stone size (more than 1 cm), stone position (upper or lower pole). Although CT may identify and quantify urinary tract dilatation, wall thickness, edoema and other downstream consequences of clinically active urinary stones, MRI may be more sensitive and specific in detecting and measuring these secondary effects.

Keywords: Magnetic Resonance Imaging, Detection, Kidney Stones, Computed Tomography.

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21.Role of Chest Ultrasound in Detection of Pneumothorax in Critical Care Unit Patients

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Abstract

This is a typical condition in the intensive care unit, and the term "pneumothorax" refers to a collection of air that has built up between two pleurae, either on the parietal or visceral side, and is putting pressure on the lung. Pneumothoraxes are classified into two categories: traumatic and non-traumatic. Pneumothorax may be diagnosed in ICU patients utilising the least intrusive approaches without patient transfer by employing the standard sonographic findings in the form of lung sliding, a lung pulse, B lines and a lung point. Indications one through three are extremely indicative that there is no pneumothorax, whereas signs four through six are definitive. Our study's goal is to evaluate the usefulness of chest ultrasonography in diagnosing pneumothorax in intensive care unit (ICU) residents. Methods: A prospective study of 50 patients hospitalised to the Banha University Hospitals' critical care unit with clinical evidence or a history suggesting pneumothorax illness was done. In our research, we conducted a comprehensive history-taking, clinical examination, and investigation of each patient. A CT scan confirmed the diagnosis of pneumothorax in 42 of the patients (84 percent). 70 percent of the patients had pneumothorax discovered by ultrasound, while more than a third of the patients had pneumothorax diagnosed by chest X-ray (40 percent). 45.2 percent sensitivity, 87.5 percent specificity, PPV of 95 percent, NPV of 23.3 percent, and an overall accuracy of 52 percent were found in the chest x-ray. An overall accuracy rate of 82% was achieved using chest ultrasonography. The sensitivity was 80%, the specificity 87.5, the PPV was 97.1, and the NPV was 46.7. On the other hand, X-ray and ultrasound were only somewhat consistent when it came to their agreement with CT scans (Kappa = 0.505). Conclusion: Compared to CT chest and CXR, lung ultrasound is an appropriate diagnostic modality in the ICU population for the detection of pneumothorax with higher sensitivity than CXR. It is simple, affordable, and the best bedside test with minimum exposure to ionised radiation.

Keywords: Homocysteine, Predictor, Early Neurological Deterioration, Acute Ischemic Stroke.

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22.The Role of Platelets Rich Plasma (PRP) in Recurrent Implantation Failure (RIF)

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Abstract

Infertility therapy has been advocated using a variety of ways. The implantation of many embryos is still a problem, despite the presence of a variety of assisted reproductive technologies (ART). C-reactive protein, growth factor, prostaglandin and other binding molecules are released by the endometrium when it's receptive to fertilisation. It is critical for embryo implantation if the endometrium be in the proper condition. Repeated implantation failure (RIF) is defined by the European Society of Human Reproduction and Embryology as the absence of a gestational sac in the 5-week old ultrasonography after three different embryo transfers. Autologous blood samples are used to obtain platelet-rich plasma (PRP), which has a concentration of 4–5 times that of circulating blood. ART research aimed at increasing the success rate and reducing the cost of treatment may be beneficial. The purpose of this research was to determine if intrauterine perfusion of autologous platelet-rich plasma (PRP) improves pregnancy rates in patients with RIF. Methods: Study participants were divided into two groups: Group A (PRP group), which comprised 37 women who underwent intrauterine infusion of PRP 48 hours prior to embryo transfer (ET), and Group B (Control group), which included 37 women who did not receive PRP. This study found no significant differences in demographic data or time spent unsuccessfully trying to conceive between the two groups. In terms of AMH levels, the two groups did not vary significantly. When comparing the PRP group to the control group, the AFC was considerably greater in the PRP group. The PRP group had a statistically greater endometrial thickness than the control group after treatment. In comparison to the control group, the PRP group had statistically substantially more recovered oocytes. In comparison to the control group, the PRP group had considerably more MII oocytes. Between the two groups, the number of embryos transplanted was statistically indistinguishable. There was a statistically significant difference in the number of blastocysts formed by PRP compared to the control group. The PRP group had an 81.1 percent rate of normal fertilisation compared to the control group, which was statistically significant (45.9 percent). Compared to the control group, the PRP group had a clinical pregnancy rate of 48.6 percent, which was statistically significant (18.9 percent). No statistically significant difference was seen when it came to spontaneous miscarriage rates between the PRP and control groups. To summarise, PRP infusion seems to be a safe and successful treatment for enhancing endometrial receptivity, implantation, and pregnancy, all without causing harm to the patient. Furthermore, PRP is inexpensive and made from your own blood, so there's no need to worry about immune responses or infection transmission.

Keywords: Platelets Rich Plasma, PRP, Recurrent Implantation Failure, RIF.

23.Uterine Artery Doppler and Sub Endometrial Blood Flow in Patients with Unexplained Recurrent Miscarriage

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Abstract

It is our goal to determine if Doppler is involved in unexplained miscarriage by comparing the endometrial thickness, uterine artery Doppler indices, and power Doppler assessment of the endometrial-sub endometrial vascularity of the RPL group and control group. Doppler and power Doppler evaluations of the endometrial-sub endometrial vascularity of fifty women with a history of two or more recurrent miscarriages were compared to fifty women who served as controls. Findings: In comparison to the control group, participants in the research had substantially greater PI and RI in the uterine artery (p0.001). There is no statistically significant difference between the recurrent abortion (study) group and the control group in the power Doppler detection rate of sub endometrial vascularity (p .05). However, as compared to the control group, the study group exhibits a statistically significant difference in good vascularity. While 75% of the control group had great vascularity, only 13% in study group had poor vascularity (24%) compared to 9.4% in the control group. Therefore, it is possible that poor endometrial-sub-endometrial vascularity is the cause of unexplained RPL and may be utilised as a risk factor for miscarriage on its own.

Keywords: Unexplained recurrent pregnancy loss,uterine blood flow,sub endometrial zones,power Doppler,uterine receptivity.

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24.Relation between Serum Neurotrophins at Birth and Development of Bronchopulmonary Dysplasia in Premature Infants

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Abstract

Neurotrophin concentrations were linked to preterm birth difficulties, birth weight and gestational age as a whole and/or to premature birth in the past. Neurotrophins in the blood of preterm infants and the development of bronchopulmonary dysplasia have been linked to long-term neurodevelopmental outcomes in this research. The research was done on 174 preterm neonates hospitalised to the neonatal intensive care unit (NICU) at Benha University Hospital between April 2019 and May 2020, after their parents signed an informed consent form. However, owing to kit limitations and for statistical correlation, a total of 90 cases were examined, 30 instances in each group being randomly assigned to a blinded group. The research was given the go light by the hospital's ethical scientific committee. Group 1 (preterm with BPD), Group 2 (preterm without BPD), and Group 3 (preterm without BPD) were each subdivided into 30 cases (Healthy preterm as a control group), Those who survived the first 24 hours of life were asked to come back for a follow-up visit to be enrolled in neurodevelopmental testing using Bayley Scales Of Infant and Toddler Development (BSID-III) at 24 months of age corrected age, and those who didn't were asked to come back for a second visit to be enrolled in the BSID-III. Results: Serum BDNF and NGF levels at birth in groups 1 and 2 were significantly higher than in groups 3 and 4, whereas levels in groups 3 were significantly lower than in groups 1 and 2. Invasive mechanical ventilation and supplementary oxygenation, as well as the development of bronchiolitis obliterans (BPD), are associated with lower BDNF serum concentrations at birth. Neurodevelopmental outcomes may be predicted by the level of NGF in a baby's blood at birth. We can increase our capacity to predict at birth whether a baby will be diagnosed with BPD and their long-term neurodevelopmental outcomes by measuring the concentration of serum neurotrophic factors in preterm neonates.

Keywords: neurotrophins, development, bronchopulmonary dysplasia, BPD, premature.

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25.Detection of Antimicrobial Resistance Genes in Children Suffering from HelicobacterPylori Infection

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Abstract:

Background: Adult populations across the globe have an infection rate of H. pylori ranging from 20% to 90%. In Western communities, infection rates vary from 30 percent to 60 percent; in Asian nations and poor countries, the rates might be as high as 90 percent. H. pylori infection was found in the stomachs of 72.38 percent of Egyptian students. According to reports, the incidence of H. pylori infections in Egypt ranges from 70 to 88 percent in patients with chronic active HCV infection, depending on the type of infection. The bacteria is typically passed on via bloodlines and is most often picked up as a youngster. Chronic gastritis, peptic ulcer, and gastric cancer may all occur from a lack of therapy for gas trick colonisation. It is our goal to: Antimicrobial resistance genes (metronidazole, amoxicillin, clarithromycin) in children with Helicobacter pylori infection are the focus of this investigation. An Upper Gastrointestinal Endoscopy or gastroscopy was performed on 20 children aged less than 18 years old who complained of recurring stomach discomfort and were found to have a positive test for Helicobacter Pylori infection over the course of this prospective investigation. Banha University Hospital's department of paediatrics is where the research is taking place (Hepatology and Gastroenterology clinic). A structured interview was used to gather information on the patient's age, sex, gender identity, location, onset and duration of abdominal pain as well as any other symptoms that may be associated with H. pylori infection, such as epigastric pain and vomiting, dyspepsia, and gastrointestinal bleeding. Results: There were a total of 20 patients who were randomly chosen to participate in the research. Weight 42, Height 147.2 BMI 19, BMI (Centile) 56,36 and BMI (Control) 12.10 were the averages for the Control Group, whereas for the Experimental Group, the averages were 12.7 BMI (Centile), 45.5 BMI, Height 148.5 BMI (19.24 BMI) and 66.86 BMI (Centile). The percentage of (symptoms associated with H. pylori infection) and (symptoms in the case of the control group) the percentage of Abdominal pain before meal 100%, Abdominal pain relieved by food 0%, Pain relieved by antacid 80%, Night pain 70%, Nausea 80%, Vomiting 60%, Pain aggravated by food 100%, Pain relieved by belching 30%, Abdominal distension 20%, Anorexia & Weight loss 60%, Heart burn 80% Symptoms in the Experimental group include 100% of the subjects reporting abdominal pain before meals, 0% reporting relief from abdominal pain after meals, 100% reporting pain relief from antacids, 90% reporting night pain, 80% reporting nausea, 50% reporting vomiting, 100% reporting pain aggravated by food, 20% reporting pain relief from belching, 10% reporting abdominal distension, 50% reporting anorexia and weight loss, 70% reporting heart burn, 40% reporting chest pain, and 40% reporting GIT blee.

Keywords: Antimicrobial, Resistance Genes, Children, Helicobacter Pylori.

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26.Assessment of Knowledge and Attitude of Maternity Nurses Regarding Umbilical Cord Stem Cells Collection and Banking

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Abstract

Background:Umbilical cord blood banking and collection is the process of collecting and storing umbilical cord blood in the immediate period after the birth of a baby. cord blood is considered as an alternative to bone marrow for treatment of blood immune system and metabolic disorders because of its rich source of stem cells and considered the therapy for over 80medical condition. **Design**: A descriptive study design was utilized .**Setting**: The study was conducted at obstetrics & gynecological department at Benha University hospital. **Sampling**: A convenient sample included 60 nurses. **Tools of data collection**: Two tools were used tool (I)A structured interviewing questionnaire to assess nurse's knowledge regarding umbilical cord stem cell collection and banking. tool(II**)** Modified likert scale to assess maternity nurse's attitude. **Results**: More than two thirds of maternity Nurses had poor knowledge regarding umbilical cord stem cell collection and banking , additionally, more than half of studied sample had negative attitude .Also, there was a highly positive statistically significant correlation between total knowledge and total attitude scores of the studied nurses regarding umbilical cord stem cell collection and banking. **Conclusion**: Nearly more than two thirds and more than half of the studied nurses had poor knowledge and negative attitude regarding umbilical cord blood stem cell collection and banking respectively. **Recommendation**: An educational guideline regarding stem cell collection and banking should be available at all maternity departments to help nurses to acquire the basic knowledge and practices.

Keywords: Attitude, Knowledge, Stem Cells, Umbilical Cord.

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27.Role of Speckle Tracking Echocardiography in the Diagnosis of Systolic and Diastolic Dysfunction in Patient with Septic Shock

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Abstract

Background:Sepsis is caused by an infection-induced dysregulation of the host immune system. Advanced echocardiography is being used to evaluate septic shock. Researchers studied 90 individuals with sepsis and septic shock at a single institution. Before patients were enrolled, they signed an informed consent form. The Banha University Faculty of Medicine's Ethics Committee authorised the research. Revision, coding and statistical analysis were performed on the acquired data. Patients with sepsis had a mean age of 60.43 years, while those with septic shock had a mean age of 61.15 years. When compared to the sepsis group, the septic shock group had a considerably greater heart rate, lactate, and the usage of vasopressors. The usage of vasopressors was linked to GLS. As a result, septic shock patients may be diagnosed with cardiomyopathy using a technique called speckle tracking echocardiography.

Keywords: Sepsis, echocardiogram, SOFA score.

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28.Relation between Chronic Kidney Disease and Completeness of Revascularization and Subsequent Impacts on Major Cardiovascular Events in Chronic Coronary Syndrome

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Abstract

Background: When CKD and CAD are present, they are termed a high-risk combination. Few studies particularly focus on CAD in CKD patients despite the high incidence, and it is often an exclusion factor in most trials. Study's goal was to see whether individuals with CCS who had CKD were more likely to have successful revascularization and have severe adverse cardiovascular events in the future. Aim of The work: This study aims to examine the effect of chronic kidney disease on revascularization and MACE in individuals with CCS. Patients and methods: from November 2019 to October of 2021, Benha University Hospitals and Al Ahrar Teaching Hospital will participate in an observational prospective cross-sectional multicenter research of patients with CCS. Patients with CCS who had PCI revascularization were included in the research. Affected individuals are those with an eGFR less than 60 mL/min/1.73m2. Results: a very high rate of incomplete revascularization (P0.001) was seen in this study. There was a statistically significant difference in the prevalence of MACE (P=0.037). Conclusion: individuals with chronic coronary syndrome are more likely to have an incomplete revascularization if they also have chronic renal disease. MACE is also related with inadequate revascularization.

Keywords: Chronic kidney disease, chronic coronary syndrome, Major adverse cardiovascular events.

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29.Demographic and Clinical Characteristics of Patients with Helicobacter Pylori Related Dyspepsia

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Abstract

Helicobacter pylori (H.pylori) is a common infection seen around the globe. Dyspepsia is a frequent symptom of H. Pylori infection. Patients with dyspepsia caused by H.pylori were surveyed in this research to determine their demographic and clinical features. From April 2019 to August 2020, researchers at Benha University Hospital and the department of hepatology, gastroenterology, and infectious diseases performed this cross-sectional observational study on 200 adult patients who had dyspepsia and were found to have H. pylori infection via an ELISA test for H. pylori stool ag. Males comprised 43.5 percent of the patients with H.pylori dyspepsia in this study. One in four patients were smokers, and their average age was 35.4 + 13.4 years, respectively, according to the study. There were 157 patients (78.5 percent) who reported postprandial discomfort, 90 (45 percent) who reported heartburn, and 80 (40 percent) who reported bloating. Baseline extra gastric symptoms were uncommon among these patients, with just a small percentage reporting them. In contrast, just nine edema-sufferers (4.5 percent) were found among the 26 dyspnea sufferers (13 percent). There were 31 patients (15.5 percent) who had at least one prior surgery. Twenty-two patients (11 percent) had high blood pressure, whereas fifteen patients (7.5 percent) had diabetes. Antibiotics were the most often reported prior medication use among the patients, with a total of one hundred and twenty patients reporting such use (60 percent). There were 39 patients (19.5%) with a proven PPI medication history and 32 patients (16%) with NSAIDs, however. Postprandial epigastric discomfort, heartburn, bloating, and nausea were the most common symptoms in H. pylori-associated dyspepsia. Antibiotic usage in the past was present in more than half of the patients, raising the possibility that H. pylori resistance may be impacted.

Keywords: Helicobacter, Pylori, dyspepsia.

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30.Off-Pump Technique in CABG Surgery and Its Role in Organ Protection

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Abstract

Background: The first widely acknowledged surgery for coronary artery disease is a coronary artery bypass graft (CABG), which uses a graft anastomosed between the aorta and the coronary artery distal to the lesion. In the 1960s, the first Off-pump CABG (OPCAB) surgeries were done and documented. When Cardio Pulmonary Bypass (CPB) is avoided, OPCAB might potentially give advantages such as decrease of systemic inflammation response, coagulopathy, renal dysfunction and cerebral impairment. OPCAB has become a well-established operation because of improvements in surgical methods and the development of improved cardiac stabilizing factors, particularly in high-risk patients. Off-pump approach in CABG surgery and its significance in organ preservation are the goals of this research. An OPCAB procedure may reduce in-hospital mortality and morbidity, especially for patients who are at higher risk for complications due to their medical condition.

Keywords: Off-pump technique, CABG, surgery, organ protection.

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31.Effect of Queue Management System on Quality of Nursing Care and Patient Satisfaction

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Abstract:

Background: Queuing Management System usage become a symbol of the efficiency of majority of hospital worldwide. Managing the length of the client waiting line effect on quality of care and patient satisfaction. **Aim of the study:** assess the effect of queue management system on quality of nursing care and patient satisfaction. **Research Design:** A quasi-experimental design was utilized. **Setting:** outpatient department at Saudi German Hospital Cairo. **Subjects:** A 40 nurses who working in outpatient clinics and 42 patients. **Tools for data collection;** Five tools were used as follow; Queue Management System knowledge questionnaire, Observational checklist regarding Queue Management System practices, nurses' attitude toward Queue Management System questionnaire, Quality of nursing care questionnaire and patient satisfaction questionnaire **Results:** the study results showed that, there was highly statistical significant difference improvement of nurses' knowledge scores at post and follow up program phases compared with preprogram phase, also, the most of nurses had satisfactory practice level at post program and follow up phases compared with preprogram phase, in addition, there was highly statistical significant difference improvement of nurses' attitude scores regarding queue management system throughout post and follow up program phases ; and the most of patients reported that there was high quality of nursing care level during post program and follow up phases compared with preprogram phase, finally, there was highly statistical significant difference improvement of patient satisfaction scores throughout post and follow up program phases compared with preprogram phase. **Conclusion:** Applying Queuing Management System can increase patient satisfaction and Quality of care. **Recommendations:** Hospital management should apply Queuing Management System for any service with waiting lines, For Nurses they should attended the continuous education programs, while for patients they should give feedback regarding the system and quality of nursing care.

Keywords: Patient satisfaction, Queuing Management System, Quality of nursing care

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32.Effect of an Educational Program for nurses about High Alert Medications on their Competence

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Abstract

Background: The ability of nurses to use high alert drugs (HAMs) is influenced by their training, education, and on-the-job experience. An instructional programme on HAMs for nurses was evaluated in this research to see whether it improved the nurses' skill set. An experimental design was used in this study. The research was done at the Benha University Hospital's Emergency Department. All of the staff nurses (34 in total) who work at the location stated above were included in the study. HAMs knowledge questionnaire, an observational checklist for nurses' performance, and the Nurse's competence scale were utilised to gather data. There was a high percentage (91.2 percent) of nurses who were satisfied with their immediate post-operative knowledge and follow-up performance on HAMs; a similar percentage (85.3 percent) were satisfied with their follow-up performance on HAMs; the same percentage (85.2 percent) were satisfied with their immediate post-operative performance on HAMs; and the same percentage were satisfied with their follow-up performance on HAMs; Study results showed an increase in staff nurses' knowledge, skills, and abilities about HAMs during the first few months after the program's completion, as well as during a subsequent evaluation period (after 3 months). Staff nurses' pre-, post-, and follow-up performance on HAMs showed a highly statistically significant relationship with their colleagues' knowledge, performance, and competence in those areas as well. Training sessions and seminars for nurses on HAMs should be held on a regular basis, the research found. Aside from that, researchers are looking at the elements that influence the clinical competence of people who use high-alert drugs.

Keywords: Educational program, high alert medications, nurses, competence.

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33.Effect of Inter-Parental Conflict on Psychological Well - being and Academic Achievement among Secondary School Students at Benha City

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Abstract

Background: Inter- parental conflict plays an important role in adolescence behavior which has been escalating over the years and have dire consequences on psychological well-being and academic performance on adolescents. ***Aim*:**wasto assess the effect of Inter- Parental Conflict on psychological well-being and academic achievement among secondary school students at Benha city. ***Design:***A descriptive correlational research designwasused in conducting this study.***Setting****:*The study was conducted at two secondary schools in Benha city (Umm Almuminin secondary school for girls and Qalubia National Bank secondary school for boys) from the total (5) governmental secondary schools in Benha city**.*Sample:***A cluster sample with simple random technique (28)3who was chosen from the above-mentioned setting .***Tools:*** Data was collected by using the following tools: **1st tool**A structured Interview Questionnaire**:** It consisted of two parts of Part I: Socio–demographic data of students, Part II: Socio–demographic data of family. **2nd tool** Children's Perception of Inter Parental Conflict (CPIC) Scale, **3rd tool** Psychological Well-beingScale and **4th tool**Academic Achievement Scale**.*Results****:*** Nearly half of studied students had moderate perception ofinter parental conflict, more than one third had moderatepsychological well-being and more than half had poor academic achievement . ***Conclusion:*** There was a positive correlation between of Inter-Parental Conflict , psychological well-being, and academic achievement among students. ***Recommendation:***Develop programs for adolescents for conflict resolution strategies and enable them to adapt more to the marital debate of parents and periodical workshops for school students to help them to cope with consequences of inter parental conflict & enhance their psychological wellbeing.

Keywords: Academic achievement, Inter- parental conflict, Psychological well-being,Secondary school students.

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Topics of Basic Science

1.Treatment of Nile River Water using Moringa oleifera Seed Extract in El-Sharkia Governorate, Egypt.

Ibrahim, A.A.; Hassanein, W.; Abdel-Monem M.; Morcy, M. and Ibrahim, M.

Botany , Dept., Faculty of Science, Benha Univ., Benha, Egypt

Abstract

Water treatment in Egypt's El-Sharkia governorate is the focus of this investigation. There are more questions about the long-term safety of the ecosystem and human health when using conventional water purifying technologies. Traditional techniques employ aluminium sulphate (alum) as a water coagulant. Alzheimer's disease and other neuropathological illnesses have been linked to aluminium in several studies. Plant-based coagulants like M. oleifera are environmentally safe, non-toxic, and the most promising and cost-effective solution for water treatment. The seed extract of M. oleifera is used as a water coagulant in the new water treatment technology. Using the Jar test, alum and M. oleifera are compared as coagulant agents. The Belbeis Water Treatment Station collects the water samples throughout the course of a year, in all four seasons (2019-2020). For both raw and treated water, the evaluation of physicochemical and microbiological characteristics was conducted. More importantly, iron and manganese concentrations were reduced as well as overall bacterial population. Using M. oleifera as a biocoagulant for water purification is recommended by real testing.

Keywords: Water purification, Aluminum sulphate, Alum, Traditional coagulant, Moringa oleifera, Biocoagulant.

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2.Biochemical and Molecular Characterization of Klebsiella Species Isolated from Neoplastic Patients under Irradiation Therapy

[1]Mahmoud, S. M.; [1]Abdel-Monem, M. O.; [1]Amer, M.M; [2]El-kabbany H.M and [1]Attia A. A.

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[2]Health Radiation Research, Dept., Lab.of Molecular biology and Tissue culture, NCRRT, Atomic Energy Authority (AEA), Egypt.

Abstract

Using antineoplastic radiation treatment, doctors were able to alter the human body's microbial ecology and manage any infectious issues that could arise. Antibiotic susceptibility testing of Klebsiella species multi-resistant isolates is prevalent and should be done in all instances of clinically important infections caused by these microbes. Klebsiella aerogenes are predicted to be increasingly implicated as causative organisms in infections. For Klebsiella species infections resistant to other antibiotics, the use of vancomycin is the most appropriate. Gram negative bacteria, particularly Klebsiella aerogenes, have lately received a lot of interest throughout the globe because of their synthesis of several bioactive compounds that may be used in the pharmaceutical business. IC60 3.3 and 1.1 g/ml. against HCT-116 and HepG-2 cell lines, respectively, against Klebsiella aerogenes with the presence of PKS4 biosynthetic gene SHM 4-1 was shown to be active against all bacteria tested. For the synthesis and purification of a single active antimicrobial molecule by high performance liquid chromatography, mannitol, ammonium sulphate, pH 5.5, 2% inoculum size, and three days of incubation at 24°C were used. Carbapenemase was found to be the source of this compound's NMR structural information.

Keywords: Gram negative bacteria, Klebsiella aerogenes, Vancomycin, Antimicrobial, Anticancer, carbapenemase.

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3.Bactericidal Capacity of Nano-composite against Multi-drug Resistant Bacteria Associated with Nosocomial Infections in Adult ICUs.

[1]El-Sheshtawy, H. S.; [2]Abd-Elkader, S. A.; [3]Amer, M.M.; [3]Abd El-Salam, S. S. and [4]Ibrahim, D. D.

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[2] Microbiology , Dept., at Faculty of dentistry, Sinai Univ., Sinai, Egypt,
[3] Microbiology, Botany , Dept., Faculty of Science, Benha Univ., Benha, Egypt
[4] Researcher, Catalysis department, Egyptian petroleum researching institute (EPRI).

Abstract

Nosocomial infections are those that occur in a healthcare facility or hospital environment and are known as hospital-acquired infections (HAIs). Pseudomonas aeruginosa, E. coli, Klebsiella pneumonia, Enterococci spp, Methicillin-resistant Staphylococcus aureus (MRSA), and many other bacteria are the primary causes of HAI. Resistance in bacteria can be overcome only by the intelligent and practical deployment of nanotechnology. Antibacterial resistance has cleared the path for more effective and sensitive ways for detecting and treating bacterial infections because to Nanotechnology. These nano-composites have been utilised with molecular beacons to determine bactericidal actions, target medication delivery, and anti-fouling coatings, among other purposes. More recent approaches to improving efficacy against MDR bacteria, such as combining more than one nanoparticle with polymer (Nano-composites), have also been summarised. Nano-composite may be used to fight multidrug-resistant bacteria in a novel way, according to our findings.

Keywords: hospital-acquired infection; multidrug resistance bacteria; nanotechnology; nosocomial infection; nano- composite.

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4.Effect of Some Factors on the Production of Curde Exopolysaccharides with Antioxedant Activity from Marine Bacteria

[1]Mervat G. Hassan; [1]Abo El-Maaty, S. A.; [2]El -Awady, M. E.; [1]Abd El-Nasser, E. G. and [2]Mohamed, S. S.

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[2] Microbial Biotechnology, Dept., Division of Genetic Engineering and Biotechnology Research Division, National Research Centre, Dokki, Egypt.

Abstract

Marine microbial polysaccharides are characterized by unique properties making them a good source of bioactive agents that can be used in many fields as antioxidant. Twelve bacterial isolates were isolated from different marine sources. These isolates were screened for production of exopolysaccharides (EPSs), the maximun bacterial isolate was (ES12) which proudced (6.8 g/l). Therefore, EPSs were screened for their antioxident activity by determination of DPPH free radical scavenging activity, the highest one was ES12 (97.20 %) at 120 min. while, the lowest one was ES6 (19.81 %) at 120 min. while, there are five EPSs have not antioxident activity. By study the effect of some factors on the production of EPSs by isolate (ES12) showed that maximamyeild of EPS was (8.2 g/l) and cell dry was (4.5 g/l) by Incubation temperature 40°C after three days, RPM 120, pH 7, pepton as nitrogen sources and sucrose with (20 g/l) as carbon source.

Keywords: Exopolysaccharides, Production, Antioxidant, Marine, Bacteria.

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5.Screening of Antibacterial activity of Different Secondary Metabolites from Streptomyces Aganist Potato Brown rot and Soft Rot Diseases

[1]Mervat G. Hassan; [1]Abo El-Maaty, S. A.; [2]El -Awady, M. E.; [1]Hassan, A. F. and [3]El -Halag, K.M.

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[3]Bacterial Diseases Research Department, Plant Pathology Research Institute, Agricultural Research Center, Giza, Egypt

Abstract

Streptomycetes are rich source of many bioactive compounds.Marine Streptomycetes are very important microorganisms because of their significant role in both biological and biotechnological application.Seven different streptomycetes isolates were isolated from marine source and screened for production of bioactive secondary metabolites. Thenantiacterialscreening was evaluated against different potato pathogenic bacteria that including potato brown rot and soft rot diseases. the causal agent of potato brown rot (Ralstonia solanacearum) was previously isolated from diseases potato showing typical symptoms of brown rot using semi selective media (SMSA). while the causal agent of potato soft rot (Pectobacterium atrosepticum) was isolated from diseased potatoes, showing soft rot symptom that was isolated on logan's medium.

Keywords: Streptomycetes, Secondary Metabolites,Antiacterial, Potato Brown Rot And Soft Rot Diseases.

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6.Production and Optimization of Exopolysaccharides with Antioxidant Activity Isolated from Marine Bacteria

[1]Abdel-Monem, M. O.; [1]Mervat G. Hassan; [2]El Awady, M. E.; [1]Moharam, B. A. and [2]Mohamed S.S.

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Abstract

Bacterial exopolysaccharides (EPSs) are carbohydrate biopolymers with a high molecular weight that are frequently secreted into the extracellular environment by bacteria. Ten bacterial isolates were isolated from different marine sources. These isolates were screened for production of exopolysaccharides (EPSs), the maximun bacterial isolate was (BS6) which proudced (5.9 g/l). Therefore,by determination of DPPH free radical scavenging activity, EPSs were screened for their antioxident activity. the highest one was BS6 (98.40 %) at 120 min. while, the lowest one was BS1 (24.94 %) at 120 min. while, there are three EPSs have not antioxident activity. there are different factors that impact the synthesis and generation of EPS.therfore, By study the effect of some factors on the production of this EPSs by isolate (BS6), it showed that maximamyeild of EPS was (7.2 g/l) and cell dry was (3.9 g/l) by Incubation temperature 40°C after three days, RPM 120, pH 7, pepton as nitrogen sources and sucrose with (20 g/l) as carbon source.

Keywords: Exopolysaccharides, Production,Antioxidant, Marine, Bacteria.

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7.Production and Optimization of Bio Flocculant Isolated from Bacteria

[1]Abd El-Monem, M. O.; [1]El-Banna, H. W.; [1]Mervat G. Hassan, [2]El Awady, M. E. and [2]Mohamed, S. S.

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Abstract

Bacterial extracellular polymeric substances(EPS) help in formation of bioflocs in activated sludge and contribute to its structural, surface charge and settling properties. Twenty bacterial isolates were isolated from different sources. These isolates were screened for production of exopolysaccharides (EPSs), the maximum bacterial isolate was (HS9) which produced (5.8 g/l). Therefore,EPSs were screened by determination of the Bioflocculant activity, the highest one was HS6 (86.95 %). while, the lowest one was HS1 (14.55 %). there are different factors that impact the synthesis and generation of EPS.therefore, by study the effect of some factors on the production of this EPSs by isolate (HS9), it showed that maximum yield of EPS was (7.9 g/l) and cell dry was (4.1 g/l) by Incubation temperature 40 °C after three days, RPM 120, pH 7, peptone as nitrogen source and sucrose with (20 g/l) as carbon source.

Keywords: Exopolysaccharides, Optimization, Production, Bacteria , Bioflocculant.

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8. Bioactive Natural Products from Endophytic Fungi with Anticholinesterase Potential

[1]Hamed, A. A.; [2]Al-Sallami, W. M.; [1]Mervat G. Hassan; [2]Abd El-Monem, M. O. and [3]El - Awady, M. E.

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[3]Microbial Biotechnology, Dept., National Research Centre, Dokki-Cairo 12622, Egypt.

Abstract

Growing data suggests that fungi, is a rich source of natural compounds with a wide range of biological functions. 45 endophytic fungi were isolated from different sources as part of our endeavour to isolate and identify physiologically active compounds from naturally occurring sources. Isolation of endophytic fungi was carried out by surface sterilization of the collected samples and cultivation of the sterilized samples on two selective media: malt agar (malt extract 15 g, sea salt 24.4 g, agar 15 g, distilled water up to 1 L, pH 5.2). and potato dextrose agar (prepared as per container with the addition of sea salt 24.4 g/L). All media were supplemented with filter-sterilized nalidixic acid (50 mg/L) and chloramphenicol (200 mg/L). the isolated fungal strains were cultivated on potato dextrose broth media for 15 days at 28ºC to obtain the fungal crude extracts. The obtained ethyl acetate crude extracts were screened for their anticholinesterase activity. Among the isolated strains, two fungal strains exhibited a pronounced anticholinesterase activity. The two fungal strains were cultured on potato dextrose agar (PDA) at 25°C and the main morphological features were examined using a light microscope.

Keywords:

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9.Bioactive Natural Products from Marine Streptomyces Strain with Antimicrobial Activity

[1]Mervat G Hassan; [1]Abdel-Monem, A. M.; [1]Abd El-Monem, M. O. ; [2]El -Awady, M. E. and [3]Hamed, A. A.

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[2]Microbial Biotechnology Department, National Research Centre, Dokki-Cairo 12622, Egypt.
[3]Microbial Chemistry Department, National Research Centre, Dokki-Cairo 12622, Egypt.

Abstract

Seventy-five actinomycetes strains were isolated from different marine localities. The isolated strains were cultivated on rice media for small scale fermentation. After incubation for 15 days at 29°C, the rice cultures for all strains were extracted using ethyl acetate to obtain the crude extracts. The obtained small-scale extracts were tested toward several pathogenic microbes including gram positive bacteria:*S. aureus*,*B. subtilis*,gram negative bacteria:*E. coli*, and *P. aeruginosa*, and fungi. *A. niger*, and *C. albicans*. The isolate exhibited potent antimicrobial activity were selected, identified by morphological examination and genetically by extraction of the genomic DNA, sequencing, and analysis. Additionally, the large-scale production for the most potent strains were carried out by inoculation of the strain on rice media to obtain large scale crude extracts.Chromatographic purification, and structural elucidation led to the isolation of one compound. The antimicrobial activity of the obtained compound showed that the obtained compound has potential antibacterial activity toward *S. aureus, E. coli, P. aeruginosa, C. albicans*, and *A. niger*.

Keywords: Natural Products, Antimicrobial Activity, Streptomyces.

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10.Chromosomes abnormalities caused byTegretol drug on the albino rat

El-Balshy, R. M.; Zowail, M. E.; Nafie, E. H. and *El-Feky, M. A.
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Abstract

The presentwork was performed to illustrate the harmful effects of different doses of Tegretol which has active ingredient (**Carbamazepine; CBZ**) on the genetic of the adult albino rat and on the prenatal foetuses of rat at 20th day of gestation. Tegretol (CBZ) noticeably, increased chromosomal aberrations and decreased the mitotic index.

Keywords: Tegretol, teratogenicity, adult rat and 20-day-old Albino rat foetuses

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11.*In Vitro* Investigation of Antifungal Impact of Various Plant Extracts

[1]Hafez, A. M.; [1]Ayyat, N.M.; [2]Amin, B. H. and [1]El-Sharkawy, R. M.

[1]Plant & Microbiology Department, Faculty of Science, Benha University

[2]The Regional Center for Mycology and Biotechnology (RCMB), Al- Azhar University.

Abstract

Natural compounds derived from plant extracts have a considerable role in the control of fungal serious diseases. Recent approaches investigate, antifungal protective roles from natural sources and recommend their effects relative to synthetic compounds. The motive of this research is to compare between methanol, dichloromethane and water extracts of fifteen plant extracts against various entophytic fungal isolates. Antifungal activitieswere measured using hole - plate diffusion method. Results showed that methanol extract exhibit the most significant activity followed by dichloromethane, while, water extract exhibited the least activity. Artemisia herba-alba methanol extractwas highest active against Aspergillus niger isolated from Zee seeds. In conclusion, this study recommended the use of these plant extracts as a potent antifungal agent.

Keywords: Antifungal Agents, Plant Extracts, Plant Pathogenic Fungi

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12.Antibacterial Activity of Some Essential Plant Oils Against Clinical Strain of Corynebacterium Stationis

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Abstract

Corynebacterium stationis is a facultative anaerobic gram-positive bacteria. It is an opportunistic pathogen that is one of more than 42 corynebacteriumspecies and subspecies found in humans, the majority of which have been linked to opportunistic illness. Human excrement, blood, and sea water are commonly used to isolate it. Mastitis in cattle is caused by the bacteria c. stationis and is characterized by inflammation of the mammary gland. Milk from the infected cows is contaminated with bacteria, making it unsafe for human consumption and causing bacterial diseases in humans. .In this study , we investigated the antimicrobial activity of some essential plant oils against c. stationis bacteria isolated from human feces. One bacterial isolate was identified biochemically then characterized by 16s rRNA genotyping and was designated as Corynebacterium stationis strain M.S . Antibiotic susceptibility test showed resistance of c. stationis M.S to three antibiotic (Erythromycin ,Clindamycin and Azithromycin). By using thirteen Egyptian essential plant oils .we invitro investigated and indicated the efficacy of black seed oil and rosemary oil against c. stationis M.S with inhibition zone of 18.00 ±1.3 mm. The Minimum inhibitory (MICs) and Minimum bactericidal concentrations (MBCs) of black seed and rosemary oils against c. stationis M.S were found to be 19.5 mg/L and 39 mg/L respectively . Killing time of c. stationis M.s upon growing with 200 mg/L of black seed and rosemary were after 6 and 7 hours, respectively.

Keywords: Corynebacterium Stationis ,Opportunistic ,Essential Oils.

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13.Inhibition of Mild Steel Corrosion in Acidic Media

El-Naggar, M. M.; Amin, A. S.; Syam, S. M.; Refaat, S. M. and Ahmed, B. N
Chemistry Department, Faculty of Science, Benha University, Benha, Egypt.

Abstract

The inhibition action of four aniline compounds (e.g. p-toludine, o-aminophenol, anthranilic acid and o-phenylenediamine) on the corrosion of mild steel in HCl and H_2SO_4 solutions has been studied using weight – loss technique. The results revealed that most of the aniline compounds inhibit the corrosion of mild steel. The inhibition effect of these compounds could be attributed to the adsorption of the organic molecule onto the metal surface forming a stable and insoluble protective layer. On the other hand, different concentrations from 0-aminophenol in HCl were found to accelerate corrosion. Also, the acceleration effect on corrosion was found at concentration $\leq 10^{-3}$ M from o-aminophenol and anthranilic acid in H_2SO_4. This stimulating action towards the corrosion of mild steel could be due to the formation of unstable soluble surface layer containing the organic molecule (i.e. desorbed layer). The corrosion inhibition mechanism is discussed depending on the nature and surface charge of the metal, the type of the aggressive electrolyte and the chemical structure of the aniline compounds.

Keywords: Aniline Compounds; Mild Steel; Hcl; H_2SO_4; Corrosion Inhibition and Acceleration; Mechanism.

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14.Novel Synthesis Zero -Valente Iron Nanoparticles for Removal Alizarin Red Dye from Aqueous Solution

Ali, N.M.; Moustafa, M. M.; El-Mossalamy, E.H. and El -Naggar, F.M..
Chemistry Department, Faculty of Science, Benha University,Benha, Egypt.

Abstract

Water pollution has become one of the most serious matters of concern in today's era of high industrial and technological advancement. Synthesized of Nano - scaled zero valet iron (nZVI) was in ethanol medium by reduction of ferriciron with different counter ions nitrate and chloride using sodium borohydride as areducing agent under Nitrogen atmospheric conditions. The systematic Iron nZVI was performed using UV, XRD, SEM, TEM and BET studies.The laboratory synthesized nZVI particles were examined for removal efficiency alizarin red dye from aqueous solution with different application adsorption isotherm; Langmuir, Freundlich and Temkin respectively.

Keywords: nZVI, NaBH4, Alizarin red dye, XRD, UV, SEM and BET.

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15.Auto-combustion Synthesis and Characterization of zirconium oxide Nanoparticles for Removal of Crystal Violet Dye from Aqueous Solution

Ali, A. **A.; Shama, S. A.; El-Sharkawy, A. M. and Fahmy, R. M.**
Chemistry Department, Faculty of Science, Benha University, Benha City, Egypt.

Abstract

In the present study, zirconium oxide nanoparticles were synthesized via auto-combustion method using different fuels. Fourier transform infrared spectroscopy (FTIR), High field scanning electron microscopy (HF-SEM), High resolution transmission electron microscopy (HR-TEM) as well as X-Ray diffractometry (XRD) were used to elucidate the structure and morphology of the synthesizedzirconium oxide nanoparticles. The fabricated zirconium oxide nano-adsorbents were employed for the removal of crystal violetfrom aqueous solution. Various parameters were checked in a batch method for the adsorption process of crystal violet dye on zirconium oxide adsorbent such as pH, dye concentration, adsorbent dose, contact time and temperature. The adsorption kinetics, isotherm models and thermodynamic parameters were examined.

Keywords: Zirconium oxide nanoparticles; Auto-combustion method; Adsorption process; Crystal violet.

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16.Zinc-Aluminium Layered Double Hydroxides: Fabrication, Study and Adsorption Application for Removal Organic Dye from Aqueous Media

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Abstract

The current research aimed for the preparation of the zinc-aluminium layered double hydroxide by co-precipitation method using metal nitrates and sodium hydroxide. The obtained product was studied using X-ray diffraction, High-resolution transmission electron microscopy, Fourier transform infrared spectroscopy and Field-emission scanning electron microscopy. XRD data appeared that the obtained zinc-aluminium layered double hydroxide is in the range of the nanoparticle. The crystallite and particle sizeswere determined from XRD and TEM. The adsorption parameters of organic dye removal using the zinc-aluminium layered double hydroxides were investigated using a batch method. The adsorption isothermsand kinetic models were studied utilizing the synthesized zinc-aluminium layered double hydroxide.

Keywords: Co-precipitation method; Zn-Al layered double hydroxide; batch method; Morphology; organic dyes.

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17.Zirconium Oxide Nanoparticles: Fabrication, Study and Application for Removal of Organic Dye from Aqueous Media

Ali, A. A.; Moustafa, M. M.; El-Sharkawy, A.M. and *Marghany, N. E.
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Abstract

Herein, the preparedzirconium oxide (ZrO_2) nanoparticles were fabricatedusing the auto-combustion method and glutamic, succinic and tartaric acids as organic fuels. The obtained zirconium oxide samples were calcinated at 600 ˚C for one hour. The synthesized zirconium oxide nanoparticleswere studiedusingX-ray diffraction (XRD), and Fourier transform infrared spectroscopy (FTIR). The crystallite sizes of the obtained samples were determined. The synthesized zirconium oxide nanoparticlesused as adsorbents for organic dye from water. The adsorption capacity of the zirconium oxide nanoparticleswas studied utilizing various factors. The adsorption isotherm and adsorption kinetic models are used for the interpretation of the removal of organic dye on the fabricated zirconium oxide nanoparticlesasadsorbents.

Keywords: Auto-Combustion Method; Zirconium Oxide Nanoparticles; XRD; Organic Dye.

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18.Simultaneous Voltammetric Determination of Riboflavin and Ascorbic Acid Using Poly (Methyl Orange) Modified Glassy Carbon Electrode

Abd El-Sabour, M.; Keriman M. Abd-El-Sabur; Assaf, F.H. and Hasan, I. M.A.
Faculty of Science, Chemistry Department, South Valley University, Qena, Egypt

Abstract

A voltammetric sensor was illustrated using a poly(methyl orange)/glassy carbon electrode (PMO/GCE). The PMO/GCE sensor was used to examine the electrochemical behavior of riboflavin (Vitamin B_2; RF) and ascorbic acid (AA)in phosphate buffer solution. The sensor was used for individual and simultaneous determination of RF and AA using cyclic and differential pulse voltammetry methods. Various experimental parameters including scan rate (25-500 mV/s), pH (3-10 for RFand 4-8 for AA), and analyte concentration (4-85 µM for RF and 10-40 µM for AA) have been studied. High electrocatalytic activities for RF and AA oxidation were achieved at pH 6.0 and 7.0, respectively. In addition, results denoted that the oxidation process of RF and AA were under diffusion control.The respective detection limits, quantitation limits and linear ranges were 0.922, 3.073 and 5-85 µM for RF and 0.575, 1.916 and 10-40 µM for AA under the optimized DPV conditions. Peak separation of AA from RF was 660 mV which is enough to estimate these vitamins simultaneously. The PMO/GCE sensor has been applied successfully for the assessment of RF and AA in real samples with good reproducibility, stability and selectivity.

Keywords: Glassy Carbon Electrode**;** Riboflavin;Ascorbic Acid; Methyl Orange;Differential Pulse Voltammetry; Cyclic Voltammetry.

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19.Synthesis, Characterization of Some Fire-Retardant Polymers and their Application

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Abstract

Food waste or vehicle rubber tyres were used to make activated carbon and carbon nanotubes. Activated carbon was made by two different activation methods: first, phosphoric acid and later potassium hydroxide. These particles were developed that could be easily integrated and effectively dispersed into polymers. Fire tests like ignitability, limiting oxy-index, and thermal stability were carried out using wood specimens painted with polymers where specimens showed far extent in fire retarding.

Keywords: food waste. Activated carbon. Carbon nanotubes. Fires.

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20.Synthesis and Antimicrobial Activity of New Nicotinyl -P-Aminobenzeoic Acid Derivatives

Aly, Abd El-Maboud A. and Mahmoud, M. M.
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Abstract

The synthesis of a new peptide series of nicotinyl-p-aminobenzeoic acid derivatives (3-5, 15-20) and their corresponding methyl esters (6-14) is described. The structures of these innovative compounds have been proved IR, elemental analysis and 1H-NMR Mass spectra. The antimicrobial activity of these synthesized compounds was evaluated. Some peptide derivatives showed the highest biological activity.

Keywords: Nicotinyl -P- Aminobenzeoic,Peptide , Antimicrobial.

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21.Experimental Static Light Scattering Study on The Scattering Parameters for Pluronic

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Abstract

Static light scattering from an aqueous solution of PluronicF-108prill has been measured over the angles range (40^o to 140^o) for four different concentrations (0.004, 0.006, 0,008, 0.01 gm/ml). A home build multiangle static light scattering experiment was used to calculate the Rayleigh ratio R_θ and construct the Zimm plot, which was used to calculate the radius of gyration$\langle \mathbf{R_G} \rangle$,the second virial coefficient A_2, andthe molecular weight M_W. The refractive index was measured byabbe's refractometer to calculate refractive index increment(dn/dc).The measured data showthat the molecular weight of Pluronic F-108 prill is 14661 gm/mole, which is a medium molecular weight.The second viral coefficient is greater than zero, which meansthat the PluronicF-108prill likes the solvent (deionized water) more than itself. While the radius of gyration $\langle \mathbf{R_G} \rangle$ is 1094 nm, which is a little bit large as in an aqueous environment these block copolymers self-assemble into micelles.

Keywords:

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Topics of Engineering, Computer and Technology Science

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1.Interference-Aware Coded-Beam Radio Resource Management for High-Throughput Satellite Systems- Performance Assessment and Capacity Investigation

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Abstract

The most recent resource management strategy for high throughput satellite (HTS) system based on identifying beams using code division multiplexing (CDM) technique. It was named by coded beam high throughput satellite (CB-HTS), this approach was introduced to increase the system capacity, by reducing the cluster size to one. However, interference will significantly limit the overall system capacity. This article introduces the interference effects on the (CB- HTS) system performance. Initially, the interference model is characterized. Also, intra-beam interference and other-beam interference is mathematically formulated. The performance of the proposed model is assessed employing Monte Carlo simulations. The differences between the resource allocation strategy used in the conventional HTS systems and the CB-HTS are highlighted. Furthermore, the total capacity of the downlink system is evaluated to illustrate the superiority of the achieved results compared to the prior state-of-the-art.

Keywords: Coded Beam High-Throughput Satellites, CDMA, Inter-Beam Interference, Other- Beam Interference.

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2.Integrating Wireless Sensor Network with Li-Fi Wireless Communication Technology based on NOMA Technique: A Survey

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Abstract

have restricted power in their essential power capacity unit, this power may be rapidly exhausted in case the sensor node remains operational for extended periods of time also data transmission is a significant challenge in WSNs. Non-Orthogonal Multiple Access (NOMA) is a novel encoding technique proposed for next-generation wireless communications. NOMA may send many symbols utilizing the same time, frequency and coding resource but dividing them in the power domain and differentiating them based on the various power Li-Fi stands for Light-Fidelity, is a creating department of Optical Wireless Communication (OWC) that gives more noteworthy information transmission using obvious light as a medium rather than conventional radio frequency electromagnetic radiation with the ability to employ surplus users since it uses a wide range of spectrum bandwidth. Recently the implementation of wireless sensors has been increased in the design of high-performance buildings. On the other side, the main challenge in using Wireless Sensor Systems (WSNs) is that the sensor nodes levels of distinct symbols, which are subsequently demultiplexed at the receiver using an interference cancellation approach. Since the main requirement of WSNs are high connection, low latency, energy savings, and ultra-high data rates, we give an overview of Li-Fi technology and a study of its performance over WSNs aided by the NOMA technique in this survey article.

Keywords: Visible light communication (VLC), Light Fidelity (Li-Fi), Wireless Fidelity (Wi-Fi), Wireless Sensor Networks (WSNs), Non-Orthogonal Multiple Access (NOMA).

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3.Stabilization of Sand Dunes by Adding Animal Glue and Guar Gum Biopolymer

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Abstract

Sand Dunes movement represents an environmental hazard to agriculture, railway, roads and human settlement. The purpose of this research is to report experimental results on the usage of animal glue and guar gum in stabilizing dune sands for potential applications in geotechnical engineering.The Animal Glue and Guar Gum biopolymer added to the soil were assisting in the formation of a cohesive connection in the soil.The different mixes produced for the experiments included 10%, 15% and 20% of animal glue and 1%, 1.5% and 2% of guar gum. Laboratory experiments such as compaction, direct shear test and runoff erosion test were carried out in order to evaluate the engineering properties of stabilised materials. With the addition of 15% animal glue and 2% guar gum, the findings indicated significant increases in shear strength. Increasing the curing days increases the sand's shear strength characteristics.

Keywords: Dune sand, compression strength,stabilization, Shear Strength, Guar gum biopolymer, Compaction test.

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4.Enhancing Soft Clay Bearing Capacity Using Encased Slag, Cement Dust, and Swelling Soil Columns

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Abstract

Soft clay deposits cause many problems due to low bearing capacity andhigh deformation. This paper presents the results of laboratory tests for studying the improvement of soft clay-bearing capacity using two kinds ofsoil columns. The main objective is to assess the effect of installing columns from slag (a type of solid waste material produced from steelmanufacture) replaced partially with cement dust as an admixture and bentonite columns to improve the soft clay-bearing capacity. Three columns from SCC (slag-cement dust columns) encased by Woven Geotextile are installed beneath a steel plate representing a footing. Four bentonite Columns (BC) encased with non-woven geotextile are installed around the steel plateat a distance of 1 B, where B is steel plate width. The research aims to assess the increase in the SCC length effect on clay-bearing capacity. A series of 4 experimental tests were performed. The results show that the increase in column length offset the increase in clay-bearing capacity because slag and bentonite can absorb the clay water content, leading to an increase in consolidation rate. In addition, the column act as a friction pile due to the interlocking between clay and columns. The floating columns give a better improvement than the end bearing columns as the slag partially replaced with cement dust is weak enough to transfer the total applied stress to a strong soil layer.

Keywords: Bentonite, Slag, Cement Dust, Geotextile, columns.

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5.The Material in Creating Comfortable Spaces for The User Using Digital Simulation

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Abstract

The evolution of architecture continues over the entire life of the planet, and the task of the designer and engineer came as a result of the desire to design buildings that are comfortable for the user and not feel discouraged. Where the idea of the dwelling was to protect the user from volatile natural phenomena, harmful pests, and predatory animals, and not to be threatened also by his species.

The environment consists of different elements, starting with the building block, which is the stone, passing through the space, the building, the city, that is, they are compact facts that the architectural designer must take into account and be familiar with them, as they are closely related to each other, but in that period the designers only care about colors, sizes and shapes The loads and building specifications, so architecture became a commodity and transformed from something that serves the human being in the highest forms into products produced by factories, customs, and social conditions.

The vacuum in which we live now is rarely comfortable without the use of modern technology in the internal temperature equation to reduce the impact resulting from climate variability in the seasons of the year, as the effects of recent scientific discoveries have led to the fear of engineers and designers, as the weaknesses and impacts resulting from that development stem from some Wrong assumptions about human behaviour, or the failure to put human beings in the priorities of design tables, as technology has become looking to make life easier for users with the click of a button, but it has a great impact on them from many other aspects.

And after the development of technology and the global trend of computer-assisted simulation to save lab or, energy, and building materials, led to the existence of the idea of a continuous search for the best distribution of space and the best selection of building materials and how to cut their successive layers to create the best comfortable space physiologically and psychologically with the application of some computational values and separate algorithms.

Where this research paper sheds light on the technology affecting the creation of the architectural space and how to avoid defects and design the space in a manner that suits the user to complete his various activities without addressing the use of different technological influences and working to provide the appropriate environment for him as the effect resulting from technology is not only seen within the space, but effects On the contrary, on the surrounding environment, and on that

Keywords: architectural space, human performance, pollution, privacy, city, building materials, thermal comfort, building form, building performance, life cycle cost, conventional control, mechanical ventilation, digital simulation, crystalline waterproofing, biology concrete, windows using Nanotechnology.

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6.Regression Modelling of The Tensile Characteristics of 304l and 316l Stainless Steel Welded Joints

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Abstract

In the presentwork, plates made from 316L and 304L stainlesssteels (SS) were joinedusing gas tungsten arc welding (GTAW) to form similar and dissimilar welded joints. The welding process were conducted using ER308L filler rods and constant welding parameters, typically, welding voltage,welding current, and welding speed. Regression modelling was used to corelate the tensile characteristics of the 316L and 314L similar and dissimilar welded SS joints. Several non-linear regression models were successfully developed to correlate the tensile characteristics of the aforementionedSS welded joints with the temperature. The results revealed that regression models for ultimate tensile strength (UTS), yield strength (YS) and ductility (elongation, E%) exhibited R-square values of 0.95, 0.91 and 0.74, respectively.The developed regression models can roughly predict the tensile characteristics of similar and dissimilar 304L and 316L SS welded joints with aacceptable accuracy.

Keywords: Stainless Steels, Gas Tungsten Arc Welding (GTAW), Tensile Characteristics, Regression Modelling, Elevated Temperatures.

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7. Investigation on The Effect of Variation of Drilling Parameters on The Delamination Factor in Waste Tire Rubber Polyester Composite Laminates

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Abstract

The waste tire rubber particles are employed to strengthen a laminated polyester composite with glass fiber, resulting in improved mechanical and physical qualities. This innovative material has a wide range of uses, including automotive pumpers and the aerospace sector. The influence of drilling factors such as different twist drill sizes and varying feed rates on the delamination factor is studied in this paper. Comparison between different twist drill sizes shows the minimum size leads to minimum delamination factor, and the lowest feed rate leads to minimum delamination factor by using optimum speed constant in all cases.

Keywords: Polyester, Waste tire rubber, Fiber-Reinforcement Composite, mechanical and physical qualities, Twist drill sizes, Feed Rate.

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8.Dynamic Sand Filter Performance Against High Solids Loads in Raw Water

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Abstract

Dynamic sand filter is a new technique for filtration depends on the continues washing for the up flow sand filter using diffused air for sand stirring to remove solids impurities from it. Egypt started to apply this system in its new plants for its high efficiency that leads to minimize required area. With the pollution increase in the water resources that raise the solids loads in it and increase the rewash needs in the traditional rapid sand filters specially these solids mainly are algae and bacteria. Also, the increase in water needs with the high cost for extension land for existing plants increase the need of applying such system to overcome this problem and increase the plant productivity.

This study was made to check the dyna- sand filter suitability to meet high suspended solids loads and overcome it to ensure its capability for application in different cases as direct filtration water plants. Tertiary treatment for wastewater and replacing rapid sand filters in existing plants without any changes in prior treatment units.

A lab scale pilot used was designed according to the Nordick company system book and synthetic water was applied with variable TSS loads form 50 - 150ppm under several filtration hydraulic rates variable from 150-250 m3/m2/day to determine the study aim.

The results showed that the removal ratios of turbidity varied between (80-89%) with 50 ppm TSS and R.O.F 150 m3/m2/d down to (40-63%) with 150ppm TSS and R.O.F 250 m3/m2/d which could be more in the real plant scale. The system suitability was very successful to meet high solid loads with high filtration rates that achieves the targets of application as direct filtration in water treatment, minimize the area for filtration in new plants and give the suitability for replacing the existing filters without changing the prier treatment units just decrease their removal efficiency depending on the system ability to meet higher loads.

Keywords:

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9.Arabic Semantic-Based Textual Similarity

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Abstract

Textual similarity is one of the most important aspects of information retrieval. This paper proposes several techniques of semantic textual similarity as well as the factors that influence them. Two-hybrid approaches for measuring the degree of similarity between two Arabic snipped texts are presented. The first proposed approach combined the word-based and vector-based similarity methods to construct semantic word spaces for each word of the input text. These words are represented in their lemma forms to capture all semantically related words. In this approach, the semantic word spaces are used to find the best matching between the input text words, and hence, the degree of similarity between the two snipped texts is computed. The second proposed approach combined semantic and syntactic based approaches. The basic Levenshtein concept represents the main structure for this approach. It has been modified to measure the edit cost at the token level not at the character level. In addition, the semantic word spaces are added to this approach to include the semantic features to the syntactic features. Some techniques are embedded to overcome the syntactic approach problems such as the word sequence. Pearson correlation coefficient is used to measure the degree of correctness of the two proposed approaches as compared to two benchmark datasets. The experiments achieved 0.7212 and 0.7589 for the two proposed approaches on two different datasets.

Keywords: Semantic Textual Similarity, Natural Language Processing, Vector-Based Similarity, Word-Based Similarity, Arabic Lemmatization

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10.Wind-Based Multi-Regional Modelling and Control of Wind Turbines Generation

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Abstract

Modelling is important in studying systems.It shows the system from different angles,help in analysing and understanding the system, analysis the causes and effects,can discover the defects in the system and treat it, illustrates the alternatives and studies their effects. Research looks for appropriate models of low, medium, high and very high wind speed. ARMA can be used in making time series models. It can get models with similar properties of original data. This research develops several ARMA models for wind speed data classified according to its value in four groups. The least mean square error (MSE) is the criteria to choose between models, for each wind speed model gets the appropriate wind turbine model that tells thepredicted output power. The original data is taken to its group according to its value and taken to its appropriate power model. Turbine stops for low and very high speed. MPPT is used for medium speed. High speed models need pitch angle control. The model is implemented to Zafranaa wind speed data. It is divided into three groups. There were no data points for fourth group, Max point was 17m/s. Third group has appropriate amount of data and most of data are in second group, Finally the implementation procedure has demonstrated the applicability of the preferred method only.

Keywords: ARMA, Low, Medium, High and Very High Speed, MPPT, Turbine Pitch Control.

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11.On the Fuzzy Reliability Estimation for standard Kumaraswamy Distribution

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Abstract

In this article, we considered tow procedures to estimate the fuzzy reliability for Kumaraswamy distribution, first depends on fuzzy reliability definition that uses the trapezoidal rule in order to find the numerical integration, and second is Bayesian procedure which in clouds different cases depends on sample data and hyper parameters of prior gamma distribution.

Keywords: Fuzzy reliability, Kumaraswamy distribution, Maximum Likelihood, Bayesian estimation, Membership functions.

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12.Assesment Study on The Mechanical Behaviour of Polyster – Fiber Composite Laminates Affected by Waste Tire Rubber Particles

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Abstract

In the present study, A composite of polyester – fiber with the addition of rubber particles resulted of the recycling of wasted tires of railway vehicles, Coupled with the fast development of the automobile industry. The advantage of the developed product that it's a solution for one of the most modern environmental challenges beside that it economical and environment friendly, this developed composite can be used in many applications like car bodies specially in automotive bumper and in the aviation and marine industries. Different particles sizes range 20 mesh, 40 mesh, 1-3 mm and 3-5 mm were used in the present work to possess their variation effect on the mechanical behavior of the novel composite. Generally, addition of waste tire rubber led to retrogression of tensile properties. This was accompanied with poor adhesion between waste tire rubber and polymer matrix at interface. It was observed that the size of waste tire rubber particles has an inversely relation to the tensile strength of the developed composite, Also the impact toughness shows better and tangible progress as the particles size increases till 40 mesh size then slightly decreases. All the mechanical testing were done according to ASTM standard.

Keywords: Polyester, Fiber-Reinforcement Composite, Rubber/Polyester Composites, Mechanical Behavior, Recycling, Particle Size.

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13.Multi-Criteria Decision-Making Methods Comparative Analysis in Fuzzy Environment: Article Review

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Abstract

Multi criteria decision making (MCDM) appears to be a difficult decision-making (DM) technique involving both theoretical and practical elements. Many MCDM tools and procedures have recently been proposed in order to choose the most likely option. Due to the obvious wide range of MCDM programmes available in many fields, there may be a strong need to divide them into various regions and sub-areas. Manufacturing systems, supply chain issues, business and management, human resource management, power and safety, environmental science, and other programmes are just a few examples. This newsletter also discusses the state of fuzzy multi-standards decision-making systems. Multi-criteria decision- making has been used in a variety of fields. Where several criteria have emerged, the MCDM approach aids in the choice of the best options. The optimum one may be determined by assessing the many scopes for the criteria. To use any multi-criteria decision-making methodology, assign weights to the criteria and then choose the better ones. This The article covers the evolution of several FMCDM techniques and approaches in depth. MCDM approaches are frequently integrated with other methodology to obtain more precise findings or to handle a specific class of issues and circumstances. Hybrid methods are a collection of multi-criteria decision-making approaches that have been merged.

Keywords:

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14.Misinformation Detection in Arabic Tweets: A Case Study about COVID-19 Vaccination

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Abstract

Misinformation about COVID-19 overwhelmed our lives due to the tremendous usage of social media, especially Twitter. Spreading misinformation causedfear and panic among people affecting the national economic security of many countries. Vaccination is the crucial key to limiting the pandemic spread of COVID-19. Therefore, researchers start to detect and fight against the spread of misinformation taking it as a new challenge. This paper illustrates a model for misinformation detectionin Arabic tweets using Natural Language Processing (NLP) techniques. A machine learning-based system has been developed regarding COVID-19 vaccination tweets. Term Frequency-Inverse Document Frequency (TF-IDF) has been used as vector space model for feature extraction. Support Vector Machines classification algorithm has been used for implementation the proposed system. Evaluation of the system, using different metrics, has been implemented on Arcov-19Vac,a dataset of Arabic tweets related to COVID-19 vaccination. The results reported by the illustrated model show that the performance of our model is promising.

Keywords:

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15.Solar Assisted Heating Integrated with Latent Heat Storage Heat Exchanger

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Abstract

Solar heating system are very important applications for domestic, commercial, and industrial hot water purposes an experimental study of fin and tube heat exchanger immersed in 15 kg paraffin wax (P C M) is performed under variable conditions to produce hot water, the annulus fluid used in this study is water .The study aims to investigate change parameters and geometry of the fin and tube heat exchanger, such as Different inlet water temperatures with different flow rat and compere them between vertical and horizontal. The experiments covered a wide range of Reynolds number from about 2500 to about 7500 this range covers the laminar, transient and turbulent of flow fluid in side tube moreover, the investigation is conducted for a wide range of input heat rates different between daytime and night .The test section consisted of single tube with number of fins (64 fins). Three series of experiments including 81 runs were carried out with different flow rates one, two and three (liter per mint) respectively.

Keywords: Solar Heating, Fin and Tube Heat Exchanger, Phase Change Material.

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16.An Expermintal Investigation for the Effect of Surface Grinding Parameters on the Produced Sureface Roughness

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Abstract

Surface grinding in industry is used as finishing process. The quality of the finished surface is largely dependent on the selected machining parameters. There is many other factors contribute in the surface quality, but the major contribution to improve the surface quality can be achieved by controlling the machining parameters. Grinding concept is very complex random cutting process between many cutting edges on the wheel circumference and the workpiece. The functional behavior of machined components can be enhanced by the grinding process, so proper selection of the grinding parameters can result in improving the surface integrity. So that, understanding the surface integrity imparted by grinding is very important. This paper introduced an experimental investigation to study the relation between some selected input parameters on the surface quality; the behavior of the grain along with the machining time is also investigated. It is concluded that the surface roughness is influenced by changing the depth of cut and the feed rate. Increasing feed rate and depth of cut increase the normal and tangential forces; leading to higher surface roughness. The depth of cut is the most significant parameter that affecting surface roughness. The machining time affect the quality of the machined surfaces.

Keywords: Surface grinding parameters, Surface Roughness, ANOVA, SNR, Grain Condition.

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1.Control of Tomato Fusarium Wilt Caused by *Fusarium Oxysporum F.* Sp. *Lycopersici* by Grafting and Silver Nanoparticles Under Greenhouse Conditions

[1]Naeema. A. Gomaa; [1]Mahdy, A. M.; [1]Fawzy, R. N.; [2]Mohamed, A. S. and [1]Ahmed, G. A.

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Abstract

Grafting plays an important role in the management of pathogens infecting root and stem as this technology can be quickly deployed without causing significant changes in farming operations. Grafting vegetable crops is common to control fusarium wilt (caused by Fusarium oxysporum f.sp. lycopersici). Biological and chemical methods were used for the synthesis of silver nanoparticles (AgNPs). AgNPs synthesized by two different methods i.e., Trichoderma harzianum, and tri-sodium citrate. The synthesized silver nanoparticles were characterized with transmission electron microscopy (TEM), Dynamic Light Scattering nano sizer (DLS) and Zeta potential. In vitro, Trichoderma harzianum AgNPs at concentration 800 µL/L inhibited completely the mycelium growth and sporulation of Fusarium oxysporum f.sp. lycopersici (FOL). Tri-sodium citrate came in the second place for reducing the mycelium growth and sporulation of Fusarium oxysporum f.sp. lycopersici (FOL). Results revealed the biological method was better than chemical method for controlling fusarium wilt caused by (FOL). Grafted plants treated with silver nanoparticles exhibited an increase in activities of defense enzymes such as peroxidase, polyphenol-oxidase, phenylalanine ammonia layse, chitinase and phenol contents over the control plants.

Keywords: Silver Nanoparticles, Grafting, Fusarium Oxysporum, Tomato, Enzymes, Phenole.

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2.Pathological and Physiological Studies of Downy Mildew of Basil (*Ocimum basilicum*) Caused by *Peronospora belbahrii* in Egypt

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Abstract

Basil is the most commercially significant medicinal and aromatic plant, used both fresh and dried, as well as a source of essential oil for perfume and food flavor manufacture. Basil's main composition includes a significant amount of antioxidants and antimicrobial agents. The obligate, biotrophic oomycete pathogen *Peronospora belbahrii* Thines causes basil downy mildew (BDM). It became a very destructive disease that has caused severe damage and crop loss of sweet basil in Egypt and worldwide. A field survey for disease severity (DS) and disease incidence (DI) of BDM was done in basil cultivation areas in Egypt during two successive growing seasons 2019-2020. The highest percentage of (DS) and (DI) of BDM was (93% and 100%) in 2019 and (95% and 100%) in 2020 in Nassir city of Beni Suef Governorate. Laboratory studies indicated that the highest percentage of spores' germination was 33% at temperatures 18ºC and the lowest was 3% at 12ºC, while no spores germinated at 10ºC., the relative humidity percentages 100% and 95% were the most suitable for the highest germination percentage (35% and 33%). The effect of light and dark hours interval (12 hours of light and 12 hours of darkness) was the most suitable for the highest percentage of spore's germination (30%). Pathogenicity test by detached leaves method explained that the sporangiophores of *P. belbahrii* appeared after two days from infection and the severity increased until the 4th day when the whole leaf was infected. Pathogenicity test under greenhouse condition revealed that *P. belbahrii* severity and incidence reached (96.6 and 100%, respectively) 7 days post-inoculation in case of sowing basil (Baladi cv.) by seeds while in case of using transplants the disease severity and incidence reached (91.4 and 100%, respectively) at 10 days post-inoculation. The varietal reaction of some basil cultivars to BDM under greenhouse showed that Lemon Basil *O. americanum* var. citriodorum had the lowest disease severity and incidence (11.0% and 21.6%).

Keywords: Basil, Basil downy mildew, Peronospora belbahrii, Basil variety, Survey

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3.Effects of Some Agricultural and Fertilization Treatments on Growth Parameters and Productivity of Growing Wheat Grown on A Salt-Affected Soil in IRAQ

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Abstract

The present research was carried out in Al-Saniyah district, Al-Diwaniyah Governorate, Iraq, on a salt-affected soil (EC>4 dSm-1). To counteract the negative effects of salt on wheat plant development metrics and productivity, as well as the quantity of N, P, and K in the plant, it was developed In addition to the biocher, nano-5, amino acids and K fertiliser, the other amendments utilised for their functions were KCl and nano-K. It was thought that K would increase plant tolerance to drought. The research found that these supplements had a favourable impact on all plant development metrics, including grain production and biological output.

Keywords: Wheat, Biocher, nano, fertilizer, Salt, affected soil, Amino acids.

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4.Genetic Variation of *Pectinophora Gossypiella* (Saunders) Treated with Some Insecticides Using Polymerase Chain Reaction (PCR) Technique

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Abstract

Random Amplified Polymorphic DNA (RAPD) was used to examine the pooled genomic DNA of Pectinophora gossypiella 4th instar larvae treated with recommended doses of various pesticides in the field strain of the pink bollworm (Pectinophora gossypiella). Insecticide-free cotton fields were used to gather a field strain of the pest. Four insecticides utilized in this study agristar, proclaim, tracer, and Camkron. A total of five primers were employed to examine the mutagenic differences between the treated strains. Most fragments were created with the HB-12 primer (10 fragments). Primers HB-11 and HB-12 have the fewest pieces, respectively (6 fragments). A total of seven to nine overlapping fragments were produced by the other three primers. Fragments varied in size from 180 to 1435 bp in molecular weight. One of the pink bollworm P. gossypiella 4th instar larvae treated with proclaim insecticide had a lower similarity index (0.38) than the untreated one, indicating the greatest degree of change in DNA structure and sequences between untreated pink bollworm larvae and those treated with various insecticides. The RAPD patterns that resulted from this comparison showed that Primers HB-11, HB-14, and HB-10 had the greatest similarity index (1.00) between treated populations and the control of the pink bollworm.

Keywords: Pectinophora gossypiella, RAPD, DNA, primers, similarity index, fragments.

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5.Genetic Diversity Analysis of Hybrids Tomato (*Solanum lycopersicum* L.) with SSR Markers under Drought Tolerant Stress

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Abstract

Abiotic stressors such as drought are particularly detrimental to tomato vegetative growth and yield. Breeding and selection for drought-tolerant genotypes is a significant strategy for addressing this challenge. In this study, we used ten SSR primers for drought tolerance on six parents of tomato genotypes were the chosen parental genotypes included one wild type, i.e., *Solanum pimpenillifolium* (LA:411) and five cultivated genotypes *Solanum lycopersicum*, i. e., Edkawi, Super Marmande, Super Strain B, Castle Rock and Peto 86 and their fifteen crosses. Five primers were succeful and observed positive and negative markers for drought tolerance. Genetic diversity was estimated to be between 0.485 and 0.947 using SSR data, while there was very high genetic similarity (0.999) between ($F_1$8 and $F_1$7) (super Marmande x LA:411 and super Marmande x Edkawi) respectively. LA:411 and Edkawi could be source of drought tolerance.

Keywords: abiotic stress; drought dolerant; *Solanum lycopersicum*; *Solanum pimpenillifolium*; SSR Marker.

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6. Yield Potentiality and Photosynthetic Parameters of Some Local and Exotic Elite Rice Genotypes

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Abstract

This work aimed at studying earliness, yield and photosynthetic parameters in some local and exotic rice resources. Twelve rice resources were used in the study including two from Bangladesh, one from Madagascar, three from Egypt, two from Korea and four from IRRI. These twelve genotypes were evaluated during 2020 and 2021 seasons in RCBD using four replications at the Faculty of Agriculture, Moshtohor Experiment Station. Significant differences were obtained among rice entries for all traits in the two growing seasons. The genotype GZ 10686-1-2-2-1 was the earliest among all studied varieties, while genotype PR 78 was the shortest among all entries. Entry IRRI 142 had the highest significant value for chlorophyll content comparing to Giza 179, panicle length was highest with the genotype SAIBORO 9361. The genotype Korea 27 expressed the best mean values for panicle weight, weight of 100 grain and grain yield plant^{-1}, while genotype IRRI 152 ranked the second best for grain yield plant^{-1}. Genotype GZ 10848-1-2-2-1 was the best for number of tillers plant^{-1}. Moreover, the genotype IRRI 152 exhibited the most desirable mean values for cuvette temp. and leaf diffusive, while genotype Korea 27 was the best for quantum sensor, stomatal conductance and Co2 assimilation rate in both seasons. For transpiration rate, the genotype AC 2882 expressed the best mean value, while Korea 47 gave the lowest value for this trait with significant difference from the variety Giza 179.

Keywords: Rice, Yield Potentiality, Photosynthetic Parameters.

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7.Comparison Study between Conventional and Conservation Tillage Systems with Respect to Greenhouse Gasses, Saving Energy and Maize Production

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Abstract

Conventional tillage (CT) consumes a lot of energy and causes problems for soil and environment. Strip tillage (ST) is an alternative method to save environment and soil structure. A complete randomized experimental design was conducted. Two treatments with three replicates each were applied. They were T1 polwed conventionally and T2 plowed by ST. A strip tillage prototype was fabricated. Results indicated that there was a significant difference between T1 and T2 on SOC% and total soil N after harvest. SOC% and total soil nitrogen increased by 19.38 and 8.5% for T2 compared to T1. Fuel consumption was less in T2 by 46.7% compared to T1. There was a significant difference between grain yield of T1 and T2. Grain yield of T1 increased by 8.04% compared to T2. Also, there was a difference between T1 and T2 in water consumption. T2 saved about 5.75% of water compared to T1. Applying ST per one million feddan planted by maize crop allover Egypt saves 5.76 million tons of CO_2 and 18.316 million kg of N_2O which contributed into greenhouse gases. Also, T2 saves about 15.75 milion liters of fuel and 2.32 billion m^3 of water per one million feddan.

Keywords: Strip Tillage, Biological Fertilizers, New Planting System, Fuel Consumption, Water Saving.

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8.Molecular Evaluation of Prepared Rift Valley fever (RVF) Vaccine Using Montanide Gel 02 and its Effect on the Genetic Material

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Abstract

Rift Valley fever (RVF) is an animal origin viral bleeding disease that affects the health of both humans and animals because it's a Phlebovirus that makes it very dangerous. Various vaccines against the RVF virus have been developed, the modern trends in vaccine production are going to choose. The proper adjuvant that can appear high and long-standing immunity. Maintained gel 0.2 is generic of maintaining as water-based adjuvant designed recently to improve efficacy of aqueous type vaccine. So, we investigated the effect of inactivated RVF vaccine with three different concentrations of Montanide Gel 02 (10%, 15% and 20%) and evaluated of the immune response in vaccinated rabbits using RT-PCR and in other side, starting coding target (SCOT) technique were used to study the genetically effect of vaccination on the rabbit's genetic material. The real time PCR results for interferon γ showed that there was dramatically upregulation in transcripts levels of interferon γ with increases of montanide gel doses through the whole entire period of the experiment. A total of 10 primers were tested for selective amplification of DNA fragments. The ten SCoT primers produced reliable PCR products. However, no SCoT primers showed discernible polymorphism between all tested samples. However, no Scot primers showed discernible polymorphism between all tested samples. The immune response and its duration were increased with increasing montanide gel 02 concentration in rabbit's vaccination and there's no effect on the genetic material which is give an indication that montanide gel 02 was safe and effective.

Keywords: Rift Valley fever (RVF), Montanide gel 0.2, RT-PCR and Start Codon Targeted (SCoT).

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9.Plant Extracts in the Fight against The Camel Tick, *Hyalomma dromedarii* (Ixodida: Ixodidae)

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Abstract

Ticks are important vectors and their natural control is an urgent need. Because of the acaricide resistance, the use of novel eco-friendly acaricides is an urgent need.Nine novel aqueous plant extracts were evaluated through the adult immersion test against Hyalomma dromedarii, semi-fed adults. Fifteen days post-treatment (PT) with17%, plants were arranged according to their MO%, as follows: Ricinus communis (96%); Alchemilla vulgaris (84%), then Cichorium endivia, Quercus cortex, and Salvia rosmarinus. Three days PT, the LC50 values of the most effective group, R. communis (10.11%), A. vulgaris (14.11%), C. endivia (12.56%), Q. cortex (11.87%) and S. rosmarinus (11.73%) were calculated. Phenolic, tannin, and flavonoid compounds were detected through Phytochemical analyses. The applied plants were novel used against H. dromedarii and the pesticidal activity of A. vulgaris and Q. cortex has been reported for the first time, according to our knowledge. Future studies should be directed towards field and ecotoxological studies.

Keywords: Ricinus communis, Alchemilla vulgaris, Cichorium endivia, Quercus cortex, Salvia Rosmarinus.

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10.Importance of the Camel Tick, *Hyalomma dromedarii* (Acari: Ixodida), and the Acaricidal and Insect Growth Regulating Activity of Olive Oil

Abosalem, H. S.; Ramadan, M. Y. and Hanem F. Khater

Abstract

Ticks **(Acari: Ixodida)** are important blood- feeding ectoparasites acting as vectors of serious diseases of humans and animals. The camel tick, Hyalomma dromedarii is infesting camels and its control is very important for prevention of tick- borne diseases. This study evaluated the adulticidal toxicity of olive oil against H. dromedarii males and engorged females using the adult immersion test. Mortalities, the number of hatched eggs, hatchability%, weight of engorged females, and egg weight were recorded. The morality% of olive oils against male H. dormidarii 12- and 15-days post treatments (PT) reached 50 and 83.33%, respectively. Its lethal concentrations (LC) values were calculated (LC50 and LC95 values PT for 12 days were 12.715 and 46.386%, respectively). The lethal time (LT) values after treatment with 25% against males were calculated (LT50 and LT99= 5.161 and 22.007 days, respectively). Olive oil adversely affected the reproductive potential of H. dromedarii engorged females as 25% PT, the number of hatched eggs, hatchability%, weight of engorged females, and egg weight were 2.83±2.31, 32.7, 52.50±2.88 g, and 0.27±0.27 g, respectively. It is recommended to apply olive oil as a safe control tool against H. dormidarii and it could be implemented in integrated-tick control strategies.

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11.Acrylamide Assessment in Meat Products Sold in Al-Qalubyia, Egypt, and the Impacts of Different Cooking Methods on their Levels

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Abstract

The current study aimed to estimate acrylamide (AA) levels in protein-rich foods collected from Al-Qalubia restaurants, Egypt, and to determine the effects of processing methods on acrylamide formation. A total of sixty products were estimated using high performance liquid chromatography equipped with a UV detector. In general, there were no significant variations in acrylamide levels between the meat samples at the species level ($P > 0.05$). However, there were significant variations across the twelve products examined ($P < 0.05$). The highest mean acrylamide concentration was found in chicken meat (1.74 µg/100gm), followed by fish (1.31 µg/100gm), and red meat (0.98 µg/100gm). Furthermore, substantial differences in acrylamide concentrations were found across five beef products, and four chicken products, while no differences were found among fish products. In beef products, the maximum acrylamide concentrations were in Rice-kofta and Escalope-panee, with 3.103 and 1.89 µg/100gm, respectively. Within chicken-dishes, the highest acrylamide concentrations were in strips, nuggets, and drumsticks, at 5.19, 4.29, and 4.15 µg/100gm, respectively. When compared to shrimp kofta, 0.39 µg/100gm, the highest acrylamide levels were in fish burger (2.42 µg/100gm) and fillet (1.13 µg/100gm). According to cooking method, the 40 samples prepared by deep frying had significantly higher mean acrylamide levels (1.70) than the 20 grilled samples, 0.54 µg/100gm ($P < 0.05$). Fortunately, current estimated acrylamide contents in estimated products were less than the daily toxic and carcinogenic levels previously determined by concerned authorities; however, more stringent regulations and control interventions are still needed to reduce exposure and determine permissible limits.

Keywords: Acrylamide; RTE meat products; Al-Qalubia, Egypt; deep frying; grilling.

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12.Therapeutic Potential of Allicin and Omega-3 Combined Therapy Against Acetaminophen Induced Hepato-Renal Injury

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Abstract

Acetaminophen (APAP) is the most commonly prescribed and available over-the counter antipyretic-analgesic medication. The purpose of this study was to investigate the ameliorative effect of allicin (AC) and/or omega-3 (ω3) in rats against hepatic and renal toxicity induced by APAP. Rats were divided randomly into 7 groups: Control (saline), AC (10 mg/kg, orally), the ω3 (100 mg/kg, orally), APAP (1000 mg/kg, orally single dose on 27th day), AC+APAP, ω3+APAP, and AC+ω3+APAP group. After APAP administration, the activities of alanine aminotransferase (ALT), aspartate aminotransferase (AST), and alkaline phosphatase (ALP), and levels of urea, creatinine, and lipids (cholesterol, triglycerides, HDL, and LDL) were markedly increased in the serum. Besides, APAP could significantly reduce the serum protein and albumin concentration. These data strongly suggested occurrence of hepato-renal damage in response of APAP insult. Moreover, malondialdehyde (MDA) content in the liver and kidney tissues was significantly increased along with a decrease in reduced glutathione (GSH) concentration, superoxide dismutase (SOD), and catalase (CAT) activities. On the other hand, Pre-treatment with AC and ω3 alone or in combination abled to ameliorate the hepato-renal damage and apoptosis in APAP-intoxicated animals, possibly due to its high content of antioxidants.

Keywords: Paracetamol; allicin; omega 3; oxidative stress; apoptosis; antioxidant.

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13.Tigecycline Enhanced Renal Damage Induced by Gentamicin in Rats: A Biochemical, Histopathological, and Immunohistochemical Study

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Abstract

Although combination of antibiotics were generally well-tolerated, they may have nephrotoxic effects. This study investigated that if tigecycline (TG) markedly increased the impact of gentamicin (GM)-induced nephrotoxicity. Thirty male Wistar rats were randomly divided into six experimental groups. Group 1 (Vehicle Control); had been given distilled water. Group 2; tigecycline (TGL) (7 mg/kg. b.wt, i.p.). Group 3; tigecycline (TGH) (14 mg/kg b.wt, i.p.). Group 4; GM treated rats were injected GM at a dose of (80 mg/kg/day, i.p.). Group 5; (GM +TGL) rats concurrently administrated GM (80 mg/kg /day, i.p.) with TG (7 mg/kg/ day, i.p.). Group 6; (GM +TGH) rats in this group have been provided both GM (80 mg/kg /day, IP) with TG (14 mg/kg/day, i.p.). Both drugs were administered for 10 consecutive days as a single dose per day. GM increased blood urea nitrogen (BUN), serum creatinine. Also, significant rises in MDA levels with significant decline in CAT, and GSH levels in renal tissues in GM intoxicated rats compared to control rats. In addition, GM+TG especially TGL merged damage effects accompanied by degenerative and inflammatory pathological changes and changes in the balance of apoptosis regulatory protein, PCNA in renal tissue. In addition, the annexin-V and IL6 demonstrated that the proportion of viable cells was significantly reduced and the proportion of apoptotic and necrotic cells markedly elevated. These findings propose that TG treatment with GM accessed renal dysfunction via expanding renal inflammation, oxidative stress, and apoptosis.

Keywords: Tigecycline; gentamicin; kidney damage; combined therapy; oxidative stress; PCA.

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14.Polymorphism of the Signal Transducer and Activator of Transcription 5A (STAT5A) gene in Egyptian Water Buffaloes using the SSCP Technique

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Abstract

Buffalo are considered the main source of white milk and contribute to about 45% of the annual milk production in Egypt. The STAT5A protein has an important role in signal transduction process within uterine epithelial cells and mammary glands affecting milk yield, fertilization, and embryonic survival rates in cattle. The studies conducted for the improvement of the genetic potentiality of productive and reproductive traits of Egyptian buffalo are still scanty. Data on polymorphisms of the buffaloes STAT5A gene is limited. A 929 bp including part of intron 7 to part of intron 9 and the intervening exons of the STAT5A gene was amplified and genotyped by the SSCP method. Three different conformation patterns in the investigated buffalo population were observed. Pattern B showed the highest observed frequency of 51.7%, while patterns A and C occurred at frequencies of 45% and 3.3% respectively. A Chi-square test showed that the Egyptian water buffalo population was in Hardy-Weinberg equilibrium. The present study aimed to identify novel polymorphisms in the STAT5A gene in Egyptian buffalo and validate their genotypic frequencies that might be used as potential markers of reproductive traits for effective animal selection and breeding programs.

KeyWords: Buffalo, STAT5A gene, Polymorphism, SSCP, Conformation patterns.

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15.Modulation of Immune Response in Canine Chronic Wound Stimulated with Class C CpG Oligonucleotide

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Abstract

Chronic wound healing is a severe problem in veterinary practice, therefore, the new agent for wound healing is recommended. Synthetic oligdeoxynucleotides containing one or more CpG motifs (CpG-ODN) is used to stimulate the immune system and improve skin wound healing. Ten clinically healthy animals were used to estimate and compare the rate of wound healing. The animals were arranged into two groups (five animals each). The estimation of wound healing was carried out by clinical observation of the signs of healing in 21 days, the observation based on presence of sepsis and unhealthy granulation tissue formation. Histopathological findings which depend on the rate of new vascularization, amount of collagen bundles, epithelial thickness and cellular component. Molecular assessment based on expression of IL10 & TGF-β.This study aimed to evaluate the role of Class C CpG oligonucleotide as new modality to overcome the delay of wound healing in canine.

Keywords: Chronic wound, CpG-ODN, Canine, Immune response.

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كلمة مقرر المؤتمر

وكيل كلية الطب
للدراسات العليا والبحوث

أ.د هشام خالد رشيد

فى البداية أود أن اتوجه بالشكر لمعالى رئيس الجامعه أ.د جمال سوسه ومعالى نائب رئيس الجامعة للدراسات العليا والبحوث أ.د ناصر الجيزاوى على ثقتهما للمشاركة فى تنظيم أول مؤتمر للعلوم التطبيقية بجامعة بنها والذى يهدف إلى تجميع شباب الباحثين بالجامعة وخارجها تحت شعار بناء قدرات شباب الباحثين.

ويدور المؤتمر والذى يستمر لمدة يومين متتاليين حول أربع محاور رئيسية هي : المحور الطبى – محور العلوم الاساسية – محور العلوم الهندسية– محور العلوم البيولوجية التطبيقيه وسيتم عرض أفضل الأبحاث المشاركة بالمؤتمر.

خالص الشكر والتقدير لزملائى فى اللجنة المنظمة للمؤتمر وتمنياتى لطلاب الدراسات العليا بمؤتمر علمى مميز محققا طموحاتنا فى بحث علمى مميز تطبيقى مفيد لمجتمعنا ومصرنا الحبيبة.

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كلمة رئيس المؤتمر

نائب رئيس الجامعة
لشئون الدراسات العليا والبحوث

أ.د ناصر الجيزاوي

إن الظروف التنافسية الجديدة الناتجة عن اقتصاد المعرفة وتحديات الثورة الصناعية الرابعة والخامسة تحتم على الجامعات ان تضع سياسات جديدة تشجع على بناء القدرات الابتكارية وتعزز الابتكار وتستخدم ادوات التنمية لربط الجامعات بالقطاع الصناعي وذلك كخطوة فعالة لتحقيق إحدى أهداف الدولة في استراتيجية العلوم والتكنولوجيا والابتكار 2030 وهو "تهيئة بيئة مشجعة وداعمة للعلوم والتكنولوجيا والابتكار"، وتشجيع تطبيق مخرجات البحث العلمي وتعميق التصنيع المحلى.

وتهدف جامعة بنها حاليا أن تكون نموذجا رائدا للجامعات المصرية في التعليم والبحث العلمي والحياة الجامعية والمجتمعية في ضوء تميز الجامعة في عدد من التخصصات العلمية (العلوم الهندسية والتكنولوجية، علوم الفيزياء،علوم الحياة والعلوم الطبية الاكلينيكية والصحية) طبقا لتصنيف التايمز البريطاني لمؤسسات التعليم العالي ، حيث تسعى الجامعة كبيت خبرة في هذه التخصصات لتسويق مخرجات البحث العلمي وربط البحث العلمي بالصناعة واحتياجات المجتمع. و إنتاج التكنولوجيا وليس فقط إستخدامها وتقوم الجامعة بتشجيع المبدعين على المساهمة في خدمة المجتمع، وتحويل الأفكار المبتكرة والاختراعات إلى منتجات ذات قيمة اقتصادية، للارتقاء بالجامعة إلى مصاف الجامعات المميزة إقليمياً وعالمياً في مجالي الإبداع و الابتكار.

لذلك تسعى الجامعة الي الاستثمار فى المعرفة و التحول لجامعات الجيل الثالث لتسخير المعرفة لبناء ثقافة وبيئة عمل إيجابية تدعم الابتكار والتطوير المستمر لخدمة التنمية والاقتصاد الوطني، وتطبيق أنظمة وآليات تعزز مشاركة الجهات الحكومية والقطاع الخاص في تطبيق جهود الابتكار والمشاركة في تحقيق الأهداف الإستراتيجية للدولة في مجالات بالغة الأهمية وسوف يؤدي ذلك إلى تحقيق شراكة فاعلة ومستدامة بين الجامعة والقطاعات العامة والخاصة، تسهم في التطوير وتساعد على دعم مشاريع جديدة قائمة على توليد الأفكار والإبداع.

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كلمة رئيس الجامعة

أ.د جمـال سوسـه

يعد البحث العلمي من أهم الواجبات الملقاة على عاتق الجامعات والمراكز البحثية، و ذلك من أجل القيام بتأهيل الكوادر العلمية القادرة على النهوض بالمجتمع وتحقيق متطلبات واحتياجات التنمية والسياسات المنشودة، وهو ما يتطلب إعداد باحثين ذوي كفاءات وقدرات تؤهلهم للقيام بهذه البحوث العلمية.

تسعى جامعة بنها دائما لدعم وتحفيز وتقدير المتميزين من أعضاء هيئة التدريس وشباب الباحثين والطلاب تأكيدا لدورهم المهم والمؤثر في تطوير العملية التعليمية والبحثية وخدمة المجتمع حيث يأتي اهتمام الجامعة بالبحث العلمي باعتباره أحد ركائز الإبداع والابتكار وإنماء المعرفة وإثرائها ونشرها والسعي لتوظيفها لحل المشكلات المختلفة التي يواجهها المجتمع والقطاع الصناعي.

وحيث ان البحوث العلمية التي تحمل اسم الجامعة تعد أحد أهم مؤشرات الجودة والتميز في مجال تصنيفها محليا وإقليميا ودوليا فإن جامعة بنها حريصة على دعم نشاطات البحث العلمي والقائمين به من أعضاء هيئة التدريس والباحثين والطلاب ليحقق أهدافه المتمثلة في النمو والتنمية الاقتصادية ورفع مستوى المعيشة لأفراد المجتمع، بما يؤدي إلى تغيير نوعية وجودة الحياة للمجتمع برمته وزيادة رفاهيته.

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عن المؤتمر

المؤتمر السنوي الأول للدراسات العليا للعلوم التطبيقية، والذي ينظمه قطاع الدراسات العليا والبحوث بجامعة بنها سنويًا.

يهدف الى بناء قدرات الطلاب والباحثين الشباب في عرض ومناقشة الأوراق البحثية أو المقالات العلمية في مجالات البحث المختلفة في العلوم التطبيقية.

أهداف المؤتمر:

1) زيادة فرص للتواصل بين طلاب الدراسات العليا بجامعة بنها والجامعات الأخرى.
2) تعميق منهجية البحث العلمي لدى طلبة الدراسات العليا.
3) توفير بيئة للطلاب لعرض خبراتهم البحثية العلمية في أطروحاتهم.
4) إتاحة الفرصة لطلبة الدراسات العليا للمشاركة في معرض مخرجات البحث العلمي.
5) تحقيق أهداف الجامعة في دعم المشاريع البحثية للطلاب.

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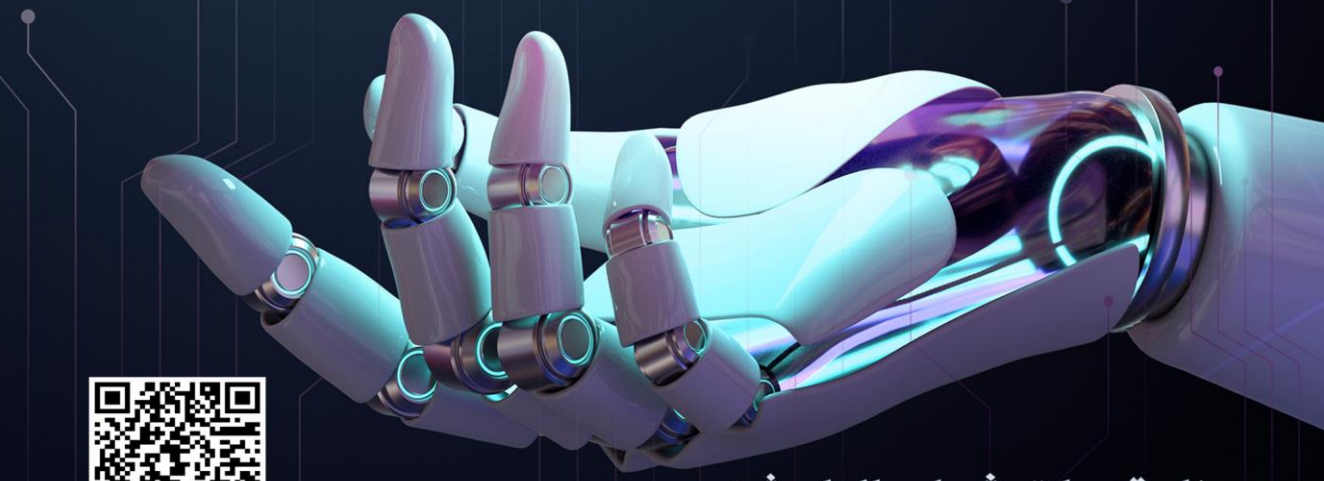

بناء قدرات شباب الباحثين