The 6th International Conference of the Arab Society for Medical Research

Eatabe Luxor Hotel
Luxor Government - Egypt
February 20 -24th, 2018

Medical Research and Health Challenges in the Arab World

Under the Patronage of
The League of Arab States

H.E. Mohamed Badr
Luxor Governor

Prof. Karam Mahdy
Conference Deputy-Chairman

Prof. Ashraf Shaalan
Conference Chairman

Prof. Azza Abdel Shaheed
Conference Co-Chairman

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Arab Society and Conference Chairman
President of the National Research Centre
Arab Republic of Egypt

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Vice-President of the Society

Conference Deputy-Chairman

Prof. Karam Mahdy
Secretary General of the Society

February 20 – 24th, 2018
Eatabe Luxor Hotel
Luxor, Egypt

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Welcome message

Dear Colleagues

It is great pleasure to welcome you to the 6th International conference of the Arab Society for Medical Research, which held in Eatabe Luxor Hotel, Luxor Government-Egypt. Luxor is located in Upper Egypt and has been described as the world's biggest open air museum and one of the most important tourism spots in Egypt and maybe in the whole world.

The main theme of the meeting this year is Medical Research and Health Challenges in the Arab World; the scopes of interest have been extended to include the most recent advances in the different domains of the medical sciences. The Arab society is aiming at faster co-operation and networking of medical schools of Arab countries in order to advance medical research globally.

The conference program includes the recent research in different medical fields in Arab Countries.

We hope all participants will enjoy the pleasure of warm Egyptian hospitality and culture. We assure you that this meeting will represent a memorable addition to our scientific knowledge

Conference Chairman
Chairman of the Arab Society for Medical Research
Chairman of National Research Centre, Egypt
Prof. Dr. Ashraf Shaalan

Organizing Committee

Ashraf Shaalan
Karam Mahdy
Azza Abd El- Shaheed
Abdel Razik Farrag
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Secretary: Ahmed Soliman
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(Arranged Alphabetically)

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Abdel Razik H. Farrag (Egypt)
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Abdul M. Gbaj (Lybia)
Amina Gamal El Din (Egypt)
Amina H. Awad (Egypt)
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Mahmoud Elhefnawi (Egypt)
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Manal A. Hamed (Egypt)
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Reda M. ELbadawy (Egypt)
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Sayed El-Toumy (Egypt)
Shehata EM Shalaby (Egypt)
Soad Nady (Egypt)
Sonya El Sharkawy (Egypt)
Taghrid S. Hafez (Egypt)
Tamer Taha (Egypt)
Tarek Salah El-Din (Egypt)
Wafaa Abdel Aal (Egypt)
Yasser E. Nassef (Egypt)

List of Speakers

(Arranged Alphabetically)

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Abdel Razik H. Farrag (Egypt)
Abdelaaty A. Shahat (Egypt)
Abdul M. Gbaj (Lybia)
Abeer Y. Ibrahim (Egypt)
AbeerAbd El-Hadi (Egypt)
Abtisam F. Al-shukri (Iraq)
Ahmed AN (Egypt)
Ahmed Ata (Egypt)
Ahmed Mandil (Egypt)
Ahmed Okasha (Egypt)
Al-Shaimaa F. Ahmed (Egypt)
Amr Abbassy (Egypt)
Asmaa M.A. Bayoumi (Egypt)
Awatif Hameed Issa (Iraq)
Aya Khalil (Egypt)
Azza M.Ahmed (Egypt)
B. Chiboub (Algeria)
Barakat A.M.A (Egypt)
Ehab A. Ibrahim (Egypt)
Ehab Salama (Egypt)
Elmeya Safar (Egypt)
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Eman M. Aly (Egypt)
Enayat A. Omara (Egypt)
Ezzat M. Abdel-Moety (Egypt)
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Gamal A.Ymamah (Egypt)
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Hager Amer (Egypt)
Hala M.Hammoda (Egypt)
Hayam M Abdel Ghany (Egypt)
Hayat I, Gommaa (Egypt)
Iman A. Fahmy (Egypt)
Inas A Rasheed (Egypt)
Inas El-alameey (Egypt)
Maher Al-Dabbas (Jordan)
Mahmoud A. Abdel Monem (Egypt)
Mahmoud Elhefnawi (Egypt)
Makrelouf M. (Algeria)
Manal A. Hamed (Egypt)
Mazen Abdel-Rasheed (Egypt)
Mervat Ahmed Ali (Egypt)
Mona A. Mohammed (Egypt)
Mona Gamal (Egypt)
Nabila Heroual (Algeria)
Naglaa A. Abd ElKader (Egypt)
Naglaa F. Abbas (Egypt)
Nayera Elmorsi Hassan (Egypt)
Nehad M. Ibrahim (Egypt)
Nouran O. Abdelmageed (Egypt)
Ola M Ibrahim (Egypt)
Reda M.ELbadawy (Egypt)
Rehab Shammaa (Egypt)
Sahar A. El-Masry (Egypt)
Salwa A Abdelkawi (Egypt)
Samira Muhammed Ebrahim (Iraq)
Saneya A. Wahba (Egypt)
Sarah S. Abdel Hameed (Egypt)
Shehata EM Shalaby (Egypt)
Shenouda M. Girgis (Egypt)
Sondos Salem (Egypt)
Sonia L.El-sharkawy (Egypt)
Souad Guemache (Algeria)
Taghrid S. Hafez (Egypt)
Wafaa Abd El-Aal (Egypt)
Walaa Saad (Egypt)
Wegdan A. Mohamad (Egypt)
Yasser E. Nassef (Egypt)
Zeinab A. Muhammad (Egypt)

Main Topics

- Pediatrics & Child Health
- Stem cells & Reproductive Medicine
- Maternity of Prenatal Care
- Molecular Biology
- Biochemistry & Clinical Pathology
- Biological Anthropology
- Pharmacology & Natural Products
- Histopathology
- Ophthalmology
- Occupational & Environmental Health

General information

Date: February 20-24th, 2018

Venue: Eatabe-Luxor Hotel which is located at the heart of Luxor city in Cornish El Nile St., 7 km from Luxor International Airport.

Data Show & Slides: Please submit your CD/slides to the slide delivery Hall at least one hour before the presentation time.

Posters: The posters should be placed in the Hall in which session will be hold

Badges:

Red	**:**	Chairpersons
Blue	**:**	Organizing Committee
Yellow	**:**	Speakers/Posters
Green	**:**	Attendants

Conference at Glance

Date	Time		Hall A (Main Hall)	Hall B
February 19th 2018	10:00 PM	Misr station (VIP train No 2008)		
	10:15 PM	Giza station (VIP train No 2008)		
February 20th 2018	02:00 - 04:00 PM	Hotel check in		
	05:00 - 07:00 PM	Registration & Opening Ceremony		
	07:00 - 10:00 PM	*Dinner*		
February 21st 2018	07:00 - 10:00 AM	*Breakfast*		
	10:00 – 11:00 AM		Pediatrics & Child Health	Stem Cells & Reproductive Medicine
	11:00 - 12:00 AM		Molecular Biology	Maternity & Prenatal Care
	12:00 - 01:00 PM		Biochemistry & Clinical Pathology	Biological Anthropology
	01:00 – 02:00 PM	*Coffee Break*		
	02:00 – 03:00 PM		Pharmacology & Natural Products	Histopathology
	03:00 – 04:00PM		Ophthalmology	Occupational & Environmental Health
	05:00 – 07:00 PM	Social		
	07:00 – 10:00 PM	*Dinner*		
February 22nd 2018	07:00 - 10:00 AM	*Breakfast*		
	10:00 - 11:00 AM		Poster 1	Poster 1I
	11:00 - 12:00 AM		Poster 1II	Poster 1V
	12:00 -01:00 PM		Closing Ceremony	
	01:00 -02:00 PM	*Coffee Break*		
	02:00 – 07:00 PM	Luxor & Karnak Temples and Sound & light show		
	07:00 - 10:00 PM	*Dinner*		
February 23rd 2018	07:00 - 09:00 AM	*Breakfast*		
	09:00 AM - 05:00PM	The Western Bank of the Nile		
	05:00 - 07:00PM	Shopping		
	07:00 – 10:00 PM	*Dinner*		
February 24th 2018	06:00 - 08:00 AM	Breakfast and check out		
	09:00 AM	Luxor station (VIP train no 981)		

Conference Program

February 20th	**05:00 - 06:30 PM**

Hall A

05:00 – 06:00	**Registration**
06:00 – 06:30	**Opening Ceremony** **Welcome Addresses** • **Prof. Dr. Karam Mahdy** Conference Deputy-Chairman, Secretary General of the Society, Egypt • **Prof. Dr. Azza Abd El-Shaheed** Conference Co-Chairman, Vice President of the Society • **H.E. Said El Hadi** Director of Health & Humanitarian aid Department, Responsible of Technical Secretariat for Arab Health Ministerial Council • **H.E Mohamed Badr** Luxor Governor Arab Republic of Egypt • **Prof. Dr. Ashraf Shaalan** Conference Chairman, President of the Arab Society for Medical Research and the National Research Centre, Cairo, Egypt

February 20th	**06:30 - 07:00 PM**

Plenary

Hall A	
Chairs: Prof.	**Ashraf Shaalan** **Karam Mahdy** **Azza Abdel Shaheed**
06:30 – 06:40	Luxor Government and Health challenges: New vision **El-Sayed Abdel-Gawad**
06:40 – 06:50	Genetic Medicine in Arab Countries: The Need to Capture the Future **Wafaa Abd El-Aal**
06:50 – 07:00	Health Research Priorities: An EMR Perspective **Ahmed Mandil**
07:00 – 10:00	**Dinner**

February 21st	10:00 - 11:00 AM

Pediatrics & Child Health

Hall A	
Chairs: Prof.	**Azza Abdel Shaheed** **Amina H. Awad** **Gamal A. Ymamah**
10:00 - 10:10	Evaluation of the role of vitamin D levels in predicting chronic liver disease development in a group of Egyptian children infected with the hepatitis C virus **Yasser E. Nassef**
10:10 - 10:20	Macronutrients adequacy of diet consumed by children of South Sinai- Egypt **Gamal Abdel-Nasar Ymamah**
10:20 - 10:30	Bevarages consumption pattern of Egyptian adults **Saneya A. Wahba**
10:30 - 10:40	Plasminogen Activator Inhibitor-1 in Children with Central Obesity: Effect on Left Ventricular Function **Azza M.Ahmed**
10:40 - 10:50	Nutritional Management of Congenital Heart Diseases **Inas El-alameey**
10:50 - 11:00	**Discussion**

February 21st	10:00 – 11:00 AM

Stem Cells & Reproductive Medicine

Hall B	
Chairs: Prof.	**Osama Azmy** **Tamer Taha** **Inas A Rasheed**
10:00 - 10:10	MicroRNA expression analysis in endometriotic serum treated mesenchymal stem cells **Mazen Abdel-Rasheed**
10:10 - 10:20	Variants of CDKAL1 rs7754840 (G/C) and CDKN2A/2B rs10811661 (C/T) with Gestational Diabetes: Insignificant association **Ahmed Okasha**
10:20 - 10:30	Differentially expressed genes: OCT-4, SOX2, STAT3, CDH1 and CDH2, in cultured mesenchymal stem cells challenged with serum of women with endometriosis **Ehab Salama**
10:30 - 10:40	FSHR gene polymorphisms affect the ovarian response to rFSH stimulation in Egyptian patients undergoing ARTs: a step toward individualized medicine **Sondos Salem**
10:40 - 11:00	**Discussion**

February 21st	**11:00 - 12:00 AM**

Molecular Biology

Hall A	
Chairs: Prof.	**Abdul M. Gbaj** **Mahmoud Elhefnawi** **Makrelouf M.**
11:00 - 11:10	Design, synthesis, molecular modeling, and biological evaluation of aryl imino methene phenol derivatives as potential anticancer agents **Abdul M. Gbaj**
11:10 - 11:20	*Ferula hermonis* extract protect against Cycram induced DNA, protein and biochemical alterations and infertility in male rats **Shenouda M. Girgis**
11:20 - 11:30	The effect of Red Seaweed (*Chondrus crispus*) on the fertility of male albino rats **Nehad M. Ibrahim**
11:30 - 11:40	Development of Micro-RNA Based Anti – Liver Cancer Therapeutics **Mahmoud Elhefnawi**
11:40 - 11:50	Association of Apolipoprotein E Genotypes with Dementia Alzheimer Type in Algerian Population **Makrelouf M.**
11:50 - 12:00	**Discussion**

February 21st	11:00 - 12:00 AM

Maternity & Prenatal Care

Hall B	
Chairs: Prof.	**Tamer Taha** **Hayat I, Gommaa** **Fawaz Al Refaee**
11:00 - 11:10	Assessment the Service Quality of Focused Antenatal Care at Health Care Facilities in Bauchi State Nigeria **Hayat I Gommaa**
11:10 - 11:20	Assessment the Satisfaction, Utilization and Barriers to Prevention of Mother-to-Child Transmission (PMTCT) Services among HIV Positive Pregnant Women in Abuja Metropolis, Nigeria **Hayat I Gommaa**
11:20 - 11:30	Adolescent Endometriosis 'The Smell of Trouble' **Amr Abbassy**
11:30 - 11:40	Evaluated the Programmed death 1 (PD-1) in Serum of HCV Iraqi patient **Awatif Hameed Issa**
11:40 - 12:00	**Discussion**

February 21st **12:00 - 01:00 PM**

Biochemistry & Clinical Pathology

Hall A

Chairs: Prof.	**Faraj Zgheel**
	Reda M. ELbadawy
	Awatif Hameed Issa
12:00 - 12:10	*Nigella sativa* Seed Reduced Galectin-3 level and Liver Fibrosis in Thioacetamide-Induced Liver Injury of Rats
	Mahmoud A. Abdel Monem
12:10 - 12:20	EPA: DHA 6:1 induce endothelium-dependent NO mediated relaxation involves the redox-sensitive PI3-kinase/Akt and $MAPK_S$ pathway activate eNOS in porcine coronary artery
	Faraj Zgheel
12:20 - 12:30	Characterization of probiotic bacteria isolated from different dairy products at Assiut Gouvernorate
	Wegdan Abdelhamid Mohamad
12:30 - 12:40	Evaluated the Programmed death 1 (PD-1) in Serum of HCV Iraqi patient
	Awatif Hameed Issa
12:40 - 12:50	A Study of External Cranial Carotid Initima Media Thickness As A Land Mark of Cardiovascular System Affection And Early Sign of Atherosclerosis In patients with Non Alcoholic Fatty Liver Disease
	Reda M. ELbadawy
12:50 - 01:00	Assessment of Serum Malondialdehyde (MDA) and Urinary 8-hydroxydeoxyguanosine (8-OHdG) in Egyptian Children with Type I Diabetes Mellitus and Factors affecting
	Inas A Rasheed
	Discussion

February 21st	12:00 - 01:00 PM

Biological Anthropology

Hall B	
Chairs: Prof.	**Nayera Elmorsi Hassan** **Sahar A. El-Masry** **Sanya Wahba**
12:00 - 12:10	Impact of Glycemic Control on Growth Body Composition among a Sample of Egyp Diabetic Children with Insulin-depen Diabetes Mellitus **Nayera Elmorsi Hassan**
12:10 - 12:20	Anthropometric prediction of insulin-like growth factor-i and its binding protein-1 among egyptian infants of diabetic mothers **Sahar A. El-Masry**
12:20 - 12:30	Infectobesity in Egyptian adolescent females and its relations with carotid intima-media thickness (c-IMT) **Walaa Saad**
12:30 - 12:40	Standard body mass index reference data of prepubescent diabetic Egyptian children **Aya Khalil**
12:40 - 01:00	**Discussion**

February 21st	**02:00 – 03:00 PM**

Pharmacology & Natural Products

Hall A

Chairs: Prof.	**Moustafa El Missiry** **Manal A. Hamed** **Maher Al-Dabbas**
02:00 - 02:10	Evaluation of cypermethrin and chlorpyrifos pesticides residues in tomato fruits and cucumber produced under local production conditions, and effect of ozonation on these pesticides residues degradation **Maher Al-Dabbas**
02:10 - 02:20	Non-viral factors contributing hepato-cellualr carcinoma **Manal A. Hamed**
02:20 - 02:30	Tempol: An Effective Prophylactic and Therapeutic Agent in a Murine model of Septic Shock **Asmaa M.A. Bayoumi**
02:30 - 02:40	Pantoprazole increases the mortality of rats in a cecal ligation and puncture model of sepsis **Sarah S. Abdel Hameed**
02:40 - 02:50	Antitumor Activity of Alkaloids Extract from *Opuntia polyacantha* Plant by Using High Content Screening Technique (HCS) **Abtisam F. Al-Shukri**
02:50 - 03:00	**Discussion**

February 21st	02:00 - 03:00 PM

Histopathology

Hall B

Chairs: Prof.	**Wafaa Abdel Aal** **Amina Gamal El Din** **Hafiza Sharaf**
02:00 - 02:10	Immunohistochemical Expression of Androgen Receptor and Ki67 in Estrogen Receptor Negative Breast Carcinoma **Gamal el Din, A.A.**
02:10 - 02:20	Estrogen Receptors Expression in Epithelial Ovarian Carcinoma **Sonia L.El-sharkawy**
02:20 - 02:30	Evaluation of Pomegranate Peels Extract (*Punica granatum*) on Cyclosporine hepatotoxic- Rat: Oxidative Stress and apoptotic marker **Enayat A. Omara**
02:30 - 02:40	Cancer Stem Cell Marker (CD44) in Breast Duct Carcinoma and its Correlation with Prognostic Factors **Ahmed AN**
02:40 - 02:50	Histopathological and immunehisto-chemical study of Matrix metallo-proteinase-2 and Matrix metalloproteinase-9 in breast cancer **Naglaa F. Abbas**
02:50 - 03:00	Possible protective effect of Jojoba extract against fumonisin-induced hepato-toxicity in rats **Hafiza A. Sharaf**
	Discussion

February 21st	**03:00 - 04:00 PM**

Ophthalmology

Hall A	
Chairs: Prof.	**Elmeya Safar** **Fathia Elrefaei** **Hager Amer**
03:00 - 03:10	Effect of photosensitized liposomal hypericin on the rabbits' eye for application in photodynamic therapy **Fathia Elrefaei**
03:10 - 03:20	Photobiomodulation therapy for diabetic macular edema- ftir study **Salwa A Abdelkawi**
03:20 - 02:30	Role of calcium exposure in cataractogenesis **Hager Amer**
03:30 - 03:40	Biochemical changes and oxidative stress associated with cataract in egyptians **Ahmed Ata**
03:40 - 03:50	Caffeine and nifedipine effect on cataract induced by selenite in rats **Eman M. Aly**
03:50 - 04:00	**Discussion**

February 21st **03:00 - 04:00 PM**

Occupational & Environmental Health

Hall B

Chairs: Prof.	**Shehata EM Shalaby** **Barakat A.M.A** **Samira M. Ebrahim**
03:00 - 03:10	The response of occupational workers to regarding practices on safety measures during pesticide operations **Shehata EM Shalaby**
03:10- 03:20	Molecular, physiological and pathological changes in experimentally infected animals with *Toxoplasma gondii* **Barakat A.M.A**
03:20 - 03:30	Phytochemical and Pharmacological potential of bottle gourd (*Lagenari asicereria*): an updated review **Ehab A. Ibrahim**
03:30 - 03:40	Work place violance against nursing staff working in emergency departments at general hospitals in Basra City/Iraq **Samira Muhammed Ebrahim**
03:40 - 03:50	Serological Study of Brucellosis camels and cattle in Libya **Fauzia Salem Alghanni**
03:50 - 04:00	Novel approach to gastric mucosal defect repair using fresh amniotic membrane allograft in dogs (experimental study) **Naglaa A. Abd El Kader**
	Discussion

Posters

February 22nd **10:00 - 11:00 AM**

Poster I

Hall A

Chairs: Prof.

Naglaa Abbas
Sonya El Sharkawy
Taghrid S. Hafez
Hanaa Hamdy

10:00 - 11:00

Novel Bioactive Injectable Thermosensitive Hudrogel for bone Regeneration: In Vitro Characterization, Cytocompatibility, and Osteogenenic Evaluation

Nouran O. Abdelmageed

Design of novel injectable *in-situ* forming scaffolds for non-surgical treatment ofperiapical lesions: *in-vitro* and *in-vivo* evaluation

Rehab Shammaa

5-(Thiophen-2-yl)-1,3,4-Thiadiazole Derivatives: Synthesis, Molecular Dockingand *In-vitro* Cytotoxicity Evaluation as Potential Anticancer Agents

Zeinab A. Muhammad

Meal induced c-Fos in the subfornical organ is partially mediated by cholecystokinin

Al-Shaimaa F. Ahmed

Synthesis and Antitumor Activity of Bis-Schiff Bases of Pyrazoles

Taghrid S. Hafez

Study of dietary risk factors for breast cancer in women in the region of Batna: Case-control study 2014-2015

B. Chiboub

Antioxidant, Cytotoxicity and Anti-tumor activity of *Cordiadi chotoma* fruits pulp alcoholic extract against Ehrlich Ascites Carcinoma in Mice

Abeer Y. Ibrahim

February 22nd **10:00 - 11:00 AM**

Poster II

Hall B

Chairs: Prof. **Yasser E. Nassef**
Soad Nady
Ezzat Abdel-Moety

10:00 - 11:00

A Potent Anti-ovarian Cancer with Potent Inhibitor Activities on Both Topoisomerase II and ^{V600E}BRAF for Synthesized Pyrazoline Estrone Derivatives

Abd El-Galil E. Amr

Double-Track electrochemical green approach for simultaneous dissolution profiling of naproxen sodium and diphenhydramine hydrochloride

Ezzat M. Abdel-Moety

Cerebral Palsy (CP) in Algeria

Souad Guemache

Discovery of an ancestral mutation in US2A gene in an Algerian family with Usher syndrome

M. Makrelouf

Molecular screening of non-syndromic deafness in Algeria

Makrelouf M.

Autologus serum and sodium hyaluronate role in alkali corneal burn healing

Mervat Ahmed Ali

February 22nd	**11:00 - 12:00 AM**

Poster III

Hall A

Chairs: Prof.	**Abd El-Galil E. Amr** **Ola Mostafa** **Sayed El-Toumy**
11:00 - 12:00	Effect of systemically administered cadmium on rat retina **Mona Gamal** Antidiabetic treatments from natural origin- an overview **Abdelaaty A. Shahat** Hydrocortisone Dehydrogenation By Immobilized Bacilluspumilus E601 Cells Incorporated into poly (Vinyl Alcohol) Gels **AbeerAbd El-Hadi** Hospital infant mortality 2014-2015 in oran (Algeria) **Nabila Heroual** Place of non-communicable diseases in premature mortality in the Wilaya of Oran (2014-2015)-Algeria **Nabila Heroual** Lack of evidence for the role of human Adenovirus-36 in obesity of Egyptian children **Ola M Ibrahim**

February 22nd **11:00 - 12:00 AM**

Posters IV

Hall B

Chairs: Prof.

Abdelaaty A. Shahat
Tarek Salah El-Din
Mona Gamal

Antifibrotic effects of *Punica granatum* peels via stimulation of hepatic stellate cells apoptosis in thioacetamide-induced liver fibrosis in rat

Abdel Razik H. Farrag

Helminthic zoonotic parasites in the anterior chamber of the eye

Elmeya Safar

Glaucoma Functional damage and Comparative Psychophysical Studies

Iman A. Fahmy

11:00 - 12:00

Assessment of the clinical effect of hyperbaric oxygen therapy on cerebral palsy children

Hayam M Abdel Ghany

Integrated *in silico-in vitro* strategy for screening of some traditional Egyptian plants for human aromatase inhibitors

Hala M. Hammoda

Alkaloids of *Annona* hybrid leaves and barks against gastric ulcer in rats

Mona A. Mohammed

February 22nd	**12:00 - 01:00 PM**

Closing Ceremony & Recommendations

Hall A	
Chairs: Prof.	**Mostafa El Mesairy** **Karam Mahdy** **Azza Abdel shaheed**
01:00 – 02:00	**Coffee break**
02:00 – 07:00	**Social**
07:00 –10:00	**Dinner**

February 23rd	**07:00 AM - 07:00 PM**
07:00 - 09:00	**Breakfast**
09:00 – 05:00	**Journey of the Western Bank of the Nile**
05:00 – 07:00	**Shopping**
07:00 –10:00	**Dinner**

February 24th	**07:00 - 09:00 AM**
07:00 - 08:00	**Breakfast & Check out**
09:00	**Departure from Luxor train station (VIP train no 981)**

Conference Abstracts

Plenary Session

Luxor Government and Health challenges: New vision

El-Sayed Abdel-Gawad

Deputy Minister of Health and population-Luxor Government
E-mail: cessayed@gmail.com

Luxor government has witness lately and unprecedented renaissance in health field where two hospitals have been opened at Luxor Armant Hospital and Luxor General Hospital with a cost of one billion Egyptian pounds. Also three more hospitals will be opened at the end of June which are Isna, El-Edisat and El-Biadeia Hospitals with a cost of one and half billion Egyptian pounds, and this is a preparation of Luxor government to join the health insurance system. On the other hand the state of Luxor is steadily progressing to work completely the health survey of virus (c), in addition to establish an institute to train doctors and constructed a logistic center for medical equipment and supplies to serve and support the south of Egypt (the upper Egypt).

Our vision is Luxor to be a capital of medicine in Upper Egypt.

Genetic Medicine in Arab Countries: The Need to Capture the Future

Wafaa Abd El-Aal

Pathology Department, National Research Centre, Dokki, Egypt
wabdelaal@yahoo.com

Introduction:

Arabs have one of the highest rates of genetic disorders mainly due to consanguinity (25-60% of all marriages are consanguineous), the relatively high proportion of births to older mothers and the restriction of services for prevention and control of genetic disorders by certain cultural, legal, and religious limitations in the region.

Human Genome Project has advanced our understanding of the impact of genetics on human disease. The future of research on genetic diseases is very promising. Gene therapy, bioinformatics, computational genomics and genome editing are driving progress in this field. We need to prepare strategies to capture the Future of genetic medicine to alleviate human suffering from genetic diseases in the Arab World."

Issues to be discussed:

Genetic medicine: is a newer term for medical genetics and incorporates areas such as gene therapy, personalized medicine. Will change both health care and research by creating a fundamental understanding of the etiology of many diseases, even “non-genetic” diseases

Gene therapy: It involves actually replacing defective genetic material with normal genetic material inside the cells. Researchers currently are looking for ways to do this. A variety of methods are being considered, including the use of microscopic "bullets" coated with genetic material and viruses to deliver normal genes to cells.

Genomics & Bioinformatics: The entire complement of genetic material carried by an individual is called the genome. Bioinformatics is the branch of science concerned with information and information flow in biological systems, esp. the use of computational methods in genetics and genomics. Biologists are increasingly finding that the management of complex data sets is becoming a bottleneck for scientific advances. Therefore, bioinformatics is rapidly become a key technology in all fields of biology.

Genome Editing: In April 2015 it was announced that gene editing techniques had been used to modify the DNA sequences of human embryos for the first time. The study by Liang and co-authors attempted to use the gene editing technique CRISPR to reverse the genetic mutations that lead to the disease muscular dystrophy.

Conclusion: Studies have clearly indicated that the correct dissemination of knowledge is an important step towards the prevention of genetic disorders in Arab populations. National programs must be adopted and funded to introduce new technology and strengthen of existing genetic service taking into account the importance of application of the ethical, legal, religious, and cultural factors in formulating genetic services.

Health Research Priorities: An EMR Perspective

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Prioritization of health research is important for sound resource allocation and related decision making. There are many tools for setting research priorities but no ideal template. Hence, there are no universal methods or standards that apply to all. The broad domains which should be considered in any research priority setting process include: feasibility (technical, economic, logistic); national health priorities; public health benefit / impact. Steps of prioritization include review of background material; common understanding of the challenges; identifying knowledge gaps in each of the programmes in hand; and converting knowledge gaps into research domains. In EMRO, we work with national healthcare delivery agencies / disease control programs to yield information about health research priorities; converge / review information by relevant departments / areas or work; discuss with in-house departments / areas of work using different exercises; and update lists, based on feedback / outcome of meetings. Such exercises need capacity-building on health research prioritization; carrying out scientific priority-setting exercises, involving different stakeholders. The presentation will provide examples of research priorities for the main strategic areas of work of EMRO, including health systems strengthening; health security and communicable diseases; non-communicable diseases and mental health; emergency preparedness and response, in addition to reproductive, maternal, child, adolescent health and nutrition. Eventually, we have to keep in mind: technical feasibility (capacity building in epidemiology, biostatistics, research methods & ethics, knowledge management & translation); economic feasibility (effective national mechanisms for health research funding; institutionalization of research&development within different healthcare delivery agencies/ disease prevention and control programs); logistic feasibility (supporting health research institutions within framework of national health agendas); public health impact and sustainable development (linking research-generated evidence emanating from academia and health research institutions with health policy making).

Pediatrics & Child Health

Evaluation of the role of vitamin D levels in predictingchronic liver disease development in a group of Egyptian children infected with the hepatitis C virus

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Background/Aim: Recently, the role of vitamin D in patients with chronic hepatitis C virus (HCV) has received considerable attention, given its inherent activation process by the liver and the high prevalence of vitamin D deficiency in this patient group. We aimed to evaluate vitamin D in HCV patients and its association with the degree of fibrosis in a group of Egyptian children and to assess whether vitamin D can be used as a reliable noninvasive marker of liver fibrosis. **Patients and methods**: Sixty patients with a confirmed diagnosis of HCV infection-related chronic liver disease were included in the study as the patient group (56.7% males and43.3% females.). Their age ranged from 8 to 14 years, mean10.97±2.09. Another 60 age-matched and sex-matched healthy participants were included as the control group. Detailed assessment of history and full clinical examination were performed and serum samples were taken from all participants. Serum was tested for HCV PCR, anti-HCV antibodies, aspartate aminotransferase, alanine aminotransferase, albumin, total bilirubin, and 25-hydroxyvitamin D. Liver biopsy was performed for the patient group to assess the stage of fibrosis of each patient. **Results:** The prevalence of vitamin D insufficiency (serum25-hydroxyl vitamin D<30 ng/ml) was 50% in the patient group. A significantly lower mean serum level of 25-hydroxyvitamin D was found in the patient group compared with the controls (P<0.05), whereas a significant inverse association was found between serum 25-hydroxyl vitamin D and stages of liver fibrosis (r= – 0.381 and P=0.003). Moreover, those HCV patients with insufficient vitamin D were more at risk of moderate to severe fibrosis compared with those with adequate vitamin D (adjusted odds ratio=18.233 and 95%confidence interval=4.253–78.165 after adjustment for age, sex, and BMI). **Conclusion:** Vitamin D deficiency is highly prevalent in young patients with chronic HCV infection and is directly associated with disease severity. Chronic HCV patients with insufficient vitamin D have significantly increased odds ratios for severe fibrosis compared with patients with adequate vitamin D. We recommend the inclusion of vitamin D assessment and replacement in the management of chronic HCV patients as well as the use of serum 25-hydroxy vitamin D as a reliable noninvasive biomarker of liver fibrosis in those patients.

Keywords: children, chronic liver disease, hepatitis C virus, vitamin D

Macronutrients adequacy of diet consumed by children of South Sinai- Egypt

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Introduction/Aim: South Sinai is a remote governorate in Egypt. Publications points to many nutritional deficiencies among children including vitamins and trace elements. Macronutrient assessment wasn't studied at this area. The purpose of this work was to assess the dietary macro nutrients intake within school age children living at South Sinai.
Subjects and methods: Cross sectional study for South Sinai school children was designed. A total of 862 children aging 4 to 18 y were randomly selected among students at public schools from 6 visited cities in South Sinia Governorate. Nutritional consumption data was collected using standard 24 hours dietary recalls (24-HDRs) by nutritionists interviewers. Local recipes samples were collected and analyzed for their contents of moisture, protein, fat, ash, crude fiber and carbohydrate using standard methods. Each macronutrient was then calculated in grams using Nutrisurvey software program. The % fulfillment of the recommended daily allowance (RDA) was then calculated. Subjects were classified into 4 age groups in each studied area for proper comparison.
Results: illustrated that the mean daily intake of energy (Kcal/d), carbohydrate (g/day), fats (g/day) and fibers (g/day) in different study sites were below RDA. Significant difference ($p<0.05$) between different age groups and different study sites are very clear. Protein intakes were within RDA. Sidre city showed the worst results. Adolescents had marked macronutrient deficiencies.
Conclusion: All macronutrients intakes for children and adolescents living at S.Sinai under study were lower than their RDAs except of protein. Health education programs and organized supplementation is mandatory. These programs have to consider sites and age groups differences.

***Keywords*:** macro nutrients, South Sinai (S.S), Recommended Dietary Allowance (RDA), children, Food Frequency Questionnaire (FFQ)

Beverages consumption pattern of Egyptian adults

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Background/Aim: Fluid intake, especially water, is essential for good health. Water plays a role in almost all body functions. Nothing is known about Egyptian beverage consumption. This study was carried out to estimate the daily consumption of fluids (water and other beverages) in Egyptian adults.

Subjects and Methods: A total of 950 men and women adults working in National Research Centre participated in the study. Self administered questionnaires were used to collect demographic information. Fluid intake from different types of beverages was collected using a 24 hour recall. Pattern of beverage consumption at meals and snacks were examined. Data were analyzed using SPSS software (version 16.0).

Results: Plain water, tea and plain milk were the beverages reported by the largest percentages of participants, (98.9%, 63.3% and 26.8% respectively). Water accounted for one-half of daily fluid intake (1590 ml/day out of 3155 ml of the total fluid intake). Men had significantly larger intake of water and tea than women. Younger age group (19-34 years) consumed significantly higher amounts of packed juices and soft drinks. Those who are working as non research staff (lower education level) consumed significantly higher amounts of juices, soft drinks and nescafe. Plain water was the most frequently consumed at the main meals and snacks while during breakfast meal, midmorning and afternoon snacks tea was.

Conclusion: Age and education level seemed to be associated with unhealthy consumption of certain beverage types. This must be addressed carefully when developing nutrition intervention.

Keywords: Adults, beverage consumption, water intake, mealtime

Plasminogen Activator Inhibitor-1 in Children with Central Obesity: Effect on Left Ventricular Function

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Background: In obese humans, increased plasma PAI-1 levels have been correlated with the amount of visceral fat, suggesting that adipose tissue is the primary source of PAI-1.**The aim of the study** was to investigate the Plasminogen activator inhibitor-1(PAI-1) expression in obese children and to clarify its role with respect to left ventricular (LV) function**.**

Patients and methods: This study included 69 obese children and adolescents, 40 lean healthy controls. Children were considered obese according to body mass index (BMI) percentile for age and sex curves of growth for our population. Exclusion criteria included hypertension, endocrine, cardiovascular, renal, insulin dependent or independent diabetes mellitus and smoking habits. Laboratory investigations included measurement of plasma PAI-1 antigen, Determination of total serum cholesterol, Triglycerides, blood glucose and fasting serum insulin. Echocardiography study was obtained.

Results: Left ventricular mass (LVM) and LVM/H were significantly higher in obese compared to controls ($P<0.001$) while left ventricular systolic (EF%, FS %) and diastolic function (E/A ratio, deceleration time) did not differ between the two groups. ($P>0.05$) Plasma PAI-1 were significantly higher in obese compared to controls. ($P=0.03$). A significant direct correlation was revealed between PAI-1 in comparison to WHR, fasting insulin and LVM/H. Plasma PAI -1 and WHR were independent predictors of LVM/H.

Conclusions: Obese children with central fat distribution showed an increase in plasma PAI-1 antigen. Also PAI-1 contributes directly to the complication of obesity including type 2 diabetes and cardiovascular disease.

***Keywords*:** Childhood obesity-Plasminogen activator inhibitor-Cardiovascular disease

Nutritional Management of Congenital Heart Diseases

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CHD are the anomalies in the structure of the heart and its related vessels in the fetal period. Congenital heart defects are divided into two main groups: cyanotic heart defects and non-cyanotic heart defects, depending on whether the child has the potential to turn bluish in color. The cause of a congenital heart defect is often unknown. Teratogens, maternal smoking during pregnancy, and chromosomal abnormalities have been cited as factors contributing to CHD. Incidence has been reported to be 8/1000 live births worldwide. About 70 % of infants with CHD are growth retarded, which will lead to increase morbidity and mortality. Delivering adequate nutrition may be difficult due to fluid limitations, feeding intolerance, gut hypoperfusion secondary to low cardiac output, heart failure or hypoxemia. Nutrition related goals for pediatric CHD patients include (1) adequate nutrition to meet the patient's needs until surgery, (2) preservation of body mass and promotion recovery from surgery.

Stem Cells & Reproductive Medicine

MicroRNA expression analysis in endometriotic serum treated mesenchymal stem cells

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Endometriosis is defined by presence of endometrial-like-tissue outside the uterus. Recently, ectopic endometriotic lesions has been suggested tooriginate by abnormal differentiation of endometrial mesenchymal stem cells (eMSCs). MicroRNAs (miRNAs) play an important role in the pathophysiology of endometriosis.

Through a PCR array approach, we aimed to assess the differential expression of microRNAsin human eMSC treated in culture with sera derived from women with severe endometriosis.

Sera were collected from five patients with severe endometriosisand three control women and added individually in the culture medium to conduct experimental and controleMSCsets, respectively.Regular microscopic follow-up for cell morphology was performed. SYBR Green based real-time PCR array was used to assess the expression of 84 miRNAs. Bioinformatics analysis was done to predict the target genes of the significantly dysregulated miRNAs and their enriched biological processes and pathways.

Thirty-two miRNAs were found significantly dysregulated in experimental cultures. Functional enrichment analysis revealed several endometriosis associated biological processes and pathways were enriched by target genes of these miRNAs.

In conclusion, treatment of human eMSCs with sera of severe endometriosis cases affects the expression of certain miRNAs and their target genes. This may result in altering cell functions and consequently, endometriosis development.

***Keywords*:** Endometriosis; mesenchymal stem cells; miRNA expression; differentiation

Variants of CDKAL1 rs7754840 (G/C) and CDKN2A/2B rs10811661 (C/T) with Gestational Diabetes: Insignificant association

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Objectives: Pathophysiological similarity exists between Gestational diabetes mellitus (GDM) and type 2 Diabetes Mellitus with common genetic origin. Genetic liability for GDM in our own population is still not researched. The goal was to reveal the genotypic and allele frequency differences of 2 Single nucleotide polymorphisms (SNPs) namely, CDKAL1 (rs7754840) and CDKN2A/2B (rs10811661) between GDM pregnancies and normal pregnancies. We assessed them by Real time polymerase chain reaction using Taqman allelic discrimination assays.
We included 47 GDM pregnant subjects and 51 normal glucose tolerance (NGT) pregnant women as controls.
Results
The genotype frequencies in the GDM group and the NGT group of rs7754840-GG/ GC/CC were 6.4/15.7% (3/8), 55.3/45.1% (26/23) and 38.3/39.2% (18/20) respectively, also, that of rs10811661-CC/CT/TT were 74.5/14.9/4.3% (38/7/2) and 80.9/19.6/5.9% (38/10/3) respectively. The allele frequencies in the GDM group and the NGT group of C/G and T/C were 66/34 % (62/32), 61.8/38.2 % (63/39) and 11.7/88.3 % (11/83), 15.7/84.3 % (16/86) respectively. There were no statistical differences between two groups in allele frequencies and genotype frequencies (all $P > 0.05$).
None significant association was seen of all the two SNPs of CDKAL1 and CDKN2A/B genes with GDM. Further studies are essential to validate data.
Keywords: Allele frequency; genetic association; CDKAL1; CDKN2A/B; single nucleotide polymorphism (SNP); Gestational diabetes mellitus (GDM)

Differentially expressed genes: OCT-4, SOX2, STAT3, CDH1 and CDH2, in cultured mesenchymal stem cells challenged with serum of women with endometriosis

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Endometriosis is a common chronic gynecological disorder defined as the presence of ectopic functional endometrial tissues, outside uterine cavity, primarily on the pelvic peritoneum and the ovaries. Several studies revealed a correlation between aberrant stem-cell activity in the endometrium and endometriosis. Yet the molecular and cellular behaviors of mesnchymal stem cells in development of endometriosis are hampered by lack of invitro experiments. Our aim was to explore morphological and molecular changes associated with mesenchymal stem cells (MSCs) exposition to serum derived from women with severe endometriosis. Two cell cultures of MSCs isolated from endometrial tissues of two endometriosis-free women. Each cell culture was treated individually with the serum of women with endometriosis (experimental group/n = 7), and serum of women without endometriosis (control group/ n = 4) for 14 days. Quantitative Real-Time PCR was performed later to reveal expression of *OCT*-4, *CDH*1 and *CDH*2, *STAT*3 and *SOX*2 genes. Morphologically, cells showed no significant changes. However from molecular point of view, we found increased expression in *OCT*-4, *CDH*1 and *CDH*2. For *STAT*3 and *SOX*2 we did not find a significant difference. This study shows that endometriosis serum induced molecular changes in human endometrial MSCs (EnMSCs) that might be related to altered cell behavior which may be a step in differentiation that may be completed invivo by other factors to complete the process of transition. Further researches are needed for optimization to reach differentiation.

Keywords: Endometriosis, Mesnchymal stem *cells, OCT-4, SOX2, STAT3, E-cadherin, N-cadherin*

FSHR gene polymorphisms affect the ovarian response to rFSH stimulation in Egyptian patients undergoing ARTs: a step toward individualized medicine

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Objective: The aim of the study was to assess the potential of follicle-stimulating hormone receptor (FSHR) gene polymorphism for predicting ovarian response to FSH stimulation.
Methods: We retrospectively analyzed clinical data of 150 infertile women younger than 40 years who were attending the National Research Center infertility clinic, Egypt. These women were divided into two groups: group I patients (75 patients) were considered as poor ovarian responders according to the 'Bologna criteria' and group II patients (75 patients) were considered as good responders. Analysis of FSHR gene polymorphism at position 680 was carried out after the women were genotyped.
Results: Among Egyptian women, the frequency of the Asn/Asn genotype was significantly more prevalent in the poor responder group (65.3%) compared with the good responder group (24.0%) ($P<0.05$); the Ser/Asn genotype was seen in 34.7% of poor responders compared with 64% of good responders and the Ser/Ser phenotype was seen only in good responders (12%).
Conclusion: It was found that polymorphism +2039A>G (p.Asn680Ser) of FSHR could be suggested as a good predictor of ovarian response upon controlled FSH stimulation.

Molecular Biology

Design, synthesis, molecular modeling, and biological evaluation of aryl imino methene phenol derivatives as potential anticancer agents

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Background/Aims: human thymidine phosphorylase (HTP), also known as PD-ECGF (platelet-derived endothelial cell growth factor) or gliostatin, has an important role in nucleoside metabolism. HTP is a highly expressed protein in many solid human tumours, and the level of expression is associated with tumour neovascularization, invasiveness and metastasis. The aim of this work was to design and synthesize novel imino methene phenol derivatives to evaluate their anticancer activity and to identify novel chemical substances which may serve as leads for designing novel anticancer agents with less side effects.

Materials and Methods: The designed compounds were synthesized by microwave chemical synthesis, their purity was confirmed by melting point and HPLC and chemical structures were determined by FT-IR, UV-visible, and ^{1}H and ^{13}C-NMR spectroscopic techniques. The synthesized compounds (NES compounds) have been docked in the HTP active site using molecular modeling programs and the antitumor activities were screened on human C6 glioma cell-lines cancer cells by cell counting assay. The enzymological evaluation of the HTP inhibitors was determined by continuous spectrophotometric assay.

Results: Some of the tested compounds (NES 5, NES10 and NES11) showed potent and selective activity against C6 glioma cell line with IC_{50} range of 2 to 6 µM. The lead compound NES 11 in the series caused inhibition of HTP in the micro molar range (IC_{50} of 6 ± 0.4 µM) and was able to retard growing of brain carcinoma cells.

Conclusion: The present study will assist in the design of HTP inhibitors that could lead to drugs for anti-angiogenesis as well as for the potentiation of other nucleoside drugs. The molecular modelling of HTP inhibitors into the active site of human HTP crystal structure supported a structure activity relationship of imino methene phenol derivatives. The obtained results suggest that the imino methene phenol derivatives might potentially constitute a novel class of anticancer agents, which requires further studies.

***Keywords*:** human thymidine phosphorylase, C6 glioma cell line, imino methene phenol derivatives

Ferula hermonis extract protect against Cycram induced DNA, protein and biochemical alterations and infertility in male rats

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Background/Aim: In this study, the protective role of *Ferula hermonis* (FH) against Cycram (CYC, cyclophosphamide) induced changes in testicular RNA, DNA and protein content as well reproductive parameters (sperm morphology, count and motility, blood levels of testosterone (T)), and hemoglobin (Hb) in adult male albino rats was investigated.
Materials & Methods: For that purpose, hundred animals were divided into 3 main treated groups (30 animals each) according to treatment periods (15, 30 and 60 days), every one divided to 3 subgroups according to CYC dose (50, 100 and 200 mg/kgbw/day, 10 animals each), and each subgroup divided to 2 sub-sub groups treated with CYC and CYC+ FH 0.025 ml/100 g bw/day by gavage (5 animals each),beside the control. After the treatment periods animals were subjected to RNA, DNA and protein analysis, as well testosterone and hemoglobin determination and sperm morphology, count and motility were recorded.
Results: The results of the present study revealed that CYC treatment induced alterations in RNA, DNA and protein synthesis, as well affect T and Hb levels and sperm abnormalities of male rats. However, supplementation of FH protect morphological structure of sperms and RNA, DNA, protein content as well blood hemoglobin and testosterone levels against CYC toxicities.
Conclusion: The protective actions of FH seem to be closely involved with the suppressing of plasma lipid peroxidation and increasing of antioxidant enzyme activities. Therefore, FH may be used in combination with CYC in cancer patients, transplantation and autoimmune diseases to improve CYC-induced injuries in these parameters and fertility.

***Key words*:** *Ferula hermonis,* cyclophosphamide, infertility, RNA, DNA, protein, damage, testosterone, hemoglobin, rats.

The effect of Red Seaweed (*Chondrus crispus*) on the fertility of male albino rats

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Background/Aim: Red seaweeds are important components of human diets in several parts of the world, predominantly Southeast Asia. The wide variety of health-promoting effects of seaweeds is primarily due to their structurally diverse bioactive molecules. Here we studied the effect of *Chondrus crispus* on increasing the male albino rat fertility.

Materials and methods: twelve male albino rats are used in this study as two group pre-treated group and post- treated one each with 6 animals. The pretreated group was dissected before the post-treated group injection. Each post treated rat injected intramuscular with 1mg of *Chondrus crispus* with dose 0.1ml/ twice per week for 45 day. Tissue samples from the testis of two groups were taken to prepare the tissue homogenate (for measuring the malondialdehyde (MDA) and free radical (DPPH)), the histological sections that later stained with hematoxylin and eosin stains and DNA fragmentation. Also sperm motility, morphology and count were detected. The levels of total testosterone and FSH hormones also measured.

Results: the results showed that increasing on the total testosterone levels insignificantly, sperm motility significantly, and decreasing in the FSH, DPPH levels insignificantly and significantly for the MDA levels in the post-treated group. The morphological appearance and histological examination for the sperm and the testis were normal as the pretreated group. The molecular studies showed absence of any DNA fragmentation for the testis of both group.

Conclusion: the Red Seaweed induce significant changes in the testicular function of the animal which might increase their fertility and sexual activities

Keywords: Red Seaweed, *Chondrus crispus*, fertility, albino rat, testis

Development of Micro-RNA Based Anti – Liver Cancer Therapeutics

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Background/Aim: Human hepatocellular carcinoma (HCC) is one of the most common malignancies that threaten human health. microRNAs (miRs) was recently shown to be involved in the development of HCC. Aberrant expression of miRNAs has been discovered in most cancers, acting as either tumor suppressors or oncogenes. MicroRNA-34a (miR-34a) is a well-defined tumor suppressor in many tumor types and has been recognized as a key regulator of tumor progression. The study reported here investigated the effects of miR-34a delivered by polyethylenimine (PEI) and silica nanoparticles *(*SiNP) on HCC in vitro and in vivo.

Methods: Qualitative assessment of transfection efficiency of mir-34a construct in HepG2 cells was applied by GFP Screening. Toxicity and cell viability were determined by MTT assay. For in vivo study, SiNP/PEI/miR-34a construct was injected into the tail vein of a mouse model of DEN/CCl_4 induced HCC. Tissue samples were collected for histopathological examination.

Results: SiNP/PEI/miR-34a construct showed the highest transfection efficiency as compared with PEI/miR-34a construct. MTT results implied that the cell viability was not affected by the transfection with SiNP and SiNP/PEI/ miR-34a construct was significantly showed the highest cell viability compared to un treated cells ($p<0.05$). Mice treated with miR-34a construct showed some liver surface nodules that appeared significant reduction in sizes as compared with the positive control group. The remaining liver tissue appeared more or less like normal control. In the ultrasturacural level, mice in treated group showed hepatocytes with normal nucleus, large number of mitochondria and well developed RER indicating

liver regeneration while that in positive control group showed hepatocytes with abnormal nuclei and elongated and spherical mitochondria (polymorphism).
Conclusions: miR-34a could be efficiently delivered in HCC cells by PEI and SiNP without significant cytotoxicity. In addition, miR-34a may play a pivotal role in the development of HCC. Collectively, our results suggest that administration of miR-34a may represent a novel strategy for treating HCC.

***Keywords*:** Hepatocellular carcinoma, Tumor suppressors, Oncogenes, Nanoparticles, GFP Screening, transfection efficiency, Therapeutic target

Association of Apolipoprotein E Genotypes with Dementia Alzheimer Type in Algerian Population

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Bacground: Human apolipoprotein E (ApoE), a polymorphic protein with three common alleles (E3, E4, and E2) is involved in cholesterol transport and lipoprotein metabolism. Many worldwide studies have shown that high frequency of E4 allele is associated with Alzheimer disease but this is not true for all studied populations. Furthermore, some studies have also shown a protective role of E2 allele against the disease.
Objective: The aim of this study is investigate association of APOE genotypes in dementia among Algerian population sample in order to evaluate the E4 allele in neurodegenerative diseases.
Material and methods: We genotyped the DNA 156 patients with Dementia of the Alzheimer type aged from 55 to 82 years and 127 age matched controls. APOE genotypes were determined by PCR amplification performed on LighCycler instrument (Roche).
Results: Our data have shown a strong association between the E4 allele and the occurrence of Dementia of Alzheimer Type. The E4 allele frequency in patients was four times higher than in controls. Furthermore, our data did not reveal any protective role of E2 allele against the disease. Instead, the E2 allele frequency was rather higher (but not significant) in patients group than in patients group than in controls.
Conclusion: Our data have shown that the E4 allele is a risk factor for late onset Alzheimer disease in Algerian population, however, E2 allele does not seem to play a protective role against this disease.

Maternity & Prenatal Care

Assessment the Service Quality of Focused Antenatal Care at Health Care Facilities in Bauchi State Nigeria

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Background, Maternal mortality is a global issue as a result of low focused antennal care; approximately about 830 women die from pregnancy complications around the world every day (World Health Organization, 2015). The differences between regions are stark: There are currently 12 maternal deaths per 100,000 live births in developed regions compared with 546 in sub-saharan Africa. Nigeria is ranked the second in the world with maternal mortality rate (630 per 100,000 live births) Nigeria Demographic and Health Survey, (2013)

The aim of this study was to assess the Service quality of focused antenatal care at health care facilities in Bauchi State. Five research objectives were stated: to determine the availability of material resources for focused antenatal care, to assess the capacity of human resource for focused antenatal care, to assess the quality services of focused antenatal care, to assess the focused antenatal care services utilization and to assess the level of clients' satisfaction with focused antenatal care services

Subjects & Methods: A cross sectional descriptive design was adopted. A total of three hundred and eighty four pregnant women attended antenatal care clinic in twenty two health care facilities in Bauchi State were recruited. Multi-stage sampling technique was used. Donabedian Bruce quality model (1980) was applied as theoretical framework. Semi-structured questionnaire and observational checklist through face to face interview and audit observation were used for data collection , during the period of first May to the end August 2016. All official approval was collected and all ethical considerations were kept. SPSS version 20 was used for data analysis

Results: revealed that: Eighty percent of the pregnant women were over 35 years old, 66% of them were Hausa/Fulani, almost half of them had secondary school education The parity was above six times. Eighty percent of the pregnant women always utilized focused antenatal care. The material resources in the health facilities were only 43% available and functioning. The human resources rate in the health facilities were 0.81, 0.5, 2.7 and 1.8 Doctors, Nurses, Midwives and CHEW respectively. The quality of care in

the studied health facilities was 54.2% satisfactory. The total mean satisfaction of the pregnant women was 2.3 /4 .
Conclusion: It can be concluded that: there were inadequate material resources, shortage of human resources, high utilization of focused antenatal care services and the client satisfaction was little bit low.
Recommendations: Government should Ensure adequate material resources for focused antenatal care services in each facility in Bauchi State, Ensure adequate health care providers to improve quality focused antenatal care services, Periodic In-service training ,monitoring and evaluation to improve the quality services, Health education for the clients to increase the awareness and the importance of focused antenatal care and Regular assessment of the level of clients' satisfaction is needed to improve the lacking areas

Keywords: Focused Antenatal care, Quality of services, client Satisfaction, Healthcare services

Assessment the Satisfaction, Utilization and Barriers to Prevention of Mother-to-Child Transmission (PMTCT) Services among HIV Positive Pregnant Women in Abuja Metropolis, Nigeria

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Background/Maternal-to-Child transmission of HIV (MTCT) is responsible for about 20% of all HIV transmissions and more than 90% of worldwide pediatric HIV. Prevention of maternal-to-child transmission of HIV (PMTCT) services is the most effective strategy in the prevention of pediatric HIV/AIDS. Low utilization of PMTCT services which might affect women's compliance to treatment regimen.

Aim The aim of this study was to assess the level of satisfaction with prevention of mother-to-child transmission (PMTCT) services among HIV positive pregnant women in Abuja metropolis. Four objectives were stated: to assess the prevalence of utilization of PMTCT services, to assess the mothers' level of knowledge about Mother-to-Child Transmission of HIV, to assess the level of women satisfaction with PMTCT services and to explore the barriers of utilization of PMTCT services.

Subjects & Methods: A cross-sectional descriptive mixed quantitative and qualitative design was adopted. A total of 240 HIV positive pregnant women were recruited in the study from Abuja metropolis. A multistage sampling technique was used to select the facilities while purposive sampling was used to select the respondents across the three selected facilities within Abuja Metropolis. Semi structured Interview questionnaire and focused group discussion were used for data collection. All ethical considerations were kept during data collection and analysis. SPSS version 24 was used for quantitative data, while the qualitative data was manually analyzed according to the five themes.

Results: The result revealed that the mean age of the women was 36.8 years, almost three quarters of them were married and all the women had a form of education or the other. The result also showed that 93.3% of the women were working and 63.8% of the women were in their third trimester. Also, 97.9% of the women utilized PMTCT services and 65.0% of the women had good level knowledge about PMTCT. Only 15% of the respondents were satisfied with the quality of PMTCT services.

Conclusion: Social barriers, hospital setting, and financial barriers constituted the major barriers to utilization of PMTCT services while the attitude of health care providers was the single most important barrier to accessing PMTCT. According to the qualitative data the main cause of utilization of PMTCT is irrational love from the mother to their babies. In conclusion, the women had good knowledge of PMTCT. There was high level of utilization despite the barriers. There was low level of satisfaction with the services provided. It is recommended that more attention should be given to the health care providers, attitude, the conduciveness and cleanliness of the environment should be ensured.

Keywords: Satisfaction, Prevention, Mother-to-Child Transmission, Services, HIV Pregnant Women, client satisfaction

Adolescent Endometriosis 'The Smell of Trouble'

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Endometriosis affects millions of reproductive aged women worlwide causing pain and infertility. Efforts have been made for early diagnosis and management of the condition using laparascopy. However, due to recent therapeutic approaches that bear minimal side effects in comparison to older regimens, control of the condition has been more tolerable, raising an important question regarding the feasibility of performing laparascopic procedures for suspected adolescent women.

Evaluated the Programmed death 1 (PD-1) in Serum of HCV Iraqi patient

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Introduction: Programmed death 1 (PD-1) is a glycoprotein , Molecular weight has 55 KD. The role of PD-1 inhibiting immunity during chronic infections is well establish, is highly expressed on dysfunction CD8 and CD4. The present study aims at detecting the concentration of human (PD-1) in hepatitis C virus patients compared to the healthy control, and detection of the relationship between viral load and PD-1 concentration.
Material and method: Sixty-eight Iraqi patients, 32 males and 36 females aged 23-76 years with 20 healthy individuals with 12 males and 8 females. And for the period from January to December 2017.Blood Specimen was collected from each patient and control .PD-1 ELISA kit obtained by (Shanghai Yehua Biological Technology Company, China) was used to measure programmed death concentration.And viral load was measured by Real time-PCR technique (Device Smart Cycler, USA) according to Sacace Biotechnology kit, *while the viral load was ranged between undetectable to 3.7x 10*.The result was a high concentration of PD-1 in patients (168.337 ± 80.906) compared to healthy (110.176 ± 36.681) and significant difference.while the viral load was ranged between undetectable to 3.7×10^{6} copies.
Conclusion: In our present study, increase the concentration of PD-1 in patients compared with healthy control, and we found that PD1 concentration was directly proportional to viral load, whenever, increased the viral load, had risen the PD 1 concentration.

Biochemistry & Clinical Pathology

Nigella sativa Seed Reduced Galectin-3 Level and Liver Fibrosis in Thioacetamide-Induced Liver Injury of Rats

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Background/aim: Fibrosis represents the final common pathway of chronic tissue injury. Galectin-3 (GAL-3) is an important regulator of fibrosis that links chronic inflammation to fibrogenesis. We investigated the effect of *Nigella sativa* seed (black seed), a common hepatoprotective natural remedy, on galectin-3 expression and progression of liver fibrosis in thioacetamide-induced liver injury of rats.
Materials and Methods: Forty male *Wistar* rats were used in this study and divided into four groups, 10 rats each. G(I) served as control, groups from (II) to (IV) were intoxicated by thioacetamide (200 mg/kg b.wt), meanwhile G(III) was treated with silymarin (50 mg/kg b.wt) and G(IV) was treated with black seed (50 mg/kg b.wt). Galectin-3, transforming growth factor β1 (TGF-β1), some antioxidant and oxidative stress biomarkers were determined in liver tissue homogenate. Also serum liver function parameters, total cholesterol, triacylglycerols and plasma glucose were determined. Quantitative measurement of fibrotic areas was achieved by using computerized image analysis system.
Results: Thioacetamide administration caused significant elevations in the levels of liver Gal-3, TGF-β1, MDA, NO and serum ALT and AST activities, total Bilirubin, total cholesterol, triglycerides and plasma glucose levels. Meanwhile significant decreases were recorded in liver total antioxidant capacity (TAC) level, catalase activity, and serum levels of total protein and albumin. Histopathological observation showed severe damage in the liver and presence of fibrotic areas. Treatment with silymarin and black seed resulted in decreasing of liver Gal-3 and TGF-β1 levels and marked improvement in liver functions, as well as reducing the fibrotic areas in liver. Gal-3 exhibited positive correlation with TGF-β1, MDA, NO, ALT and AST, while it negatively correlated with TAC and catalase.
Conclusion: Black seed reduced liver galectin-3 level and ameliorated fibrogenesis in liver due to thioacetamide administration.

Keywords: Black seed, Galectin-3, Liver fibrosis, Thioacetamide, Rats.

EPA: DHA 6:1 induce endothelium-dependent NO mediated relaxation involves the redox-sensitive PI3-kinase/Akt and $MAPK_S$ pathway activate eNOS in porcine coronary artery

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Aims: Omega-3 fatty acid products containing eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) have vasoprotective effects, in part, by stimulating the endothelial formation of nitric oxide (NO). This study determined the role of the EPA: DHA ratio and amount, and characterized the mechanism leading to endothelial NO synthase (eNOS) activation.
Materials and Methods: Vascular reactivity was assessed in isolated organ chambers using porcine coronary artery rings either with or without endothelium, and the phosphorylation level of Akt and eNOS in cultured coronary artery endothelial cells by Western blot analysis.
Results: EPA:DHA 6:1 and 9:1 caused significantly greater endothelium-dependent relaxations in porcine coronary artery rings than EPA:DHA 3:1, 1:1, 1:3, 1:6, 1:9, EPA and DHA alone, and EPA:DHA 6:1 with a reduced EPA + DHA amount, which were inhibited by an eNOS inhibitor. Relaxations to EPA: DHA 6:1 were insensitive to cyclooxygenase inhibition, and reduced by inhibitors of oxidative stress, Src kinase, PI3-kinase, p38 MAPK, MEK, or JNK. EPA: DHA 6:1induced phosphorylation of Src, Akt, p38 MAPK, ERK, JNK and eNOS; these effects were inhibited by MnTMPyP. EPA: DHA 6:1induced the endothelial formation of ROS in coronary artery sections as assessed by dihydroethidium, and of superoxide anions and hydrogen peroxide in cultured endothelial cells as assessed by electron spin resonance with the spin probe CMH, and the Amplex Red based assay, respectively.
Conclusion: Omega-3 fatty acids cause endothelium-dependent NO-mediated relaxations in coronary artery rings, which are dependent on the EPA:DHA ratio and amount, and involve an intracellular activation of the redox-sensitive PI3-kinase/Akt and MAPKs pathways to activate eNOS.

Keywords: Omega-3 fatty acids, endothelium, nitric oxide, eNOS, reactive oxygen species

Characterization of probiotic bacteria isolated from different dairy products at Assiut Governorate

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Background/Aim: Probiotics are living, health- promoting microorganisms that are incorporated into various kinds of food. Members of the genera *Lactobacillus* and *Bifidobacterium* are the most commonly used probiotics. The present study aim to characterize and identify *Lactobacillus* and *Bifidobacterium* from different dairy products, to detect its growth inhibition activities against pathogenic bacteria and to compare between conventional methods for identification using PCR as gold standerd and to evaluate its enzymatic activites using API Zym kit.
Methods: Isolation of *Lactobacillus* and *Bifidobacterium* using De Man Rogosa Sharpe (MRS) agar for *Lactobacillus* and *Bifidobacterium* agar for *Bifidobacterium*, Morphological identification and biotyping using carbohydrate fermentation tests. Probiotic Properties of Isolates were determined by growth at different temperatures, at different NaCl concentrations, PH tolerance and bile tolerance and antibacterial activity of isolated probiotic bacteria on three indicator pathogenic strains (*Staphylococcus aureus* NCTC No. 7447, *Escherichia coli* NCTC No. 12023 and *Bacillus cereus* DSM No. 351). The species of *Lactobacillus* were *L. acidophilus* (LA 1 and 2), *L. fermentum* (LF 1 and 2) and *L. rhamnosus* (LR 1 and 2) and the species which belong to *Bifidobacterium* were *B. bifidum* (*BiBIF* 1 and 2), *B. breve* (*BiBRE*-1 and 2) and *B. dentium* (*BiDEN*-1 and 2). They were detected by conventional PCR and analysis of enzymatic activity using API ZYM kit (bio-Mérieux, France).
Results: the identified *Lactobacillus spp.* were *L. acidophilus* 54 (29.5%), *L. fermentum* 50 (27.3%), *L. rhamnosus* 34 (18.6%), *L. plantarum* 27 (14.8%), *L. paracasei* 13 (7.1 %) and *L.GG* 5 (2.7%). The *Bifidobacterium* spp. were *B. Breve* 59 (31.7%), *B. dentium* 42 (22.6 %), *B. bifidum* 53 (28.5%), *B. subtile* 15 (8 %) *B. longum* 6 (3.2 %), *B . animalis* 7 (3.7 %) and *B. infantis* 4 (2.2 %). All the isolates found to tolerate low PH and bile salts. All isolates had the antibacterial activity against three indicator pathogenic strains. Taking PCR as gold standerd, the sensitivity of the culture was 100 %for all species. *Lactobacillus* and *Bifidobacterium spp.* Produced beneficial enzymes as β-galactosidase which is beneficial for lactose intolerance.All the species did not produce β-glucuronidase which has carcinogenic effect.
Conclusion: rayeb, yogurt milk powder and milk based cereals can be used as potential source of probiotics because they tolerate acidic media, bile salts with good antibacterial activity against other pathogenic bacteria. Also, they have beneficial enzymatic activities.

Keywords**:** *Lactobacillus*, *Bifidobacterium*, Probiotic, PCR, Enzymatic activity.

A Study of External Cranial Carotid Initima Media Thickness As A Land Mark of Cardiovascular System Affection And Early Sign of Atherosclerosis In patients with Non Alcoholic Fatty Liver Disease

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Background: The complications of Non Alcoholic Fatty liver disease (NFLD) as extrahepatic manifestions to cardiovascular system is fatal and extermly more than hepatic. So the scope of the study research insisted on the vascular affection at the level of external carotid arteries.
Methods: This study was carried out prospective cross section study on 50 patients with Ultra-Sonographically finding of NAFLD at Gastroenetrology, Hepatology and Infectious Diseases Department, Banha University Hospital from October 2016 to February 2017. All investigations done accordingly to exclude the aetiology of fatty liver, like drugs, HCV, D.M and autoimmune diseases.Abdominal ultrasound done for grading of fatty liver (1,2,3) and dopller done for measure the extracranial Carotid intimal media thickness by using linear probe with higher frequency >7.5 MHZ. The patient in supine position or semisitting with angle 45, An intimal thickness< 1mm is normal.The collected data were tabulated and analyzed using SPSS version 16 soft ware (SpssInc, Chicago, ILL Company), $p<0.05$ is significant with different statistical tests used.
Results: In the present study there was high statistical significance difference as regard the BMI, p value <0.001 but age was no of statistical value.The laboratory investigations of high statistical value between 2 groups was platlets, triglyceride and SGPT with p value <0.001 and also LDL and SGOT was of statistical significant difference between the 2 groups, p value <0.05. The results of CBC, liver profile and lipid profile was of no statistical significant.The liver span in midclavicular line was of statistical significant between the 2 groups with p value <0.05 The degree of fatty liver among NAFLD group was as follow, grade I in 39/50(78%), grade II 6/50(12%) and grade III 5/50 (10%) respectively. Carotid intimal thicknenss for right and left carotid arteries as well as the mean was of highly statistical significant different between NAFLD and control, p value was <0.001. In the study there was highly statistical significant difference for the presence of atheromatous plaque, p value was <0.001 and that highly expected as the plaques was present in 18 NAFLD patients (36%) compared to 2 control subjects (4%).There was statistical correlation

between mean CIMT and many variables in the study, p value <0.05 .The cut –off value of mean CIMT in prediction of thermogenesis in NAFLD patient by using ROC curve was ≥0.625 with sensitivity 72.2%, specificity 62.5% and PPV 52%,NPV 80% with AUC 0.76 and 95% CI ranged from 0.62-0.90, p value 0.003.

Conclusions: Early diagnosis of atherosclerosis by measure CIMT in NAFLD patients is very crucial and urgent to save the life of the paatients.

Keywords: Carotid Intimal Media Thickness (CIMT), Non Alcoholic Fatty Liver Diseases (NAFLD).

Assessment of Serum Malondialdehyde (MDA) and Urinary 8-hydroxydeoxyguanosine (8-OHdG) in Egyptian Children with Type I Diabetes Mellitus and Factors affecting.

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Hyperglycemia generates oxidative stress. Malondialdehyde (MDA) is one of the indicators of oxidative stress. 8-hydroxydeoxyguanosine (8-OHdG) is a sensitive, stable, and integral marker of oxidative damage. This study estimated serum MDA level and urinary 8hydroxydeoxyguanosine (8-OHdG) in type 1 DM Egyptian children and to correlate their values with severity of type 1 DM.

Material and Methods: Our study included 132 children with type 1 DM and 50 children ages matched healthy. Clinical examination and evaluation of lipid profile, glycosylated hemoglobin, serum malondialdehyde (MDA) and urinary8-hydroxydeoxyguanosine were done for all subjects.

Results: MDA and 8-OHdG were significantly higher in diabetic children than control. MDA was significantly positively correlated with urinary level of 8-OHdG in diabetic children. 8-OHdG showed a negative correlation with age.

Conclusion: the gained results support that oxidative stress in Type 1 diabetic may start early in disease course. Therefore, MDA and urinary 8-OHdG can be a beneficial marker of oxidative stress assessment and glycemic control should be intensified to prevent diabetic complications. Using antioxidant medication could help in delaying diabetic complications.

***Keywords*:** Type 1 Diabetes Mellitus, Malondialdehyde (MDA), 8hydroxydeoxyguanosine (8-OHdG), children

Biological Anthropology

Impact of Glycemic Control on Growth and Body Composition among a Sample of Egyptian Diabetic Children with Insulin-dependent Diabetes Mellitus

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Background: Type 1 Diabetes Mellitus (T1DM) is one of the most common chronic endocrine disorders of childhood. T1DM affects children of all ages, both sexes, and all ethnic groups. In the pediatric age group, the growth is a good indicator of health, and consequently achieves normal growth speed is one of the goals of doctors who treat diabetic children.
Aim: To assess growth and body composition in a group of diabetic children.
Subjects and methods: 427 T1DM children (age 2-10 years) were recruited from Diabetic Pediatrics Unit, outpatients' clinic of AbouEl-Rish Hospital. Anthropometric and body composition parameters were taken and HbA1c was measured for all subjects.
Results: Highly significant difference was detected between controlled and uncontrolled groups as regard to weight/age z-score, height/age z-score, BMI z-score, triceps skin fold thickness, subscapular skin fold thickness, midupper arm circumference, fat mass, fat %, lean mass, and body water ($p < 0.001$). All values are higher in the controlled group than in the uncontrolled group. Uncontrolled subjects were significantly more at risk of being underweight and short, with odds ratio of 15.131 and 16.877 and 95% confidence interval 1.972-116.130 and 3.973-71.694 respectively. However, controlled subjects were significantly more at risk of being obese than the uncontrolled with an odds ratio 0.116 and 95% confidence interval 0.045-0.302.
Conclusion: Growth was compromised in uncontrolled T1DM children. This is of utmost importance since most of the clinical features are reversible with better glycemic control and appropriate insulin management.

Anthropometric prediction of insulin-like growth factor-i and its binding protein-1 among Egyptian infants of diabetic mothers

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Background: Diabetes is recognized as a particular threat to pregnant women and their neonates. Maternal concentrations of insulin-like growth factor-I (IGF-I) and its binding protein-1 (IGFBP-1) have influence on fetal growth.

Objective: to estimate the association between the anthropometric measurements; which evaluate intrauterine fetal growth; and biochemical growth factors; IGF-I and IGBP-1 among IDMs, in attempt to predict them.

Methods: Cross-sectional study carried out on 69 full term IDMs admitted to neonatal intensive care units, Ain Shams University Hospitals. Clinical examination including anthropometric measurements; birth weight, length, head circumference and mid-arm circumference and placental weight. Laboratory investigations included maternal HbA1c and cord blood IGF-I and IGBP-1. They were classified into three groups: 20 small for gestational age (SGA), 25 appropriate for gestational age (AGA) and 24 large for gestational age (LGA).

Results: Most of SGA neonates were born to mothers with type I diabetes, while most of AGA and LGA were born to mothers with gestational diabetes. According to maternal HbA1c, SGA and LGA neonates were born from metabolically uncontrolled mothers while AGA neonates were born to well-controlled diabetic mothers. Anthropometric measurements had significant positive correlations with IGF-I and negative correlations with IGFBP-1.Three equations were performed to predict IGF-I and IGFBP-1 from body weight, length or head circumference.

Conclusions: Good control of diabetes during pregnancy is essential to improve fetal growth. There is an opposing effect of cord blood IGF-I and IGFBP-1 on anthropometric measurements. IGF-I and IGFBP-1could be predicted from anthropometry.

Infectobesity in Egyptian adolescent females and its relations with carotid intima-media thickness (c-IMT)

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Background: Increased carotid intima-media thickness (c-IMT) is considered a marker of early-onset atherosclerosis and it has been found in obese children and adolescents, but the risk factors associated with this population remain to be elucidated. Adolescent obesity has increased to alarming proportions globally and it has reached epidemic rate, both in develop and developing countries; visceral obesity is associated with a higher risk of cardiovascular disease. Its etiological triggers have novel influences such as infection by human adenovirus36 (adv36).
Aim of this study was investigation the relation between visceral obesity, Carotid intima-media thickness cIMT and adenovirus 36 in female adolescents. **Study Design**: A cross-sectional study; included (90 females, aged 10-15 years). Anthropometric measurement: body weight, height, waist, hip and neck circumferences were measured, then waist to hip ratio (WHR) and Waist to height ratio (WHTR) were calculated. Participants were divided into 3 groups according to their BMI (30 normal, 30 overweight and 30 obese). Fasting blood sample were measured for adenovirus36 specific antibodies, serum cholesterol, triglycerides, high and low-density lipoprotein. Visceral obesity was measured by abdominal ultrasound. Both carotid arteries were examined by high-resolution echo-Doppler device to measure carotid intima-media thickness (cIMT).
Results: according to the BMI: 54 female adolescents were normal, 10 female adolescents were overweight, 26 female adolescents were obese. There was significance (less than 0.1) between heart rate, systolic blood pressure, diastolic blood pressure, waist to hip ratio (WHR),weight, hip and waist circumferences ,visceral obesity at xipphi starnal point and umbilical, all with the left carotid intima-media thickness (c-IMT). There was insignificance correlation between the visceral obesity and both carotid intima-media thickness. There was significance correlation between the hip circumference, the neck circumference and right cortid intima-media thickness. Body weight was higher in obese adolescents with increase waist, neck and hip circumferences, than overweight and control groups. While the waist and hip circumferences were not differ between the overweight group and the control group. However there were females with normal BMI and

increase waist and hip circumferences. Interestingly, the obese and overweight study groups had increase in the carotid intima-media thickness comparing to healthy control. Abdominal ultrasonography and neck echocardiography results showed that the obese patients had increase in visceral fat and subcutaneous fat both with increases in the carotid intim-media thickness. The results of the serum antibodies for virus still under analysis.
Conclusions: carotid intima-thickness increased with general obesity (with insignificants relation with visceral obesity).
Keywords: central obesity- carotid intima-media thickness- adenovirus 36- female adolescents.

Standard body mass index reference data of prepubescent diabetic Egyptian children

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Background: Data on the growth of diabetic children is conflicting. The aim of this study is to create and validate acceptable body mass index (BMI) standardized percentiles and curves applied to Egyptian prepubescentdiabetic children.
Methods: The cross-sectional study comprised 822 prepubescent children with T1DM, whose ages ranged from 3-10 years. An anthropometric assessment for each child was performed: WT, HTand BMI were calculated, and glycated HB levels were determined. Means, standard deviations and the smoothed percentiles of the BMI from age 3–10 years, by sex, for controlled and uncontrolled diabetic children were calculated. Comparisons of the 50th percentiles for both diabetic children, by sex, with those of the Egyptian and WHO growth curves were made.
Results: For controlled diabetic males and females, the 50th percentile BMI was higher than those of the Egyptian and WHO growth curves, while differences in BMI were recorded for uncontrolled diabetic males and females. For uncontrolled diabetic males, the BMI was lower than both curves up to 5 years of age, after which it became higher than the standard WHO and lower than the standard Egyptian growth curves from 5 years up to 10 years of age. While, the BMI of uncontrolled diabetic females was higher than the standard Egyptian and WHO growth curves up to 6.5 years, between the curves from 6.5 years up to 7.5 years and then became lower than both curves up to 10 years of age.
Conclusions: Children with T1DM should use their own BMI percentiles and never be compared with normal healthy children.

Pharmacology & Natural Products

Evaluation of cypermethrin and chlorpyrifos pesticides residues in tomato fruits and cucumber produced under local production conditions, and effect of ozonation on these pesticides residues degradation

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Background/Aim: This study was conducted to monitor the levels of cypermethrin and chlorpyrifos pesticides residues in locally produced tomatoes and cucumbers from local markets and the effect of ozonation at different concentrations on cypermethrin and chlorpyrifos pesticides residues reduction of spiked tomatoes and cucumber at different concentrations.
Materials & Methods: A sample size of 1 kg from each of tomato and cucumber was chopped separately. Cypermethrin and chlorpyrifos pesticide residues were extracted with acetonitrile using QuEChERS method. After sample clean up, GC-ECD under specific conditions was used to determine the residues in spiked tomato and cucumber samples, standards and control.
Results: Of 50 tomato fruits and 50 cucumber samples, chlorpyrifos and cypermethrin residues were detected in 20% and 38% respectively, while in cucumber samples chlorpyrifos and cypermethrin residues were detected in 28% and 14% respectively. The maximum reduction percentage of spiked tomato fruits with 0.05 and 0.1 ppm of chlorpyrifos pesticide and after 30 min exposure to ozone at concentration of 0.4 ppm was 97.87%, while it was 86.93% for the spiked cucumber at concentrations of 5 ppm under same conditions. The reduction percentage of the spiked tomato fruits with 5 ppm cypermethrin after 30 min exposure to ozone at 0.4 ppm was 87.28%, while for cucumber under same conditions was 79.35%. Ozonation at concentration of 1 ppm for 30 min successfully degraded both chlorpyrifos and cypermethrin residues in cucumber and tomato fruits.
Conclusion: The effect of ozonation concentration and time of exposure on the degradation of chlorpyrifos and cypermethrin residues is dose dependent, whenever the concentration of ozone increased for long period of time, the degradation of chlorpyrifos and cypermethrin residues also increased.
Keywords: Cypermethrin, Chlorpyrifos, Pesticide residues, Ozonation.

Non-viral factors contributing hepatocellualr carcinoma

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Hepatocellular carcinoma (HCC) is a major cause of cancer death worldwide, accounting for over half a million deaths per year. The geographic pattern of HCC incidence is parallel to exposure to viral etiologic factors. Its incidence is increasing, ranging between 3% and 9% annually depending on the geographical location, and variability in the incidence rates correspond closely to the prevalence and pattern of the primary etiologic factors. Chronic infections with HBV or HCV have both been recognized as human liver carcinogens with a combined attributable fraction of at least 75% of all HCC cases. Multiple non-viral factors have been implicated in the development of HCC. Increased body mass index and diabetes with subsequent development of non-alcoholic steatohepatitis (NASH) represent significant risk factors for HCC. Other non-viral causes of HCC include iron overload syndromes, alcohol use, tobacco, oral contraceptive, aflatoxin, pesticides exposure and betel quid chewing, a prevalent habit in the developing world**.**Wilson disease, α-$_1$ antitrypsin deficiency, Prophyrias, autoimmune hepatitis, *Schistosoma jabonium*, and thorotrast- ray are also contributing hepatocellualar carcinoma**.** In addition, family history of liver cancer increases the risk of HCC incident. In conclusion, clarification of relevant non-viral causes of HCC will help to focus clinicians on those risk factors that are modifiable. The multilevel preventative approach will hopefully lead to a reduction in incidence of non-viral HCC, and a decrease in the patient morbidity and mortality as well as the societal economic burden associated with HCC.

Keywords: hepatocellualr carcinoma; viral etiologic factors; non-viral factors

Tempol: An Effective Prophylactic and Therapeutic Agent in a Murine model of Septic Shock

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Background: Sepsis is a serious consequence of infectious diseases. It leads to multiple organ failure and death, if not promptly treated. Despite the great advances in biomedical research, a little progress has been accomplished in the treatment of sepsis during the past decades.
Materials & Methods: In this study, cecal ligation and puncture (CLP) was used as a well-known model for sepsis in rats. The aim of this study was to investigate the effect of Tempol on organ injury in a CLP-induced sepsis. Tempol is a stable synthetic cell-permeable compound that mimics super oxide dismutase activity and acts as a free radical scavenger and nitric oxide spin trap. Female Wistar rats were randomly assigned to four groups: Group 1: sham-operated; Group 2: CLP model group; Group 3: CLP group pretreated with Tempol (10 mg/kg, i.p., four hours before surgery); Group 4: CLP group treated with Tempol (10 mg/kg, i.p., four hours after surgery). A Survival study was performed followed by another study in which serum and liver tissue samples were collected 24 hours after CLP.
Results: Without intervention, CLP resulted in 100% mortality within four days from surgery. Administration of Tempol before CLP led to 100% survival of animals. In addition, administration of Tempol after CLP resulted in 40% survival of animals. In Group 2, the serum level of TBARS was significantly higher than in Group 1 ($p < 0.05$). Administration of Tempol before or after CLP showed a significant attenuation of oxidative stress in Group 3 and Group 4 ($p < 0.001$ and $p < 0.01$; respectively). Furthermore, we observed that Tempol pre-treatment and post-treatment significantly attenuated the CLP-induced apoptotic signals in hepatocytes.
Conclusion: We concluded that Tempol acts as both prophylactic and therapeutic agent in sepsis, however, it is more effective as a prophylactic agent.

Pantoprazole increases the mortality of rats in a cecal ligation and puncture model of sepsis

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Introduction: Sepsis is a potentially life-threatening complication of an infection, which is associated with approximately 50 % mortality of population. Circulatory failure and multiorgan damage are the main causes of death during sepsis. The liver is considered among the organs affected during the early stages. Recent clinical studies showed that use of Proton pump Inhibitors (PPI) in hepatic patients increases mortality rate. These agentsare widely used in the treatment of gastroesophageal reflux disease and peptic ulcer diseases.Thus, the aim of this study is to investigate the effect of pretreatment with a PPI; pantoprazoleafter Cecal Ligation and Puncture (CLP) as a model of sepsis.

Method: Wistar female rats were starved 24 hours before CLP or sham operation. Four groups of animals were used, group 1 sham (as a control group), group 2 CLP (non treated group), group 3 pantoprazole pretreated group (20 mg/kg for 7 days before CLP), group 4 Ranitidine pretreated group (20 mg/kg for 7 days before CLP)*Ranitidine was used as a control for the gastric effect of pantoprazole.After 24 hours, animals were sacrificed and blood collected for determination of serum totalnitrates and serum malondialdehyde (MDA) as indicators for oxidative stress. The livers were dissected and processed histopathological examination.

Results: The mortality rate in septic animals receiving pantoprazole was 60 % compared to a 20% in CLP non-treated group.Liver total nitrates showed a significant elevation in pantoprazole treated group while a significant lowering of liver and serum MDA was observed in response to pantoprazole pretreatment. Histopathological examination revealed deterioration of liver histology in pantaprazole-pretreated animals compared to CLP. No changes were observed in ranitidine pretreated group compared to CLP.

Conclusion: Our data suggests that pantoprazole may have a deleterious effect on sepsis induced by CLP evident in anincreased mortality rate which might be a result of deteriorated liver function. More studies are recommended to evaluate the effect of this drug on differentorgans.

Antitumor Activity of Alkaloids Extract from *Opuntiapolyacantha* Plant by Using High Content Screening Technique (HCS)

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Multipara metric analysis of compound toxicity at the level of individual cells using cellular imaging-based approaches such as High Content Screening (HCS) have played key roles in the detection of toxicity. Plant powder of *Opuntia polyacantha* leaves were extracted separately with 80% methanol, chloroform at pH 2 and pH 10 and the chloroform portion was dried to obtain the total alkaloid extracts. The total alkaloids were detected qualitatively by Mayer's, Dragendorff's and Hager's reagents. We examine the cytotoxic effects of *Opuntia polyacantha* alkaloids extract in one-cultured cellular models (breast cancer (MCF7 cell line)) by High Content Screening (HCS). The inhibitory effect of *Opuntia polyacantha* on breast cancer cell growth was due to induction of apoptosis. The study found that Alkaloids extract of *Opuntia polyacantha* have ability to reduction of viability of breast cancer cell, disruption of Mitochondrial Membrane Potential (MMP), cell membrane permeability, nuclear condensation, fragmentation and release of cytochrome c from the mitochondria into the cytosol and also suggesting *Opuntia polyacantha* as a potential MCF7 inhibitor compared to doxorubicin as positive control. In this study, data showed *Opuntia polyacantha* may have therapeutic value in breast cancer treatment worthy of furtherattention.
Key words: *Opuntia polyacantha*, alkaloids extract, MCF-7, HCS

Histopathology

Immunohistochemical Expression of Androgen Receptor and Ki67 in Estrogen Receptor Negative Breast Carcinoma

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Background: Estrogen receptor (ER) negative tumours constitute about 30% of breast carcinomas. They lack the expression of ER with no targeted hormone therapies. Detecting androgen receptor (AR) in this entity may provide target for future therapies. Aim of work is to examine the immunohistochemical expression of AR protein and the proliferation index Ki67 in ER- negative invasive breast carcinomas and to assess the relation between AR and Ki67 expression and the pathologic prognostic factors.

Materials & Methods: Sixty paraffin blocks of ER-negative breast carcinomas were stained immunohistochemically by AR and Ki67. Positive AR expression was defined as ≥1% nuclear staining.

Results: AR positivity was detected in 55% of the studied cases. Twenty-seven cases (45%) were AR negative. AR was detected in twenty-five cases (55.6%) of invasive ductal carcinomas, 75% of invasive lobular carcinomas and 100% of both mutinous and tubular carcinomas, while 100% of both medullary and secretory carcinomas were negative for AR. High Ki67 expression was detected in 70% of the studied cases. AR expression was higher in older age, with significant positive correlations between the degree of AR expression and age. Ki67 expression was significantly higher in younger age. There was a trend towards a significant negative correlation between Ki67 expression and AR Intensity. Regarding histological types, tumour grade, tumour size, lymph node status, and immunohistochemical types there was no significant difference between AR positive and AR negative or high Ki67 and low Ki67 cases.

Conclusion: AR is frequently expressed in ER negative invasive breast carcinoma .We may suggest the important possible implication of AR having potential role as future target therapy in this entity lacking ER.

Keywords: ER-negative breast carcinoma, androgen receptor, Ki67.

Histopathological and immunohistochemical study of Matrix metalloproteinase-2 and Matrix metalloproteinase-9 in breast cancer

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Background/Aim: Breast cancer is the most harmful tumor of ladies around the world, with expanding incidence rates**.** Invasion and metastasis are the most insidious and life-threatening parts of cancer. Efforts have been done to understand the mechanism that regulates and facilitates the metastatic process. This step in metastasis of malignant cells requires the association of proteolytic catalysts which degrades protein segment of the extracellular matrix. Metalloproteinase-2 (MMP2) and metalloproteinase-9 (MMP9) are members of degrading enzymes required in tumor advancement, invasion and metastasis. This work aimed to examine the utility of MMPs in breast carcinoma to assess their usefulness in growth, invasion and metastasis.

Materials & methods: Sixty cases of breast cancer with positive and negative lymph nodes were collected randomly retrospectively as paraffin blocks prepared material. The cases were immunostained for MMP-2 and MMP-9 and correlated their expression with various clinicopathological parameters.

Results: The majority of cases were presented in the age group 51-60 years. The most common type was invasive duct carcinoma NOS, representing 70% of cases. Fifty one cases, 85% were positive for MMP2 while fifty four cases, 90% were positive for MMP9. Their presence in peri-tumoral stroma was in the ratio of 60% and 64% respectively. Both markers were significantly elevated in malignant tissues of patient with lymph node metastasis as compared to those without lymph node metastasis (P=0.029 and P=0.048 respectively). The expression of MMP-2 and MMP-9 increased with advanced clinical staging and grading (P=0.015, P=0.011).

Conclusion: Expression of MMP-2 and MMP-9 in breast cancer is closely correlated with positive lymph node, high histological grade and advanced clinical stage. More studies with a huge sample size to assess the prognostic role of MMPs in breast cancer. The use of MMPs inhibitors as adjuvent treatment for breast carcinoma is recommended.

Keywords**:** Breast Carcinoma, MMP-2, MMP-9.

Estrogen Receptors Expression in Epithelial Ovarian Carcinoma

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Background: Epithelial ovarian cancer accounts for about 3% of female cancers and is the leading cause of death from gynecologic malignancy. Steroid hormones such as estrogen and progesterone are thought to play an important role in the process of carcinogenesis of ovarian tumors. Estrogen can exert effects on target tissues through interaction with estrogen receptors. There are two subtypes of the nuclear estrogen receptor (ERα and ERβ) encoded by separate genes.
Aim: This work aimed to evaluate the expression pattern of estrogen receptors alpha and beta in epithelial ovarian carcinoma and their correlation with tumor histo-pathological parameters and PCNA expression as a proliferation marker.
Material & Methods: Fifty cases of epithelial ovarian carcinoma were included in this study. The cases were stained by H&E for histopathological grading and they were immune-histochemically stained for ER-α, ER-β and PCNA using streptavidin-biotin technique.
Results: In this study, 56% of cases were positively stained for ER–α. It is significantly correlated with both of the tumor histological type and proliferative state of the tumors. There was a significant inverse correlation between ER-α expression and the tumor histological grade. About 62% of cases were positively stained for ER– β. There was a significant inverse correlation between ER-β positivity and both of the tumor stage and proliferative state of ovarian carcinoma cases.
Conclusion: Loss of ER-β; not ER-α; expression in ovarian tumors may be a feature of malignant transformation suggesting its potential role as tumor suppressor gene. Determination of ER subtypes may improve response to hormonal therapy using selective estrogen receptor modulator in selected cases of ovarian carcinoma.
Keywords: Ovarian carcinoma- Estrogen receptor- ER-α – ER-β- PCNA- Immunohistochemistry.

Evaluation of Pomegranate Peels Extract (*Punica granatum*) on Cyclosporine hepatotoxic- Rat: Oxidative Stress and apoptotic marker

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Background: Cyclosporine (CsA) is immunosuppressive agent used for prevention of organ rejection in transplantation operations. CsA implicated in the formation of free oxygen radicals associated with several side effects, among them hepatotoxicity. Pomegranate is a food supplement that acts as an antioxidant agent and known to be free radical scavenger.
Objective: The aim of this study was to investigate the probable protective role of Pomegranate on oxidative stress induced by CsA in rat liver tissues.
Materials and Methods: Twenty-four Wistar albino male rats were divided into 4 groups with 6 rats each: group I control, group II cyclosporine (25 mg/Kg i.p.) for 21 days, group III & IV treated with cyclosporine in concomitant with punica (100 & 200 mg/Kg i.p) for 21 days.
Results: CsA-induced hepatotoxicity which evidenced by significant elevation in serum aspartate transaminase, alanine transaminase, alkaline phosphatase, lipid peroxidation markers (MDA) and inhibition of enzymatic antioxidants activities of superoxide dismutase, catalase, glutathione peroxidase , and glutathione in the liver homogenate. The histopathological findings of liver sections which revealed the presence of necrosis in the centrilobular, degenerative changes, cytoplasmic vacuolization, mononuclear cell infiltration, apoptosis, many mitotic figures and DNA damage. Electron microscope showed marked mitochondrial damage and altered the expression of TNF, COX-2, caspase-3, and Caspase-9 using immunohistochemical analysis. However, punica pre-treatment effectively restored CsA-induced alterations in liver. Histopathological, electron and immunohistochemical results were also evidenced that punica potentially protects the liver from CsA-induced oxidative stress, inflammation and apoptosis in dose dependent manner.
Conclusion: It could be concluded that Pomegranate have potential therapeutic effect in treatment of free radical-mediated diseases; due to Pomegranate rich with phenolic and flavonoid -bioactive compounds.

Cancer Stem Cell Marker (CD44) in Breast Duct Carcinoma and its Correlation with Prognostic Factors

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Background: Breast cancer is the most common cancer worldwide among women both in developed and developing countries. In Egypt; National cancer Institute (NCI) stated that, breast cancer constitutes 33% of all female cancers. The discovery of normal adult stem cells, able to self-renew and regenerate damaged tissue, has led to the idea that cancer may either originate from adult stem cells or contain stem cell-like cells that are self renewing, resistant to therapy and able to seed new tumor growth. Cancer stem cells (CSCs) were found within tumors that possess characteristics associated with normal stem cells. Breast cancer stem cells have a unique pattern of proteins, like a fingerprint, on their surface membranes called CD44.

Materials and Methods: eighty retrospective samples of formalin fixed paraffin-embedded tissue diagnosed as invasive duct carcinoma NOS, were collected from the archive of the Pathology Department, Medical Research Institute, Alexandria University. Paraffin blocks and computer copies of their pathology reports were included in this study. CD44, ER, PR and HER2 expression was assessed by immunohistochemistry in all samples.

Results: 51.25% of total cases were in the six decade of age, 67.5% were classified as T2 (> 2cm up to ≤ 5cm) while 35% of them were **N2** (4-9 LN), tumor with differentiation grade 2 were 88.75 % of all cases and 58.75% of cases were stage III . ER was positive in 82.5% and PR was positive in 68.75% while 85% of total cases were positive for Her2. CD44 was positive in 86.25% of total cases and negative in 13.75% .

Conclusions: There is a significant direct correlation between **CD44** expression and tumor grade as well as tumor stage. Besides, there is a significant inverse correlation between CD44 expression and ER hormonal status**.** While, there is no correlation between CD44 expression and PR hormonal status and Her2/neu.

Keywords: Cancer stem cell - CD 44 - Breast duct carcinoma.

Possible protective Effect of Jojoba Extract against Fumonisin-Induced Hepatotoxicity in rats

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Background: Fumonisins B (FBs) are mycotoxins produced by the fungal species Fusariumv erticillioides. Aflatoxin B1 (AFB1) has toxic, carcinogenic, mutagenic and teratogenic effects in laboratory animals. Jojoba oil derived from plant seeds. It contains vitamins, mineral and nutrients for healthy skins.

The aim: this study aimed to evaluate the possible protective role of the extract of jojoba against hepatotoxicity and DNA damage induced by fumonisin (FB1).

Material and Methods: Fourty adult albino rats were divided into four groups (10 rats each) used in this study. The rats were maintained on their ordinary diet for 8 weeks as follows: (1) Untreated control; (2) FB1-contaminated diet with fumonisin (80 mg/kg diet); (3) jojoba seed extract (1.0 mg/kg b.w. orally); and (4) FB1-contaminated diet and Jojoba seed extract. At the end of the experiment, the rats were sacrificed and their livers were fixed, processed for wax embedding. Five micrometer sections were prepared for histopathologicalstudy of structural changes using Hematoxylin and eosin stain, DNA evaluation using Feulgen method, and immunohistochemical evaluation of PCNA (proliferating cell nuclear antigen). Morphometry and cytophotometric measurements were performed using the Leica Qwin 500 Image Analyzer. The quantitative data were statistically analyzed using Microsoft Excel XP 2003.

Results: the result indicated that FB1 administration inducedsevere damage in hepatocytes, proliferation in bile ducts, fibrosis, fatty and vacuolar degeneration, different figures of nuclear changes, in the form of necrosis, pyknosis, mitotic figure and apoptosis. While, the treatment with jojoba extractin combination with FB1 revealed some improvement in liver architecture although some hepatocytes still suffered from some injury, arrest of cells in G0/G1 phase representing dying cells or apoptosis and significant increase in number of proliferating cells positively stained with PCNA compared to control animal.

Conclusion: Our study showed that jojoba extract ameliorate the damaging effect of FB1 on liver, but did not significantly prevent hepatic FB1-induced DNA damage.

Ophthalmology

Effect of photosensitized liposomal hypericin on the rabbits' eye for application in photodynamic therapy

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Background/Aim :Photodynamic therapy is a form of cancer treatment using a photosensitizing agent administrated intravenously which concentrates selectively in tumor cells, followed by exposure of the tumor tissue to a special laser light, in order to destroy as much of the tumor as possible. This work aimed to highlight on the effect of photosensitized liposom loaded with hypericin (HY) on the protein of the aqueous humor and crystalline lens of the rabbits' eye.
Materials and Methods: Six groups of New Zealand rabbits of six rabbits each (12 eyes) A, B, C, D, E, and Fwere used in this study.The rabbits received 30 mM of HYor liposomes loaded with HY topically once a day for one week as an eye drops of HY concentration 1-9 mM.The eyes of rabbits were exposed to He- Ne laser for 5 min. after 30 min.from administration of HY or liposome loaded with HY for the studied groups. Total soluble protein, molecular weight distribution, electrophoretic mobility and refractive indexfor both aqueous humo and soluble lens crystallins were investigated for the studied samples.
Results: The obtained results showed an increase in the solubility of lens proteins and aqueous humor; accompanied by an increase of the molec
Ular weight of bbeta and gamma proteins as well as fluctuations in the electrophoretic mobility and slight decrease in the refractive index at High concentration of HY. These changes were higher in the samples. Treated with HY more than those treated with liposomes loaded with HY.
Conclusion: It is concluded from the obtained data that liposomes loaded with HY may be used as a photosensitizer in photodynamic therapy at low fractionated doses with a minimal side effects.

***Keywords*:** Hypericin, liposomes, Photodynamic therapy, rabbits' eye.

Photobiomodulation therapy for diabetic macular edema- Ftir study

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Objective: The aim of the current study is to evaluate the effect of photobiomodulation therapy (PBM) on diabetic macular edema (DME) assessed by Fourier transform infrared spectrum (FTIR) in Albino rats.

Materials and Methods: Twenty- five albino rats with the same sex (200±20 g) were involved in this study. Diabetes was induced in albino rats after intraperitoneal injection of 55mg/kg streptozotocin. The experimental animals were divided into 3 main groups: (1) Control group; (2) Diabetic macular edema group did not received any treatment; and diabetic macular edema group exposed to two sessions / week of 660 nm low level laser source (PBM) for a period of two weeks. The rat's eye was received a power of 5 mW/cm^2, for 90 second with a total energy of 450 mJ in each session. FTIR analysis was applied after 2 weeks for comparison between the diabetic and PBM treated groups.

Results: The results confirmed that DME was associated with changes on the retina structure, which appear after received a single dose of streptozotocin (STZ) 55 mg/kg. These changes obviously appeared in the NH-OH, CH stretching, fingerprint and amide I regions.Treatment with PBM significantly improve most of the amide I components except the first beak of β- turn and formation of new bands corresponding to β- sheet.

Conclusion: The treatment with phtobiomodulation by using low level diode laser was associated with different beneficial effects on the retina constituents, as showed by the obvious improvement in the retinal protein secondary structure using FTIR. More PBM sessions and long term follow up are needed for use of the PBM therapy as a treatment method.

Role of calcium exposure in cataractogenesis

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Background & Aim: Cataract is an eye disease, which caused an opaque lens and resulted in blurred and cloudy vision. The WHO in 2004 estimated that cataract was responsible for blindness in 17.7 million people, or it can be said that 47.8 percent of all blindness causes is because of cataract. Calcium exposure is one of the major risks for cataractogenesis, as it changes the lens permeability by inducing aggregation of bovine lens alpha crystallins and induce oxidative stress in the eye. This study aims to detect the effect of calcium exposure in the incidence of cataract and its induction to the reactive oxygen species.

Materials and Methods: Sixty subjects were used in this study divided into three groups. Group I : Healthy subjects as control, Group II: Cataract patients who attend inpatient clinics of Research Institute of Ophthalmology, and Group III: Cataract patients who are under the calcium exposure in their daily life. Serum and Whole blood samples were taken from fasted patients for determination of: albumin, total proteins, Immunoglobulins M, liver & kidney functions and lipid profile, some oxidative stress markers also have been determined Glutathione and Hydrogen Peroxide. Serum protein was separated by disk electrophoresis.

Results: A significant decrease in blood glutathione as an antioxidant and significant increase in hydrogen peroxide as an oxidative stress marker in cataract patients group and cataract patients who are under calcium exposure as compared to control subjects. Some changes in separation of proteins by electrophoresis and in serum lipid profile levels and no significant changes are noticed in liver and kidney functions tests in both cataract subjects groups as compared to control.

Conclusion: This study concluded that calcium has a direct effect on the incidence of cataract and the increase of oxidative stress.

Keywords: Cataract, Calcium, Oxidative stress, Glutathione, Hydrogen Peroxide

Biochemical changes and oxidative stress associated with cataract in Egyptians

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Background & Aim: Cataract is opacity in the lens which can block or scatter light. The prevalence of cataract as a proportion of the blind population shows large variations across countries. It is as low as 5 percent in developed countries and more than 55 percent in African countries. Cataract is associated with many biochemical changes in the body. Oxidative stress is one of these changes that associated with the formation and increase the risk of the cataract in human. This study aims to detect some biochemical changes that associated with cataract.
Materials & Methods: Forty subjects were used in this study divided into two groups. Group I: Healthy subjects as control, Group II: Cataract patients who attend inpatient clinics of Research Institute of Ophthalmology. Ophthalmological examinations and nutritional questionnaire were applied on them. Serum and Whole blood samples were taken from fasted patients to determine oxidative stress markers like: Glutathione and Hydrogen Peroxide and some biochemical analysis like: albumin, total proteins, Immunoglobulins M, liver & kidney functions and lipid profile. Serum proteins were separated by Disk electrophoresis.
Results: A significant decrease in blood reduced glutathione and significant increase in hydrogen peroxide in cataract patients noticed as compared to control group. Some changes in bands of separation of proteins by electrophoresis and in serum lipid profile levels and no significant changes in levels of liver and kidney function tests noticed in cataract subjects as compared to control group.
Conclusion: This study concluded that oxidative stress plays an important role in the occurrence of cataract in Egyptian people.
Keywords: Cataract, Oxidative stress, Glutathione, Hydrogen Peroxide

Caffeine and nifedipine effect on cataract induced by selenite in rats

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Objective: The present study analyzed the impact of caffeine and /or nifedipine in a model of cataract caused by selenite.

Material and Methods: Albino Wister rats were divided into five groups; group I served as control and group II wassubcutaneous injection with 30 nmol/g body weights of sodium selenite. Group III was received intraperitoneal injection of 5.15 µmoles of caffeine, group IV received 0.1 mg/kg of nifedipine and group V received the two treatments in the same dose after selenite injection.All groups were decapitated after 5, 15 and 25 days of selenite injection. Comet assay to lens epithelium, refractive index and UV spectrophotometer spectra for lens proteins were studied.

Results: The results indicated that statically very high significant increase ($p<0.001$) in comet assay parameters, refractive index and variation of UV spectra for all groups injected with selenite. Partially recovery was observed after treatment with caffeine or nifedipineand there were no significant differences observed in groups treated with a combination of caffeineand nifedipine.

Conclusion: The study fulfilled that to achieved attenuation or delay of lens cataract formation, acalcium channel blocker must used in addition to antioxidant.

Occupational & Environmental Health

The response of occupational workers to regarding practices on safety measures during pesticide operations

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Objectives: The lack of national research and toxicological data on farm workers, pesticides marketing and pesticide sprayers has hindered efforts to improve the agriculture environment for reducing probable risk exposures. Hence, this study was designed to determine pesticide residues in blood and to assess the level of knowledge on precautions of pesticides safety.
Methods: This study was conducted in some villages located in Dakahlyia governorate, Egypt. Seventy healthy male individuals at the age group of 30 – 55 years were selected for the present study (30 farmers, 25 spray workers and 15 market workers). Those have been exposed to different classes of pesticides for 5 to 15 years. All persons responded to a questionnaire covering a kind of pesticides they mostly used, protective equipment or cloths during preparation and application of pesticides, concentrations recommended for pesticides use. We studied persons who work in both field crops and vegetables on the same ground but in different seasons.
Results: Data obtained from field survey indicated that 40.0, 6.7 and 12.0 % of farmers, market and spray workers, respectively, did not wear protective clothing, but most of them (83.3, 93.3 and 88.0 %) have knowledge on safety precautions during pesticide formulation and application. Also, most of study subjects had multiple residues above acceptable daily intake (ADI).
Conclusion: Therefore, we conclude that spreading awareness among pesticide users to improve and encourage safe use and handling of pesticides by education, guidance and warning them against the risks involved in the miss use of these poisonous materials are highly wanted.
Keywords: Occupational Workers, Pesticides, Precautions safety.

Molecular, physiological and pathological changes in experimentally infected animals with *Toxoplasma gondii*

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Background: *Toxoplasma gondii* (*T. gondii*) is incriminated as a cause of fetal resorption, abortion, still births and neonatal mortalities in small ruminants resulting in great economic losses.

Objective: The present study aimed to investigate the effect of toxoplasma on reproduction in New Zealand bucks.

Methods: Fourteen mature bucks were used and divided into two groups (infected and control). Each animal of infected group (n=9) was inoculated s/c with 150 000 tachyzoites of RH strain of *T. gondii*. Blood and semen samples were weekly collected for hormonal level, semen characteristics, PCR and chromosomal aberrations. Testis and accessory glands were taken for histopathological study.

Results: Results indicated that semen characteristics were affected severely with a parallel significant decrease in the serum testosterone level. Moreover, toxoplasma induced different structural chromosomal aberration as deletion, fragmentation, chromatid gap and centromeric attenuations. PCR gave positive results (300 bp) in semen sample from 7^{th} – 14^{th} till 35^{th} days post inoculation. Meanwhile, *T. gondii* DNA was consistently detected in cell fractions and not in seminal plasma. The microscopically examination of testis revealed degenerative and necrotic changes of spermatogenic epithelial lining of seminiferous tubules. Prostate gland showed focal hyperplasia of epithelial lining and cystic dilatation of seminal vesicle acini was seen.

Conclusion: It could be concluded that toxoplasma infection induced adverse seminal, hormonal, chromosomal and pathological changes with subsequently impairment of testicular function in male rabbits.

Keywords: Toxoplasma gondii.PCR, rabbits.

Phytochemical and Pharmacological potential of bottle gourd (*Lagenaria sicereria*): an updated review

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Bottle gourd is one of the valuable medicinal plants due to the presence of unique natural edible substances. Traditionally the leaves, flowers, seeds, fruit and oil of*bottle gourd*are used in the treatment of many diseases.
A wide range of biologically active phytoconstituents such as sterols, cucurbitacinsaponins, glycosides, flavonoids, terpenoids, triterpenes, volatile principles and phenolic compounds have been isolated from bottle gourd. Its extracts have been found to possess various pharmacological activities. Various important medicinal properties including immunomodulatory, analgesic, anti-diabetic, antioxidant, anti-carcinogenic, anti-inflammatory, antihyperlipidemic and others have been well documented.
The purpose of this article is to discuss various phytochemical properties and pharmacological activities of bottle gourd that can impart further research developments for human health benefits.

Work place violance against nursing staff working in emergency departments at general hospitals in Basra City/Iraq

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Objectives: To determine the rate and sources and types of violence, and the response of nurses towards violence.
Material and Methods: Cross sectional study including 84 nurses
The data was collected via face-to-face interviews.
Results: majority of nurses were exposed to work place violence (90.5%).Exposure rate among males (93.8%) was higher than what reported for females (86.1%), although the differences was statistically not significant ($p>0.05$). Exposure to work place violence rate was lower among younger than 30years of age (77.8%) than older participating and the difference was statically significant ($p< 0.05$). The majority (71.1%) of the participants was exposed to verbal violence, (73.6%) of those who exposed to workplace violence the frequency of the incidents was four times or more attacks of violence. Relatives of the patients were the major source of violence (86.8%), the main time of exposure to violence was during night shift (48.7%) . The main reason for not submitting the incident of violence reports was that they consider it of not important (76.3%), (23.7%) were afraid from consequences of reporting the incident, Nothing was done was consequence for (35.3%) of the work place violence. The main single feeling was disappointment which was expressed by (32.8%) of the participants who exposed to violence .
Conclusion: The majority of nursing staff had exposed to violence. It was higher among males and among older age.Main type was verbal violence. Main source of violence was relatives of the patients. Violence occur mainly occur during night work shifts

Serological Study of Brucellosiscamels and cattle in Libya

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Background/Aim: Brucellosis is an infectious disease caused by the bacteria of the genus *Brucella*. These bacteria are primarily passed among animals, and they cause disease in many different vertebrates. Various *Brucella* species affect sheep, goats, cattle, camels, dogs, and several other animals. It causes abortion in females and inflammation of the testes (orchitis) in males. Humans become infected by coming in contact with animals or animal products that are contaminated with these bacteria. In humans brucellosis can cause a range of symptoms that are similar to the flu and may include fever, sweats, headaches, back pains, and physical weakness. Severe infections of the central nervous systems or lining of the heart may occur. Brucellosis can also cause long-lasting or chronic symptoms that include recurrent fevers, joint pain, and fatigue.
In Libya, there is a program to eradicate brucellosis in cattle and camels from 1997 to 2007, the present study aim to Seropositivity of brucellosis in camels and cows after program to eradicate brucellosis in cattle and camels
Materials and methods: In this work (5504blood samples from camel and 2124 blood samples from cattle) were randomly collected from the most region of Libya tested by Rose Bengal and confirmed by STAand Enzyme Linked Immunosorbent Assay (Elisa).
Results: The survey and eradication program of brucellosis in camels and cattle in Libya from 1997 to 2007 gave excellent results.
Conclusion: Continue collection of random samples will to maintain the low seropositivity rates which was recorded and need to test new animals beforeintroducing them to their herds.
Keywords: Brucellaabortus, Brucellamelitensis, Rose Bengal antigen, ELISA, SAT

Novel approach to gastric mucosal defect repair using fresh amniotic membrane allograft in dogs (experimental study)

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Background: Gastric mucosal defect could result from several causative factors including the use of nonsteroidal anti-inflammatory drugs, Helicobacter pylori infection, gastrointestinal and spinal cord diseases, and neoplasia. This study was performed to achieve a novel simple, inexpensive, and effective surgical technique for the repair of gastric mucosal defect.
Methods: Six adult male mongrel dogs were divided into two groups (three dogs each). In the control positive group (C + ve), dogs were subjected to surgical induction of gastric mucosal defect and then treated using traditional medicinal treatment for such a condition. In the amniotic membrane (AM) group, dogs were subjected to the same operation and then fresh AM allograft was applied. Clinical, endoscopic, biochemical (serum protein and lipid andpepsin activity in gastric juice), histopathological, and immunohistochemistry evaluations were performed.
Results: Regarding endoscopic examination, there was no sign of inflammatory reaction around the grafted area in the AM group compared to the C + ve group. The leukocytic infiltration in the gastric ulcer was well detected in the control group and was less observed in the AM group. In the AM group, the concentrations of both protein and lipid profiles were nearly the same as those in serum samples taken preoperatively at zero time, which indicated that the AM grafting acted the same as gastric mucosa. The re-epithelization of the gastric ulcer in the C + ve group was not yet detected at 21 days, while in the AM group it was well observed covering most of the gastric ulcer. AM accelerated the re-epithelization of the gastric ulcer. The fibrous connective tissue and the precursor of collagen (COL IA1) were poorly detected in the gastric ulcer with AM application.
Conclusion: Using fresh AM allograft for repairing gastric mucosal defect in dogs showed great impact as a novel method to achieve optimum reconstruction of the gastric mucosal architecture and restoration of pre-epithelial, epithelial, and post-epithelial normal gastric mucosal barriers.

Keywords: Gastric mucosa, Amniotic membrane, Allograft, Endoscope, Pepsin, Immunohistochemistry

Posters I

Novel bioactive injectable thermosensitive hydrogel for bone regeneration: in-vitro characterization, cytocompatibility, and osteogenic evaluation

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Objective: In the field of bone tissue engineering, *in-situ* forming hydrogels were proven to be a less invasive alternative to those applied by surgical treatment. The aim of this study was to prepare *in-situ* forming thermosensitive hydrogel loaded with risedronate (bone building drug) in simple steps with low need of equipment and processes to investigate its effectiveness for bone regeneration.
Material and Methods: *In-situ* forming hydrogels were prepared using chitosan cross-linked with glycerol phosphate, loaded with a bone building drugwhich is risedronate, and bone cementas nano-hydroxyapatite. The prepared hydrogels were characterized by analyzing their gelation time at 37°C, porosity, swelling, *in-vitro* degradation, rheological properties and *in-vitro* release.
The optimized formulation was further evaluated using DSC and FT-IR studies in addition to its effect on Saos-2 cell line viability using MTT assay and on cell proliferation using fluorescence microscope. Finally, alkaline phosphatase activity as well as calcium deposition on the hydrogel was evaluated.
Results and Conclusion: Results showed that the *in-situ* hydrogels prepared using 2.5% (w/v) chitosan cross-linked with 50% (w/v) glycerol phosphate in the ratio (9:1, v/v) and reinforced with 20 mg/mL nano-hydroxyapatite possessed the most sustained drug release profile.
Saos-2 cell proliferation, alkaline phosphatase activity and calcium deposition were significantly enhanced.Such results suggest that risedronate- nano-hydroxyapatite loaded hydrogels offer excellent biocompatibility for bone regeneration and provide a promising noninvasive approach for bone tissue engineering.

Design of novel injectable *in-situ* forming scaffolds for non-surgical treatment ofperiapical lesions: *in-vitro* and *in-vivo* evaluation

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Background/Aim: Periapical lesions are considered one of the most famous painful teeth disorders. The primary focus of this study was to investigate the effectiveness of formulating an injectable *in-situ* forming scaffold-loaded with risedronate (bone resorption inhibitor) and with lornoxicam (anti-inflammatory drug) for the non-surgical treatment of periapical lesions.
Material and Methods: The scaffolds were prepared using solvent-induced phase inversion technique. Two insoluble copolymers were investigated namely; poly (lactic-*co*-glycolic acid) PLGA (ester-terminal) and PLGA-A (acid-terminal), additionally, Sucrose acetate isobutyrate (SAIB) was added as a high viscosity water-insoluble carrier. The addition of porogenic agents like hydrolyzed collagen was also investigated. The prepared scaffolds were characterized by analyzing their *in-vitro* release, DSC and rheological properties, besides their morphological properties.Selected scaffolds were tested for their therapeutic effect to study the effect of porogenic agent, anti-inflammatory drug and risedronate in periapical lesions induced in dogs' teeth.
Results: The results showed that the scaffolds prepared using 30% (w/v) PLGA or combined PLGA: SAIB (1:1, w/w) with total polymer concentration of 30% (w/v) possessed the most sustained drug release profile.
Conclusion: Results declared that the selected scaffolds succeeded in improving the inflammation and enhancing the formation of new bony regions confirming the success of the prepared scaffolds as an innovative approach in the treatment of bone defects as periapical lesions.

5-(Thiophen-2-yl)-1,3,4-Thiadiazole Derivatives: Synthesis, Molecular Dockingand *In-vitro* Cytotoxicity Evaluation as Potential Anticancer Agents

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Background/Aim: Thiopheneand 1,3,4-thiadiazoles have been reported to possess variouspharmacological activities especially anticancer activities. The present study aim towas planned to synthesize 1,3,4-thiadiazoles incorporating the thiophene moiety using *N*-(4-nitrophenyl)thiophene-2-carbohydrazonoyl chloride as versatile building blocks, as promising antitumor agents.
Materials and Methods: Triethylamine (0.1 g, 1 mmol) was added while stirring to a mixture of ([1,1'-biphenyl]-4,4'-diyl)*bis*(2-oxopropane-hydrazonoyl chloride) (0.390 g, 1 mmol) and the appropriate hydrazinecarbodithioates (1 mmol) in ethanol (30 mL) at room temperature for 60 min. The solid was collected and crystallized from the proper solvent.
Results: A series of novel 1,3,4-thiadiazole derivatives were synthesized by reaction of N-(4-nitrophenyl)thiophene-2-carbohydrazonoyl chloride with a series of hydrazine-carbodithioate derivatives. The mechanisms of the studied reactions were discussed and the assigned structure for each of the new products was identified *via* elemental and spectral data. All of the synthesized compounds were tested for *in vitro* activities against human lung cancer (A-549) and human hepatocellular carcinoma (HepG-2) cell lines compared with the employed standard anticancer drug (Cisplatin). Moreover, molecular docking using MOE 2014.09 softwarewas also carried out for the high potent compound **4c.**
Conclusions: All the newly synthesized compounds were evaluated for their anticancer activity against human lung cancer and human hepatocellular carcinoma cell lines using MTT assay. The results revealed that compound **4c** has promising activities (IC_{50} value of 4.37±0.7and 8.03±0.5µg/mL**,** respectively)**.**Moreover, the results of the molecular docking supported the biological activity.

Keywords**:** Hydrazonoyl chlorides, hydrazine-carbodithioates, 1,3,4-thiadiazoles, Molecular Docking, and anticancer activity.

Meal induced c-Fos in the subfornical organ is partially mediated by cholecystokinin

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Introduction: The subfornical organ (SFO) is an important sensory circumventricular organ involvedin the regulation of fluid homeostasis, cardiovascular control and energy balance. We have previously demonstratedusing the functional activation markers c-Fos and p-ERK and with patch clamp electrophysiological studies, the response of SFO neurons to intraperitoneal injection of cholecystokinin (CCK). CCK is an intestinal hormone release in response to feeding that is partially responsible for meal termination.Here we examined the effect of a liquid Ensure® meal on the activation of the SFO,using the nucleus of the solitary tract (NTS) as a positive control.

Methods: Using immunohistochemistry, the number of c-Fos immunoreactive SFO neuronswere determined in 18 hr-fasted rats givena meal alone or pretreated with a CCK_1 or a CCK_2 receptor antagonist (devazepide; 600 µg/kg and L-365,260[L-365]; 100 µg/kg, respectively) or a combination of both,prior to the meal.

Results: After 90 min, consumption of ameal induced a significant increase in the number of c-Fosimmunoreactive neurons in the NTS (163.3±10.7 neurons) compared to control fasted rats (63.5±6.9). Similarly, in the SFO, c-Fos was expressed in 28.8 ± 2.9 neurons in fed rats compared to 10 ±1.0 in fasted rats (n=4/group). Pretreatment with devazepide, L-365 or a combination of both, did not cause a significant change in the number of c-Fospositive neurons in the NTS. However, L-365 attenuated the effects of feeding in the SFO by about 50% (17.7±3.3 in L-365 pretreated rats compared to 30.0 ±2.0 in Ensure® fed rats, $P < 0.05$).

Conclusion: In contrast to the NTS, meal induced SFO activation is partially mediated by CCK acting on the CCK_2 receptor. The data suggests that SFO might act as a potential circumventricular organ for controlling food intake.

Synthesis and antitumor Activity of *Bis*-Schiff bases of pyrazole

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Objective: Currently, there is an urgent need to give much attention to the design and synthesis of more effective human therapeutic agents to treat cancer diseases. For this goal, our research program aims to develop more promising molecules. *Bis*-Schiff bases and pyrazole moiety have been reported to possess diverse pharmacological activities especially antitumor. The aim of our work is the synthesis and antitumor evaluation of *Bis*-Schiff bases of pyrazoles against three human cancer cell lines.
Material and Methods: *Bis*-Schiff bases of pyrazole were synthesized by mixing 5-aminopyrazoles with dialdehydes in ethanol and refluxing for 1 hour. The solid product was filtered off, dried and finally recrystallized from ethanol.
In vitro antitumor evaluation
The antitumor activities against HepG-2, RPE-1 and MCF-7 human cell lines were estimated using the 3-[4,5-dimethyl-2-thiazolyl)-2,5-diphenyl-2*H*-tetrazolium bromide (MTT) assay.
Results: The present work displays the synthesis of *bis*-Schiff bases of pyrazoles from the reaction of 5-aminopyrazoles with dialdehydes. The newly synthesized compounds were established by elemental analysis and spectral data and also, were evaluated for their antitumor activities using MTT assay.
Conclusions: The paper displays the synthesis, structural characterization and biological evaluation of *bis*-Schiff bases of pyrazoles. The results revealed that some of the newly synthesized compounds displayed moderate antitumor activities against all cell types.

Study of dietary risk factors for breast cancer in women in the region of Batna: Case-control study 2014-2015

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Breast cancer is a multifactorial disease; several socioeconomic, food factors and lifestyle are incriminated in its development. It is the first cancer of women in the world and in Algeria, in terms of incidence and mortality. In Batna, the standardized incidence has doubled, from 13.6 in 2001 to 25.3 in 2011.

Objective: The main objective is to study the dietary risk factors associated with the occurrence of breast cancer in women in the region of Batna.

Methods: A case-control study with 1-1 matching by age and address was conducted from January 1st, 2013 to December 31rd, 2014. The total sample consisted of 160 women.

Results: Eating fastfood every day increases the risk of breast cancer by 7 times as well as fat from red meat. Consumption of sausage and poultry skin by 5 times. Cooking vegetables in sauce increases the risk by 5 times ($p < 0.0001$),

Taking olive oil each day reduces the risk of 25% with a $p < 0.02$, the consumption of milk mixed or not with coffee reduces the risk of one third and the fact of nibbling rarely reduced it with OR = 0,117 (0,023- 0.59) p = 0.009.

Discussion: the associations between dietary risk factors and breast cancer are discordant in the various studies carried out in the world, our results are in line with studies but require further research.

Keywords: Women - Breast cancer - Dietary risk factors - Batna.

Antioxidant, Cytotoxicity and Anti-tumor activity of *Cordiadi chotoma* fruits pulp alcoholic extract against Ehrlich Ascites Carcinoma in Mice

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This research was designed to investigate the effect of *C. dichotoma* pulp fruits alcoholic extract (CdFE) on growth of Ehrlich ascites carcinoma (EAC), life span, tumor volume, viable tumor cell count and hematological parameter and studying its cytotoxic effect on human breast adenocarcinoma cell line (MCF7) with antioxidant properties investigation. 24hr after intraperitoneal inoculation of EAC cell in mice CdFEwas administered orally at 500 mg/ kg body weight (equal to 0.10 of determined LD_{50}) for ten consecutive days. On the tenth day, half of mice were fasted for 18hr and then blood samples were collected. The antitumor effect was assessed by determination of viable and non-viable tumor cell count, tumor volume, tumor weight, hematological parameters and survival parameters. The *C. dichotoma* pulp fruits alcoholic extract showed powerful in scavenging superoxide radicals and chelating metal ions as well as high reduction capability and total antioxidant capacity, dose dependent manner. On the other hand, it significantly reduced the viable Ehrlich cell count and increased non-viable cells. CdFE ameliorated all hematological parameters, this amelioration reflected on increasing median survival time and significant increase ($p<0.05$) in life span.Total phenolic content in *C. dichotoma* extract found to be 112.71±8.40 mg gallic acid/g dried extract while total flavonoids was 69.76±4.18 mg quercetin/ g dried extract and it contained 25.65±1.80 mg catechin/ g dry extract.

Keywords: antitumor, Ehrlich Ascites Carcinoma, *Cordiadi chotoma,* Egypt

Poster II

A Potent Anti-ovarian Cancer with Potent Inhibitor Activities on Both Topoisomerase II and ^{V600E}BRAF for Synthesized Pyrazoline Estrone Derivatives

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Background/aim: Synthetic alterations of estrone lead to discovering of compounds with diverse biological activities, for example with antitumor effect. Estrone derivatives with antitumor activities must be devoid completely of the estrogenic activities. In view of these observations and in continuation of our previous work in heterocyclic chemistry, we synthesized of fused pyrazole candidates with estrone ring as anticancer agents.
Materials and Methods: For IC_{50} calculations of the related quinolol and naphthol inhibitors, the same assay described above was used at different inhibitor concentrations to generate a sigmoidal dose response curve using ^{V600E}BRAF or ^{WT}BRAF protein. All dose response measurements were carried out in duplicate or triplicate and IC_{50} values were derived from fitting the data to a sigmoidal dose response curve with a four-parameter logistic model using GraphPad Prism.
Results: A series of pyrazoline-3-ol derivatives were synthesized from corresponding arylidines, which was prepared from estrone. All the synthesized derivatives showed potent anti-ovarian cancer both *in vitro* and *in vivo*.
Conclusion: All synthesized medicinal compounds were elucidated by spectroscopic evidences. All compounds were highly active inhibitors for ^{V600E}BRAF compared with moderate activity against ^{WT}BRAF. The mechanism of anti-ovarian cancer is Topoisomerase II inhibitors and inhibitors for ^{V600E}BRAF.
Keywords: Pyrazoline Estrone Derivatives, Anti-ovarian Cancer, Topoisomerase II and ^{V600E}BRAF

Double-Track Electrochemical Green Approach for Simultaneous Dissolution Profiling of Naproxen Sodium and Diphenhydramine Hydrochloride

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Background/aim: A unique abilities of ion-selective electrodes (ISEs)-sensors for real-time measurements as a key-driver for the 12 principles of "green analytical chemistry" (GAC) aiming to expand the applicability of eco-friendly analysis of multicomponent dissolution profiling. For the proof of concept, two ISEs were developed for the simultaneous determination of the dissolution profiling of the anionic naproxen sodium (NAPR) and the cationic diphenhydramine hydrochloride (DIPH) drugs in marketed tablets - by two techniques.The first "Double-Track" *in-line* strategy depends on dipping two highly integrated membrane sensors for continuous monitoring of the dissolution of each active pharmaceutical ingredient (API) by tracing the e.m.f-change over the time scale. The second method of analysis is a side-by-side comparison with an adopted RP-HPLC-technique.
Materials and Methods: For the determination of NAPR, sensor-I was developed using tridodecyl methyl ammonium chloride as an anion exchangerwith 2-nitrophenyl octyl ether (2-NPOE) as a plasticizer., while sensor-II was developed for the determination of DIPH using potassium tetrakis (4-chlorophenyl) borate as a cation-exchanger.Both sensors were dipped simultaneously into the dissolution medium and the signal of each sensor in mV was recorded every 5 minutes, then these signals were converted into %-dissolution and plotted against time in minutes. Potentiometric measurements were carried out using an Ag/AgCl double-junction-type external reference electrode (Thermo Scientific Orion 900200; 3 M KCl saturated with AgCl as an inner filling solution and10% KNO_3 as a bridge electrolyte), and Jenway model 3330 digital ion analyser & pH-glass electrode. The second *off-line* strategy utilizes a separation-based RP-HPLC-method *via* tracking the increase of peak-area by UV-detection at 220 nm over time using a mobile phase of acetonitrile + water (90:10, pH 3).
Results: Real-time monitoring of the dissolution of both NAPR and DIPH was performed using the proposed sensors. It was found that reaching 100% dissolution was achieved by NAPR after 35 min while DIPH took 40 min to

dissolve completely. Both drugs complied successfully with the acceptance dissolution criterion stated by the USP which indicated that the dissolution profiles of immediate-release products typically show 85% to 100% at about 30 to 45 minutes. The UV-absorptivity of DIPH is much lower than that of NAPR representing a big problem in assaying Aleve pm™tablet especially that it contains a small (about tenth) concentration of DIPH in combination with a high concentration of NAPR. This makes the UV-spectrophotometry technique robust with lack of selectivity and complications from interferents. Concerning the HPLC-method, despite symmetric and sharp peaks were obtained with retention times of 3.3 ± 0.1 minutes for NAPR and 4.1 ± 0.1 minutes for DIPH and linear ranges of 60-140 µg/mL and 10-80 µg/mL for NAPR and DIPH, respectively, but it encounters several difficulties; such as the high instrument cost and prolonged sample preparation and provokes many environmental concerns including the excessive amount of organic solvents used and waste generated, in addition to the high-energy consumption by such an intricate and multipart instrument.

Conclusion: The described double-tracking technique exhibits the applicability of an *in-line* potentiometry for the simultaneous assay and dissolution monitoring of co-formulatednaproxen and diphenhydramine salts in oral solid dosage forms. The ISEs-potentiometryappears superior over theclassical *off-line* techniques, *e.g.,* UV-spectrophotometry and HPLC, for the accurate acquisition of dissolution profiles from being, time saving, cost-effective, green and much simpler. ISEs havegreat opportunities in the field of *in-line* monitoring of the dissolution of organic ionic/ionisable analytes. The recommended approach can provide a real-time PAT-tool that gives pharmaceutical companies the chance to establishbuilt-in*in-process* optimization and quality assurance of binary solid-dosage formulations. The only limitation facing the ISEs is the inability of direct detection of the electrically neutral organic species since the transfer of these species across the interface of an aqueous sample into an ISE-membrane does not involve the transfer of an electric-charge across this interface.

Keywords: Diphenhydramine hydrochloride, dissolution profiling, double-track approach, drug quality-control, green analysis, naproxen sodium, ion-selective electrodes (ISEs).

Cerebral palsy (CP) in Algeria

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Introduction: Cerebral palsy (CP) is the most common motor impairments of the child, and due to advances in the survival of people at risk as affected people, more and more adults are affected by this condition.
Due to its impact in terms of activity limitation and participation restriction, it may be responsible for a decrease in the life's quality of the child and / or his family. Whether we are talking about cerebral palsy (CP) or cerebral palsy with mental retardation, the prevalence of this disease in the child, "Cerebral Palsy" (CP) in its broad concept, not decreasing as should been expected in view of the advances in perinatal care. It affects approximately 2 children per 1000 births.
Material and Methods: The cerebral palsy has been systematically recorded by the CP registry Setif for monitoring changes in prevalence over time.
Results: Prevalence per 1000 live births during the three years of collection (2007, 2008.2009) for generations of children born between (2005, 2006.2007) are stable [2 ‰, 2 ‰, 2.04 ‰]. No significant change in prevalence is highlighted on the periods in the department of Setif ($p < 0.001$).
Conclusion: Our databases emphasize the importance of morbidity registers as a tool for monitoring the evolution of the child's disabilities and planning assistance. They also show the value of recording all types of disabilities, which is definitely an original. even if the geographical territory concerned was not selected to be representative of the whole country, these data can however be used to support reflection on the assessment of perinatal policy, which can't be conducted on only following cohorts of children at risk.

Discovery of an ancestral mutation in US2A gene in an Algerian family with Usher syndrome

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Bacground: Hearing loss is the most common sensory deficit in children. Its social consequences depend on the moment of appearance and its severity. They mainly concern the communication and the acquisition of the language. It presents a genetic heterogeneity.
The aim of this work is to investigate the genetic causes of this deficit in the Algerian population.
Materials and Methods: Some fifty Algerian families with at least one case of neurosensory hearing loss are recruited at the central laboratory of Blida University Hospital. All the members of the families were taken on EDTA tube and the DNA is extracted by the salting out method in the laboratory of genetic biochemistry of CHU Bab El Oued. The molecular study was done at the institute of vision in Paris
Results: Several mutations have been found among which this ancestral deletion C.2299delG in the exon 13 of the gene USH2A which was diagnosed in the homozygous state in a member of a consanguineous family. It is a mutation that is distinguished by its high frequency through several studies and has been described in several European and American families. However, to date this deletion has not been described in North Africa.
Conclusion: The genetic diagnosis of congenital deafness is essential for early management of sensory deficit and other deficits in the case of syndromic deafness. It also allows genetic counseling and avoids consanguineous marriages for members carrying heterozygous mutations.
Keywords: USH2A, deletion, Usher syndrome

Molecular screening of non-syndromic deafness in Algeria

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Background: Deafness is the most common neurosensory deficit. It affects about 1/1000 children at birth. Hereditary hearing loss are divided into non-syndromic (isolated) and syndromic. Almost 90% of all cases of congenital, non-syndromic, severe to profound inherited deafness display an autosomal recessive mode of transmission (DFNB form). To date, 47 causal DFNB genes have been identified. The aim of this work is to investigate the genetic hearing loss causes in the Algerian population.

Materials and Methods: In this study, we investigated 120 unrelated Algerian families with non syndromic hearing loss. Sequencing of exon 1 and 2 of GJB2, and exons 21 and 22 of otof was realised. The deletions of GJB6 gene (GJB6-D13S1854-D13S1830 and GJB6) were tested by multiplex PCR, and the A1555G mitochondrial mutation was analyzed by PCR RFLP. The genes of Usher syndrome type 1 were tested for young children, by sequencing CDH23 and MYO7A genes. Whole-exome sequencing was carried out on large familes after a failure to identify mutations in the DFNB genes frequently involved. **Results:** Two different GJB2 mutations were identified. The 35delG was found in 19 families, and E47X in 4 families. A new mutation in exon of CDH23 gene has been described, a suspicion of Usher syndrome in the patient was confirmed by ophthalmological examinations. We identified for the first time on a global scale, a bi-allelic nonsense mutation, c.88C > T (p.Gln30*), in EPS8 gene in two children with congenital profound deafness. This new DFNB form is likely to arise from abnormal hair bundles resulting in compromised detection of physiological sound pressures. **Conclusion:** 35delG Mutations of GJB2 gene is the most common cause of prelingual, non-syndromic autosomal recessive deafness in Algeria. Extensive research has revealed, for the first time on a global scale, a bi-allelic mutation nonsense of the EPS8 gene in two children with congenital profound deafness. This new form of deafness (DFNB) is caused by abnormally short stereocilia, forcing the transduction mechanism of the acoustic signal.

Keywords: non-syndromic deafness, mutations, Usher syndrome, EPS8 gene.

Autologus serum and sodium hyaluronate role in alkali corneal burn healing

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Objective: Corneal burn wound healing involves a series of complex processes which are subject to intensive investigations to improve the outcomes, in particular, the healing time and the quality of the scar. Serum and other bodily fluids have been used as natural tear substitutes and applied as unpreserved, autologous products and thus lack antigenicity. The aim of the present study is to investigate the treatment of coneal burn alkali injury by autologous serum and/or sodium hyaluronate.

Material and Methods: Fifty Wister rats from both sexes (200-250 g) were divided into five groups. Group I acted as the positive control, group II was alkali burn with sodium hydroxide and acted as negative control, group III was alkali burn then treated with autologous , group IV was alkali burn then treated with sodium hyaluronate and Group V was alkali burn with sodium hydroxide then treated with autologus and sodium hyaluronate. By using comet assay analysis for cornea to determine DNA damage and measurement of malondialdehyde (MDA) level, superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and catalase (CAT) to evaluate the balance between oxidants and antioxidants in cornea.
Results: The data indicated a high significant increase ($p<0.001$) in all comet assay parameters and MDA level in addition to a high significant decrease ($p<0.001$) in SOD, GSH-Px and CAT activity due to alkali burn. Enhancements of results were observed to all other treated groups in a different significant order.
Conclusion: The study concluded autologus accelerate the burn healing process.

Poster III

Effect of systemically administered cadmium on rat retina

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Objective: Cadmium (Cd) is a very toxic heavy metal and an important environmental pollutant, which is present in the soil, water, air, food and in cigarette smoke. The present work aimed to study the oxidative stress of cadmium on retina of rats and test the protective effect of green tea.
Materials and Methods: 42 Wistar albino rats were classified into three groups. Group I (6 rats) used as control group, group II (18 rats) received 20 mg/kg body weight cadmium and decapitated after 2, 4 and 6 weeks respectively. Group III supplemented with green tea for 7 days then received 20 mg/kg body weight cadmium and also decapitated after 2, 4 and 6 weeks respectively.GT and cadmium intake were continued till decapitation. FTIR spectra, TAC and MDA levels and histopathological examination were carried out on rat retina.
Results: The result indicated that the infrared pattern of retina is affected by cadmium. TAC level decreased in concomitant with an increase in MDA level. Long-term exposure to cadmium affected the entire retinal layer and damaged the phagocytic activity of the Müller cells.
Conclusion: Cadmium toxicity to rat retina is associated with production of reactive oxygen species**.** Supplementation of rats with GT attenuates oxidative stress caused by cadmium.

Antidiabetic treatments from natural origin- an overview

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Diabetes is now on a steady increase worldwide and identified as one of the main threats to human health. Diabetes mellitus is one of the most common non-communicable diseases globally. It is the fourth leading causes of death in the most developed countries.

According to World Health Organization the diabetic population is likely to increase up to 300 million or more by the year 2025. In Arab Countries, the use of herbal medicine for its management is quite common. More than 400 plant species having hypoglycemic activity have been available in literature, however, searching for new antidiabetic drugs from natural plants is still attractive because they contain substances which demonstrate alternative and safe effects on diabetes mellitus

The ethnobotanical information reports about 800 plants that may possess antidiabetic potential. A recent survey was carried out in Tabuk region, Saudi Arabia a total of 20 plant species belonging to 14 families are used for treatment of diabetes mellitus. *Trigonella foenum-graecum, Cinnamomum burmannii*, *Curcuma longa, Oleaeur opaea, Zingibe rofficinale, Opuntiaficus-indica, Allium cepa*and *Laurusnobilis*are the most commonly used plant species for treatment of diabetes mellitus in Tabuk region.

The most active plants are Onion, Garlic, Fenugreek, Bay Laurel, Black tea, OpuntiaFicus-indica, Ginseng, Cinnamon, *Allium sativum* and *Zizyphus spina*. The composition of the flavonoid and polyphenolic compounds in addition to the antioxidant and the anti-diabetic activities of the extract and various fractions of *Zizyphusspina Christi* were evaluated.

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Hydrocortisone Dehydrogenation By Immobilized *Bacillus pumilus* E601 Cells Incorporated into poly (Vinyl Alcohol) Gels

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Background/ aim: The immobilization of microbial cells via gel entrapment techniques has attracted considerable interest in recent years. There are several methods to minimize hindrance of substrate and enzyme diffusion to the immobilized cells, including selection of the monomer,the pore size of the gel and crosslinking agent . As an alternative to chemical methods, irradiation techniques to produce hydrogels are being used increaseingly around the world because of its processing speed and simplicity in synthesis.In the present work, the stability of immobilized Bacillus pumilus E601 cells on poly(vinyl alcohol g-2 hydroxy-ethylmethacrylate)for the bioconversion of hydrocortisone to its derivative prednisolone was studied.

Materials and methods: The organism was found to be radioresistant within D10-value of 3 kGy. The mixture ofPVA/HEMA polymer was irradiated to 20 Ky at -78 ^{0}C in a ^{60}Co Rassian type g-irradiator at a fixed dose rate of 7.9 KGy/h. The resultant polymer was cut into granules andsterilized by autoclaving. The polymer carrier was added to a mixture of precultured cells and nutrient medium (50/250 ml Erlenmeyer flask). After incubation of the cells for 24 h, 5 mg of hydrocortisone dissolved in 1 ml of 96% ethanol was added. The bioconversion was carried out for 24 h. Extraction and analytical procedure Samples werecontinue.

Results: Thepolymer was prepared by a radiation polymerization technique at 20 kGy from^{60} Cosource. The highest yield % of prednisolone was obtained by immobilization of the cells on poly(PVA/HEMA), the addition of N-IPAAm to poly(PVA/HEMA) protected the immobilized cells from temperatures above 35 °C during the fermentation process The maximum yield of prednisolone (60%) was obtained by immobilized cellsatbuffered pH7.0.The maximum bioconversion efficiency was obtained at a substrate concentration of 20 mg/50 ml medium. Stability studies showed that the immobilized cells can be used for seven times without any significant decrease in activity.

Conclusion: The results described in this paper show that many factors affected on the production of prednisolone by PVAg-2 HEMA immobilized cells.

Keywords
Prednisolone; Bacillus pumilus E601; poly (vinyl alcohol g-2 hydroxy-ethylmethacrylate); Radiation polymerization.

Hospital infant mortality 2014-2015 in Oran (Algeria)

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Background/Aim: Particularly neonatal infant mortality remains problematic in developing countries. In Algeria, considerable progress has been made in the field of health for several decades, as evidenced by the improvement of life expectancy and the reduction of mortality rates. However, these efforts need to be strengthened to achieve sustainable development goals on the horizon of 2030. It is in this context that we are interested in the study of mortality in hospitals in order to describe the characteristics and to establish the epidemiological profile of infant mortality hence the objective of this work.
Materials and methods: We conducted a retrospective study on 02ans (2014-2015) in the hospital structures of the wilaya of Oran. Deaths are certified on the "Who" death certificate model in hospital settings since 1994. The causes of death were coded according to the recommendations of the International Classification of Diseases ICD-10. The deaths resident outside the province of Oran were excluded from the study.
Results: Over the two years of study, the number of deaths of under one year accounted for more than 27% of deaths in Oran (2647 deaths). Deaths occurred in 74% during the first month of life, of which 61.5% occurred during the first week. Male over mortality is noted, with a sex ratio = 1.5 during the neonatal period.
Among the causes of death, two groups of pathologies are responsible for more than 80% of the deaths, these are the conditions which originate in the perinatal period (53%) and congenital malformations (26%). Prematurity was an associated cause in 54%.
Conclusion: This study allowed us to describe the characteristics of infant mortality and its causes in the hospital environment. As a result, special attention must be paid to perinatality and neonatal mortality, which weigh heavily on infant deaths in order to improve the level of knowledge and to identify health needs. However, it is essential to integrate information on the health status of mothers into the current information system on the certification of causes of death.

Keywords: perinatality and neonatal mortality, hospital, causes of death

Place of non-communicable diseases in premature mortality in the wilaya of Oran (2014-2015)-Algeria

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In Algeria, the demographic and epidemiological transition started several years led to the emergence of non-communicable diseases" NCDs" and the persistence of communicable diseases including much avoidable. However, it is necessary to have reliable information to guide health policy. The objective of this work is to situate the share of premature deaths by non-communicable diseases in the wilaya of Oran.

Material and methods: It's a retrospective descriptive over two years (January 2014-December 2015) made from the computerized database of the medical causes of death. Data from medical records and death certificates. The causes were coded according to the recommendations of the International Classification of diseases 'ICD-10' and grouped according to the classification of the Global Diseases Burden "GBD".Deaths of less than one year were excluded from the study. The analysis deals only with the deaths that resided in Oran

Results: In total, we have recorded overone thousand nine hundred and twenty eight deaths. Prematuremortality (1-75 years) represents 85,5 % of deaths. Six out of ten deaths are due to two groups of pathologies, cardiovascular diseases and cancers, which accounted respectively for 35% and 37.6% of deaths. Cardiovascular diseases include predominantly cerebrovascular diseases (30% of cases) and hypertensive diseases (28%). Lung and breast cancer are the most common (25% of cases).

Conclusion: The analysis of the causes of premature death has made it possible to establish a global profile and highlight the place of noncommunicable diseases in overall mortality. It is imperative to complete this system by studying the risk factors for the most common diseases to guide health policies.

Keywords: premature mortality, noncommunicable diseases, health policies

Lack of evidence for the role of human Adenovirus-36 in obesity of Egyptian children

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Background: Obesity has become the most prevalent chronic disorder that affects large populations particularly children all over the world. It is unclear why some children are more vulnerable to an "obesigenic" environment. If obesity is not caused only by dietary excess coupled with decreased activity, then it is necessary to identify other etiologic factors. Genes play an important role in the risk for obesity but cannot explain the rapid change in its prevalence. Although the cause of obesity has largely been considered to be multifactorial, the concept of a viral origin has been relatively understudied, in comparison with genetic and behavioral causes. Emerging evidence supports adenovirus 36 (Ad 36) as a potential cause of human obesity. The primary aim of this study is to examine whether adenovirus 36 (Ad-36) infection is associated with obesity and lipid disorders in Egyptian children. Subjects and methods: One hundred and thirty children and adolescents recruited from governmental schools were included in this study. All participants were undergone: physical and clinical examination, personal habits of nutrition, anthropometric measurements, laboratory investigations including; plasma glucose, insulin, (HOMA) index, cholesterol and lipid profile (triglycerides, high-density lipoprotein (HDL) and low-density lipoprotein (LDL). The presence of Ad 36-specific neutralizing antibodies were assessed using the serum neutralization assay. Results: the study included 130 children (62 males and 68 females). 80 of them were obese (BAZ>2) and 50 were control. Food habits inquiries revealed that 70% of all children had snacks before lunch. The snacks of obese children were significantly higher in carbohydrates and fats (p=0.009). It was found that 34% of the obese children had dinner just before going to bed compared to 10.3% of the control and the difference was significant. Eating when stressed was significantly higher in obese children (p=0.002). Obese children had more obese family members than control,(p=0.000). No significant difference in lipid profile was found between the 2 groups. Obese children had significantly higher levels of insulin and homa index than the control. Adenovirus 36 IgG was positive in only 2 of the obese children. Age was positively correlated with BAZ, insulin levels and homa index (r=0.29, p=0.00; r=0.29, p=0.001 and r=0.22,

p=0.013) respectively. A positive correlation between insulin and BAZ (r=0.24, p=0.007) was found.

Conclusions: The results of this work couldn't find out an association between obesity and infection with Adv36 in Egyptian children. This indicated that adenovirus 36 has low effect as a causative agent of obesity in Egyptian community. Also it was concluded that socioeconomic class, unhealthy dietary habits, sedentary life and presence of parental obesity are strongly association with obesity in this period of life. In addition, results pointed that obesity in children represent a critical risk factor for development of insulin resistance status.

Poster IV

Antifibrotic effects of *Punica granatum* peels via stimulation of hepatic stellate cells apoptosis in thioacetamide-induced liver fibrosis in rat

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Background/Aim: Liver fibrosis is a major global health problem. The present study aimed to evaluate the antioxidant and antifibrogenic potential of *P. granatum* peels extract on thioacetamide (TAA)-induced hepatic fibrosis. **Method**: Rats were divided into 6 groups. Group 1 was control, group 2 was injected with TAA (150 mg/kg, ip) (fibrosis group) for 4 weeks, group 3 received *P. granatum* peels extract only (200 mg/kg), group 4 rats were given oral sliymarin (50 mg/kg) for 4 weeks after withdrawal of TAA, group 5 and 6 rats were given oral *P. granatum* peels extract (100 & 200 mg/kg) for 4 weeks after withdrawal of TAA. Fibrosis was assessed histologically and by measuring liver hydroxyproline content. The degree of liver fibrosis was assessed by Masson's trichrome staining and α-smooth muscle actin (α-SMA) as the marker of the activated HSCs was detected immunohistochemically. Serum markers of liver damage and oxidative stress were also assessed. **Results:** The biochemical analyses revealed that *P. granatum* peels extract or sliymarin significantly reduced the progression of hepatic fibrosis. The plant extract or sliymarin resulted in a significant improvement of liver damage by the reduced levels of serum ALT and ALP. Oral administration of *P. granatum* peels or sliymarin has also restored normal levels of malondialdehyde (MDA), hydroxyproline (HP) content as markers of fibrosis content ($p<0.05$) in liver, and retained control activities of endogenous antioxidants such as SOD, NO and GSH. The histological evaluation showed that the plant extract or silymarin treatment maintained the architecture of the liver nearly normal and attenuate the accumulation of excessive collagen in the liver fibrosis caused by TAA. We also observed that *P. granatum* peels extract or silymarin-treated rats reduced α -smooth muscle actin (α-SMA).
Conclusions: The obtained results showed that *P. granatum* peels extract effectively blocked HSC proliferation and they may by beneficial in treatment liver fibrosis.
Keywords: *Punica granatum*, thioacetamide, fibrosis, histopatholgy, immunohistochemistry

Helminthic zoonotic parasites in the anterior chamber of the eye

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Background: zoonosis are an important cause of human parasitic diseases worldwide and a major threat to the socio-economic development mainly in countries. Important zoonotic helminths that affect the human eye may cause blindness with severe socioeconomic consequences to human communities. These infections include trematodes, cestodes and nematodes. Which may be transmitted by vectors. Dirofilariasis, onchocerciasis, telaziasis, sparganosis, and others.And these acquired indirectly from the environment. Adult and or larval stages may localize into human ocular tissues (lacrimal glands, eye lids, conjunctival sacs, intravitreous, retina, anterior chamber, in posterior chamber, causing symptoms due to parasitic localization in the eyes.

Conclusion: Although parasitic diseases are treatable generally, some infections are difficult to tgreat becaause antimicrobial resistance or advanced diseases, however early treatment is indicated to avcoid complications.

***Keywords*:** Helmibthic, parasites, zoonosis, anterior chamber of eye

Glaucoma Functional damage and Comparative Psychophysical Studies

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Objective: to determine the value of color vision, contrast sensitivity and stereopsis testing in measuring the extent of glaucomatous damage and how it helps in early diagnosis.
Methods: In a cross-sectional clinical study, 112 eyes of 56 glaucoma patients and 100 eyes of 50 normal control subjects underwent, automated perimetry, measurement of color vision [D15 test and city university color vision test (CUCV)], Lang stereoacuity test and binocular contrast sensitivity. Diagnosis of glaucoma was based on intraocular pressure, visual field(VF) and optic disc changes. Glaucoma patients were divided into two groups; group 1 with mild glaucoma VF changes and group 2 with advanced glaucoma VF changes .
Results: In early glaucoma group, stereoacuity and binocular contrast sensitivity (at all spatial frequencies) were significantly decreased compared to control cases. There was significant difference between D15 and CUCV color tests in diagnosis of tritan defect in cases of glaucoma ($P<0.001$). D15 was found more sensitive ($P=0.001$) and more specific ($P=0.03$), as compared to CUCV. The advanced glaucoma patients showed more significant defects in all these testing measures.
Conclusions: the binocular contrast sensitivity, stereoacuity and D15 color vision tests all together could help in detection of early glaucomatous nerve damage. These tests also could help in assessment of the glaucoma progress. CUCV is not the ideal test for discriminating patients with glaucoma.
Keywords: glaucoma, contrast sensitivity, visual field, color vision, stereopsis.

Assessment of the clinical effect of hyperbaric oxygen therapy on cerebral palsy children

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Background/aim: Cerebral palsy is often caused by an ischemic/hypoxic injury during the perinatal period. A prospective, randomized, controlled, study was conducted to assess the clinical effect of Hyperbaric Oxygen Therapy HBOT on cerebral palsy children.
Materials and Methods: Patients were divided into two groups. Group I (50 patients) 50 patients received 40 HBOT sessions, in addition to their conventional rehabilitation program and was assessed before starting the sessions, after 20, 40 sessions and one month after stopping the sessions. Group II (25 patients) received the conventional rehabilitation program day after day all through the treatment period (three months), assessed before starting the program and reassessed at the end. Both groups were assessed for each of the following: Spasticity by Modified Ashworth's Scale (MAS), Gross Motor Functional Classification System (GMFCS) and The Manual Ability Classification System (MACS) to assess the hand functions.
Results: There was no statistical significant difference between both groups regarding the age and sex, as well as the assessment parameters before treatment (MAS, GMFCS and MACS). There is statistical significant difference as regarding MAS and MACS (group I) comparing between before sessions and after 20 sessions assessment, also it shows statistical difference between after 20 sessions and after 40 sessions assessment while there is no statistical significance between after 40 sessions and one month after stoppage of the sessions. As regarding GMFCS (group I) there was no statistical significance between before sessions assessment and after 20 sessions but there is statistical significance between after 20 sessions and after 40 sessions also between 40 sessions and one month later .As regard group II there was only statistical significant improvement in MAS after rehabilitation program.
Conclusion: HBOT sessions has a positive effect on cerebral palsy children regarding all the assessment scales used in the current study. The 40 sessions regimen had an advantage over the 20 sessions regimen. The effect of HBOT persisted after cessation of the treatment.

Keywords: cerebral palsy**,** Hyperbaric Oxygen Therapy, Modified Ashworth's Scale , Gross Motor Functional Classification System and The Manual Ability Classification System

Integrated *in silico-in vitro* strategy for screening of some traditional Egyptian plants for human aromatase inhibitors

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Background/aim: Aromatase enzyme (*CYP*19) is widely known as a critical target protein for treating hormone-dependent breast cancer. In this work, a sequential structure-based and ligand-based virtual screening strategy was utilized for investigating an in-house database of 1720 phytochemical constituents of 29 medicinal plants and natural products used in traditional Egyptian medicine to search for compounds with the potential to be used as inhibitors of the human aromatase enzyme.
Materials and methods: The suggested strategy included using Glide docking with its feature 'extra precision (XP)' for carrying out structure-based virtual screening (SBVS) where the resulting hits were further promoted to ligand-based virtual screening (LBVS) through the development of two pharmacophore and QSAR models one for steroidal and the other for non-steroidal aromatase inhibitors.
Results: The combined results revealed that *Artemisia annua, Zingiber officinale, Cicer arietinum, Annona muricata and Vitex agnus castus* are the top scoring plants with *in-silico* activity scores of respectively. The hydro-alcoholic extracts and different solvent fractions of the top scoring plants were subsequently tested experimentally, by *in-vitro* fluorometric assay of the plants aromatase inhibitory activity. The rank ordering of the activities for the plants agreed with the ordering predicted on the basis of SBVS and LBVS workflow implemented.
Conclusion: The suggested strategy therefore provides a reliable means of prospecting *in-silico* screening of natural products databases in the search for new dug leads as aromatase inhibitors. The hits so obtainedcan then be subjected to further phytochemical studies, to isolate and identify suitable compounds for further *in-vitro* testing.
Keywords: Aromatase inhibitors; Egyptian plants; docking; pharmacophore modelling;

Alkaloids of *Annona* hybrid leaves and barks against gastric ulcer in rats

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Objective: The objective of this study is to isolate and identify the major alkaloid compounds in different extracts of *Annona* Abdel Razek hybrid (*A. cherimola* and *A. squamosa*) leaves and barks and evaluated them as anti-gastric ulcer agents.

Methods: The richest extract with alkaloids contents was subjected to biological evaluation through the determination of its *in vitro* antioxidant effect. The more effective organs of the selected extract were *in vivo* investigated as anti-gastroulcerative agents in rats. The stomach histopathological study was done for results confirmation.

Results: Five major alkaloids compounds as Lanuginosine, Liriodenine, Stepharine, Coclaurine and Oxostephanosine were identified. Severe drastic changes were observed in ulcerative stomach after ethanol induced to rats. Rats treated with the leaves and bark ethanolic extract of *Annona* Abdel Razek hybrid plant improve ulcer index, oxidative stress markers, cell organelles marker enzymes as well as the stomach histological features.

Conclusion: The bark and leaves of the ethanolic extract of *Annona* Abdel Razek hybrid recorded the most *in vitro* antioxidant effect and served as therapeutic gastroulcerative agents.

***Keywords*:** *Annona cherimola*; gastric ulcer, antioxidants; enzymes, alkaloids

المؤتمرالدولى السادس للجمعية العربية للبحوث الطبية

تحت شعار

''البحوث الطبية والتحديات الصحية فى الدول العربية''

تحت رعاية

جامعة الدول العربية

محمد بدر

محافظ الأقصر- مصر

أ.د / أشرف شعلان

رئيس الجمعية و المؤتمر

رئيس المركز القومى للبحوث- مصر

نائب رئيس المؤتمر

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نائب رئيس مجلس إدارة الجمعية

مقـرر المؤتمر

ا.د/ كـرم مـهـدى

أمين عام الجمعية

٢٠ - ٢٤ فبراير ٢٠١٨

فندق ايتاب الأقصر- مدينة الأقصر

جمهورية مصر العربية