

Curriculum Vitae

Full Name: Amr Awad Ragab El-Karef

Family Name: El-Karef

Date of Birth: 13/11/1967

Nationality: Egyptian



Address: Pathology Department – Mansoura Faculty of Medicine - Egypt

Current Job: Professor of Pathology in Pathology Department – Mansoura Faculty of Medicine

Qualification and certificates:

- M.B.B.Ch: from Mansoura Faculty of Medicine at November 1991 (Excellent with Honor) .
- House officer: for medical training in Different Departments of Mansoura University Hospitals for one year (March 1992 – March 1993)
- General practitioner of medicine in hospitals of ministry of health for four months (march 1993 – June 1993).
- Medical practice in military hospitals for one year (July 1993 – October 1994).
- Residence of chest medicine (October 1994 – February 1995).
- Pathology demonstrator in Pathology Department – Mansoura Faculty of Medicine (February 1995 – December 1999).
- Master Degree of surgical pathology (Histopathological assessment of the liver in patients with chronic viral hepatitis) (December 1999) (very good)
- Assistant lecturer of pathology (March 2000 – 2007) in Pathology Department – Mansoura Faculty of Medicine.
- A member of scholarship provided by Japanese government (ministry of education, culture, sports, science and technology) in collaboration with the mission department of Egyptian government (April 2002) to achieve the Doctor Degree.
- MD, PhD of Pathology (Molecular and pathological studies of the role of Tenascin-C in hepatic fibrogenesis), in Department of Pathology and Matrix Biology – Mie University – Japan (April 2002 – March 2007).
- Lecturer of Pathology (September 2007 – March 2013).
- Member of the Japanese Society of Pathology.
- Member of the Egyptian Society of Pathology.
- Assistant professor of pathology (March 2013-April 2018)
- Professor of pathology (April 2018)
- Supervisor of pathology Laboratory in Pediatric hospital – Mansoura Faculty of Medicine (2015-2017)
- Supervisor of Pathology Laboratory in Gastroenterology Center - Mansoura Faculty of Medicine (February 2019 Till Now

Technical Experiences:

- 1) Experimental animal models.
- 2) Tissue processing for pathological examination.
- 3) Routine and special stains.
- 4) Immunohistochemistry.
- 5) *In situ* hybridization.
- 6) RNA-related techniques:
 - RNA isolation & purification from animal tissue & cultured cells.

- Reverse transcription.
- 7) DNA-related techniques:
 - DNA amplification (Conventional and Quantitative real time PCR).
 - DNA cloning.
 - DNA sequencing.
- 8) Protein-related techniques:
 - Isolation from animal tissue and culture cells.
 - Western blotting.
- 9) Image Analysis

**بيان بمجمل الأنشطة العلمية والعملية والإدارية
للدكتور/ عمرو عوض رجب الكارف
أستاذ مساعد الباثولوجي - كلية الطب - جامعة المنصورة**

أولاً: أعمال التدريس الجامعي:

١ - المشاركة في التدريس النظري والمراجعات لمادة الباثولوجي لطلبة الفرقة الثالثة بكلية الطب

٢ - المشاركة في مراجعة و تطوير كتاب القسم

٣ - التدريس للدراسات العليا (ماجستير - دكتوراه) طب الأطفال

٤ - التدريس النظري لمادة الباثولوجي للدراسات العليا لماجستير التمريض

٥ - التدريس النظري لمادة الباثولوجي للدراسات العليا بكلية الصيدلة

٦ - التدريس النظري لمادة الباثولوجي للدراسات العليا (باثولوجي) Cytopathology - لطلبة الماجستير

والدكتوراه

ثانياً: أعمال الامتحانات

١ - المشاركة في لجنة وضع الامتحان العملي والنظري لمادة الباثولوجي لطلبة الفرقة الثالثة بكلية الطب من

٢٠١٥ وحتى الآن.

٢ المشاركة في لجنة وضع الامتحان العملي والنظري لمادة الباثولوجي للدراسات العليا (باثولوجي - أطفال - تمريض - صيدلة)

٣- المشاركة في جميع الامتحانات الامتحانات العملية والنظرية والشفوية لطلبة السنة الثالثة وللدراسات العليا.

ثالثا: أعمال القسم والأعمال الإدارية:

١- العمل التشخيصي الروتيني للعينات الجراحية بالقسم و مستشفى المنصورة الجامعي ومعامل الباثولوجيا

بالمراكز الطبية المتخصصة (مركز الأورام - مركز الجهاز الهضمي - مستشفى الأطفال الجامعي)

٢- الاشتراك في الندوات العلمية والحلقات الدراسية الأسبوعية التي تقام بالقسم والمراكز الطبية.

٣- الاشتراك في اللقاءات الإكلينيكية والباثولوجية والندوات التي تعقد في إطار النشاط العلمي مع الأقسام

الأخرى

٤- الريادة التعليمية لطلاب السنة الثالثة بكلية طب المنصورة

٥- المشاركة في أعمال الكونترول للسنة الأولى بكلية الطب ٢٠١٥.

٦- الإشراف علي معمل الباثولوجي بمستشفى الأطفال الجامعي.

٧- عضو لجنة تطوير المناهج الطبية والكتاب الجامعي.

٨- عضو القسم بلجنة التعليم وشئون الطلاب بالكلية.

٩- عضو القسم بلجنة التعليم الالكتروني (E. Learning) بالكلية.

٩- عضو لجنة أخلاقيات البحث العلمي (٢٠١٥-٢٠١٦)

١٠- عضو لجنة مراجعة البحوث (IRB) (٢٠١٦)

١١- مدير معمل الباثولوجي بمركز جراحة الجهاز الهضمي (٢٠١٨- حتى الان)

رابعا: الأنشطة البحثية والرسائل العلمية:

١- الإشراف علي عدد من رسائل الماجستير (٢٢) والدكتوراه (٢١) بالقسم والكلية

٢- الإشراف علي عدد من رسائل الماجستير والدكتوراه بكلية الصيدلة وكلية العلوم

٣- مناقشة رسائل الماجستير (٣) والدكتوراة (٢) بكلية الطب وكلية الصيدلة

٤- مراجعة أبحاث علمية لمجلة Journal of pathology and translational medicine

International Conferences and workshops:

- 1- The 5th international conference of oncology center Mansoura university (OCMU): Integrated care for cancer patient. On 8-11 April 2015 Dusit Thani Hotel – Cairo – Egypt
- 2- The 12th MOA Training course of Breast & GIT Pathology Course (Pathologist, Surgeon and Oncologist: Hand in Hand). On 30-31 July 2015. Organized by the Mansoura Oncology Association in Collaboration with the Royal College of Pathologists, Pathological Society Understanding Disease and Pathology Department, Mansoura Faculty of Medicine.
- 3- The International Head and Neck Updates Seminar – Arab School of Pathology. On October 22nd -23rd 2015.
- 4- The 8th Breast and Gynecological International Cancer Conference. On 14-15 January 2016 Fairmont Heliopolis Hotel, Cairo, Egypt.
- 5- The 6th International Conference of Oncology Center, Mansoura University (OCMU) – 1st African Cancer Congress – 3rd Annual Meeting of African Breast Cancer & Women Health Foundation 5-7 May 2016 - Fairmont Heliopolis Hotel, Cairo, Egypt.
- 6- The 3rd Annual Scientific Damietta Oncology Center Conference in Collaboration with Egyptian Cancer Society. On 28-29 July 2016.
- 7- The 1st Nottingham – Mansoura Breast Pathology Symposium. On 10th -11th November 2016 (14 CPD Point from Royal College of Pathologists).
- 8- The 9th Breast - Gynecological & Immunological International Cancer Conference. On 19-20 January 2017 Fairmont Towe Hotel, Cairo, Egypt.
- 9- The 7th International Conference of Oncology Center, Mansoura University (OCMU) – 2nd African Cancer Congress – 4th Annual Meeting of African Breast Cancer & Women Health Foundation 27-29 April 2017 - Fairmont Heliopolis Hotel, Cairo, Egypt.
- 10- The 1st Annual Conference of Ministry of Health & Population Alexandria Directorate "Community Based Laboratory Practice Conference" on 2016.
- 11- Cytopathology Meeting Presented by Professor Ahmad El-Habashy – Oncology Center Mansoura University (OCMU). On 28th of December 2017.

دورات تطوير الأداء الجامعي:

- ١- دورة تطبيق المعايير الأكاديمية للبرنامج التعليمي من ٢٠١٢/٨/١٢ إلى ٢٠١٢/٨/١٤
- ٢- دورة ادارة الفريق البحثي من ٢٠١٢/٨/٢٦ إلى ٢٠١٢/٨/٢٨
- ٣- دورة الادارة الجامعية من ٢٠١٢/٩/١٦ إلى ٢٠١٢/٩/١٨
- ٤- دورة مشروعات البحوث التنافسية المحلية والعالمية من ٢٠١٢/٩/٢٣ إلى ٢٠١٢/٩/٢٥
- ٥- دورة الجوانب المالية والقانونية فى الأعمال الجامعية من ٢٠١٢/١٠/٧ إلى ٢٠١٢/١٠/٩
- ٦- دورة نظام الساعات المعتمدة من ٢٠١٢/١٠/١٤ إلى ٢٠١٢/١٠/١٦
- ٧- دورة تصميم المواقع الشخصية لأعضاء هيئة التدريس من ٢٠١٧/١٠/١٥ إلى ٢٠١٧/١٠/١٦
- ٨- دورة مهارات التحليلي الاحصائي من ٢٠١٧/١٠/٢٢ إلى ٢٠١٧/١٠/٢٣
- ٩- دورة تصميم ومراجعة الأبحاث العلمية من ٢٠١٧/١١/٥ إلى ٢٠١٧/١١/٦
- ١٠- دورة مشروعات البحوث التنافسية المحلية والعالمية ادارة المراجع وفهرستها الكترونيا من ٢٠١٧/١١/٧ إلى ٢٠١٧/١١/٨
- ١١- دورة محركات البحث العلمى وطرق تصنيف الجامعات من ٢٠١٧/١١/١٢ إلى ٢٠١٧/١١/١٣
- ١٢- نظم الامتحانات وتقويم الطلاب من ٢٠١٢/١١/١٩ إلى ٢٠١٧/١١/٢٠

أنشطة خدمه المجتمع:

* المشاركة فى الاشراف على معمل الباثولوجى بمعهد أورام دمياط

الإشراف على الرسائل العلمية ومناقشتها:

١- الإشراف على عدد 22 رسائل ماجستير

٢- الإشراف على عدد 6 رسائل دكتوراه

٣- مناقشة ٤ رسائل ماجستير

List of Publications:

- ☐ 1) Arsenic trioxide and curcumin attenuate cisplatin-induced renal fibrosis in rats through targeting Hedgehog signaling
AO Maghmomeh, AM El-Gayar, A El-Karef, N Abdel-Rahman
Naunyn-Schmiedeberg's archives of pharmacology, 1-11
Beyond its antioxidant properties: Quercetin targets multiple signalling pathways in tocellular carcinoma in rats
YA Salama, A El-karef, AM El Gayyar, N Abdel-Rahman
Life Sciences, 116933
- ☐ Retinoic acid modulates IL-4, IL-10 and MCP-1 pathways in immune mediated hepatitis and interrupts CD4+ T cells infiltration M Elshal, N Abu-Elsaad, A El-Karef, T Ibrahim
International immunopharmacology 75, 105808
- ☐ Glycyrrhizin and Omega-3 fatty acids have hepatoprotective roles through toll-like receptor-4
NF Abo El-Magd, A El-Karef, MM El-Shishtawy, LA Eissa Egyptian Journal of Basic and Applied Sciences, 1-17
- ☐ Thymoquinone upregulates TRAIL/TRAILR2 expression and attenuates hepatocellular carcinoma in vivo model
SA Helmy, M El-Mesery, A El-Karef, LA Eissa, AM El Gayar Life sciences 233, 116673
- ☐ Protection against nonalcoholic steatohepatitis through targeting IL-18 and IL-1alpha by luteolin
N Abu-Elsaad, A El-Karef Pharmacological Reports 71 (4), 688-694

- ☐ **Gum Acacia mitigates diclofenac nephrotoxicity by targeting monocyte chemoattractant protein-1, complement receptor-1 and pro-apoptotic pathways**

F Shafeek, N Abu-Elsaad, A El-Karef, T Ibrahim Food and Chemical Toxicology 129, 162-168

- ☐ **Antioxidant and anti-inflammatory activities of berberine attenuate hepatic fibrosis induced by thioacetamide injection in rats**

LA Eissa, HI Kenawy, A El-Karef, NM Elsherbiny, KA El-Mihi Chemico-biological interactions 294, 91-100

- ☐ **Vitamin D potentiates anti-tumor activity of 5-fluorouracil via modulating caspase-3 and TGF- β 1 expression in hepatocellular carcinoma-induced in rats**

A R Ebrahim, M El-Mesery, A El-Karef, LA Eissa Canadian journal of physiology and pharmacology 96 (12), 1218-1225

- ☐ **Silymarin and caffeine combination ameliorates experimentally-induced hepatic fibrosis through down-regulation of LPAR1 expression**

SM Eraky, M El-Mesery, A El-Karef, LA Eissa, AM El-Gayar Biomedicine & Pharmacotherapy 101, 49-57

- ☐ **The falconoid luteolin mitigates the myocardial inflammatory response induced by high-carbohydrate/high-fat diet in wistar rats**

N Abu-Elsaad, A El-Karef Inflammation 41 (1), 221-231

- ☐ **Glycyrrhizin ameliorates high fat diet-induced obesity in rats by activating NrF2 pathway**

NFA El-Magd, M El-Mesery, A El-Karef, MM El-Shishtawy Life sciences 193, 159-170

- ☐ **Chloroquine upregulates TRAIL/TRAILR2 expression and potentiates doxorubicin anti-tumor activity in thioacetamide-induced hepatocellular carcinoma model**

SA Helmy, M El-Mesery, A El-Karef, LA Eissa, AM El Gayar Chemico-biological interactions 279, 84-94

- ☐ **Hepatoprotective effect of curcumin on hepatocellular carcinoma through autophagic and apoptic pathways**

AM Elmansi, AA El-Karef, MM El-Shishtawy, LA Eissa Annals of hepatology 16 (4), 607-618

- ☐ **Insulin growth factor inhibitor as a potential new anti-schistosoma drug: An in vivo experimental study**

AA Elhenawy, RH Ashour, N Nabih, NM Shalaby, AA El-karef, ..Biomedicine &

- ☐ **Naringin attenuates thioacetamide-induced liver fibrosis in rats through modulation of the PI3K/Akt pathway**

KA El-Mihi, HI Kenawy, A El-Karef, NM Elsherbiny, LA Eissa Life sciences 187, 50-57

- ☐ **Hepatoprotective effect of hesperidin in hepatocellular carcinoma: Involvement of Wnt signaling pathways**

RA Zaghloul, NM Elsherbiny, HI Kenawy, A El-Karef, LA Eissa, Life sciences 185, 114-125

- ☐ **Calretinin expression as a reliable prognostic marker in different molecular subtypes of breast carcinoma**

MS Farrag, AA El-Karef, MM Amin, NM Helal, OF Ali, NS Farrag Indian Journal of Pathology and Microbiology 60 (1), 8

- ☐ **The vitamin D receptor agonist, calcipotriol, modulates fibrogenic pathways mitigating liver fibrosis in-vivo: An experimental study**

E Wahsh, N Abu-Elsaad, A El-Karef, T Ibrahim European journal of pharmacology 789, 362-369

- ☐ **CLINICOPATHOLOGIC CORRELATION OF CALRETININ EXPRESSION IN BREAST CANCER**

MS Farrag, AA El-karef, MM Amin, NM Helal, OF Ali Zagazig University Medical Journal 22 (4)

Expression of large tenascin-C splice variants by hepatic stellate cells/myofibroblasts in chronic hepatitis C. *El-Karef A*, Kaito M, Tanaka H, Ikeda K, Nishioka T, Fujita N, Inada H, Adachi Y, Kawada N, Nakajima Y, Imanaka-Yoshida K, Yoshida T. J Hepatol. 2007 Apr;46(4):664-73.

Deficiency of tenascin-C attenuates liver fibrosis in immune-mediated chronic hepatitis in mice. *El-Karef A*, Yoshida T, Gabazza EC, Nishioka T, Inada H, Sakakura T, Imanaka-Yoshida K. J Pathol. 2007 Jan;211(1):86-94.

Circulating level of large splice variants of tenascin-C is a marker of piecemeal necrosis activity in patients with chronic hepatitis C. Tanaka H, *El-Karef A*, Kaito M, Kinoshita N, Fujita N, Horiike S, Watanabe S, Yoshida T, Adachi Y. Liver Int. 2006 Apr;26(3):311-8.

Co-stimulation of human breast cancer cells with transforming growth factor-beta and tenascin-C enhances matrix metalloproteinase-9 expression and cancer cell invasion. Ilunga K, Nishiura R, Inada H, *El-Karef A*, Imanaka-Yoshida K, Sakakura T, Yoshida T. Int J Exp Pathol. 2004 Dec;85(6):373-9.

Nitrative DNA damage and Oct3/4 expression in urinary bladder cancer with Schistosoma haematobium infection. Ma N, Thanan R, Kobayashi H, Hammam O, Wishahi M, El Leithy T,

Hiraku Y, **Amro El-Karef**, Oikawa S, Ohnishi S, Murata M, Kawanishi S. Biochem Biophys Res Commun. 2011 Oct 22;414(2):344-9. doi: 10.1016/j.bbrc.2011.09.073. Epub 2011 Sep 17.

Comparative Study of Diagnostic Accuracy of Mini-invasive Pathological Techniques with Clinical and Radiological Examination in Diagnosis of Suspicious Breast Masses. **Amro El-Karef**, Ahmad El-Deik and Mohamad Balbola. Egyptian J Pathol. 2013 Jul;33(1):50-56.

Pioglitazone and Fluoxetine Attenuate Pathological Neural Changes and Neuropathic Pain Induced Experimentally in Diabetic Rats. **El-Karef A** and Ibrahim A. Benha Medical Journal, Vol. 30, No.1, Jan. (2013).

Study of Pharmacokinetics and Pharmacodynamics of Silymarin in Different Experimental Models of Liver Disease in Mice. Dahab G, Yaseen A, Zalata A, Hesham D, **El-Karef A** and El-Masry A. Mansoura Medical Journal, Vol. 41 No. (1,2) Jan. and April, 2011, 21-57.

Interstitial Pulmonary Affection in Patients with Chronic HCV. El-Desoky M, El-Badrawy M, El-Bendary M, Ahmad M, Soltan A, **El-Karef A** and El-Sayed A. Benha Medical Journal, Vol. 29, No.3, Sep. (2012).

Occult Hepatitis C virus Infection in Patients with Unknown Persistently Elevated Transaminases. Nasser H. Mousa^a, Khaled Farid^a, Hamdia Y. Askar^b, Mona B. Elhadidy^b, Maggie R. Mesbah^b, Yahia Z. Gad^c, **Amro El-karef^d**. Journal of Hepatology, Gastroenterology & Infectious Disease Vol.10, No. 5, Aug., 2009, 27-34.

Midlateral Approach for Excision of Subungual Glomus Tumor: A Report of 5 Cases. Elwan A. **El-Karef A**. Al-Azhar Med. J Vol.41(1), January, 2012, 165-171.

Effect of Pioglitazone and Simvastatin on Diabetic Nephropathy in Type 1 Diabetic Rats, Possible Mechanism of Action. Ibrahim A and **El-Karef A** and. Benha Medical Journal, Vol. 28, No.3, Sep. (2011).

Contrast-Enhanced CT-Guided Core Biopsy of Retroperitoneal Masses. Adel El-Badrawy¹, Ahmed Tawfik¹, Sherif Abdelfattah¹, Amir Monir¹, Manal Salah-Eldin², Emad Eldin Azmy³, Dina El-Tantawy⁴, **Amro El-Karef⁴**. Open Journal of Radiology, 2014, 4, 130-135.

Diffusion-Weighted MR Imaging of the Benign Hepatic Focal Lesions. Adel El-Badrawy¹, Germeen Ashmallah¹, Ahmed Tawfik¹, Sherif Abdelfattah¹, Manal Salah-Eldin², Emad Eldin Azmy³, **Amro El-Karef⁴**, Ghada Salem⁵, Omar Farouk⁶. Open Journal of Radiology, 2014, 4, 136-143.

The heat shock protein 90 inhibitor, 17-AAG, attenuates thioacetamide induced liver fibrosis in mice. Abu-Elsaad Nashwa M, Serrya Marwa S, El-Karef Amro, Ibrahim Tarek M. Pharmacological reports : 2016, PR 68 (2): 275-82. doi:10.1016/j.pharep.2015.08.015.

Piceatannol increases the expression of hepatocyte growth factor and IL-10 thereby protecting hepatocytes in thioacetamide-induced liver fibrosis. Abd-Elgawad Hazem, Abu-Elsaad Nashwa, El-Karef Amro, Ibrahim Tarek. 2016. Canadian journal of physiology and pharmacology: 1-9. doi:10.1139/cjpp-2016-0001.

Protective effects of L-carnosine on CCl4 -induced hepatic injury in rats. Alsheblak Mehyaar Mohammad, Elsherbiny Nehal M, El-Karef Amro, El-Shishtawy Mamdouh M. 2016. European cytokine network 27 (1): 6-15. doi:10.1684/ecn.2016.0372.

The multi-kinase inhibitor pazopanib targets hepatic stellate cell activation and apoptosis alleviating progression of liver fibrosis." Elshal Mahmoud, Abu-Elsaad Nashwa, El-Karef Amro, Ibrahim Tarek Mostafa. 2015. Naunyn-Schmiedeberg's archives of pharmacology 388 (12): 1293-304. doi:10.1007/s00210-015-1157-7.

Yogurt Containing the Pro bacteria Lactobacillus acidophilus Combined with Natural Antioxidants Mitigates Doxorubicin-Induced Cardiomyopathy in Rats.

Piceatannol increases the expression of hepatocyte growth factor and IL-10 thereby protecting hepatocytes in thioacetamide-induced liver fibrosis H Abd-Elgawad, N Abu-Elsaad, A El-Karef, T Ibrahim. Canadian journal of physiology and pharmacology 94 (999), 1-9.

The vitamin D receptor agonist, calcipotriol, modulates fibrogenic pathways mitigating liver fibrosis in-vivo: An experimental study E Wahsh, N Abu-Elsaad, A El-Karef, T Ibrahim. European Journal of Pharmacology 789, 362-369.

Effect of Different Doses of Sitagliptin in Treatment of Experimentally Induced Colitis in Mice E Rania, A Karawan, H Amal, E Ahlam, A Elkaref, A Hussein. British Journal of Pharmaceutical Research 7 (2)

Role of Increasing Vaginal Acidity in Histological Changes and Softening of the Cervix Prior to Dilatation in Perimenopausal Women. E Samia, A El.Karef

Assessment of Cesarean Section Niche Histopathologically after Hysterectomy in Symptomatic Patients. AS Refaat, E Samia, A El-Karef. Life Science Journal 11 (10)

Prognostic factors for progression of simple steatosis to steatohepatitis in patients with persistent normal and elevated liver enzymes. E Walid, B Tarek, A El-Karef, R Ehab. Egyptian Liver Journal 3 (4), 107-112

Effect of Pioglitazone and Fluoxetine on Neuropathic Pain-Induced Experimentally in Diabetic Rats. I Amany, A El-Karef. Benha Medical Journal 30 (1)

Study of Pharmacokinetics and Pharmacodynamics of Silymarin in Different Experimental Models of Liver Disease in Mice. G Dahab, A Yassein, A Zalata, M Daba, A El-Karef, A El.Masry. Mansoura Medical Journal 41 (1,2)

Possible Effects of Moringa oleifera versus Ginger (Zingiber officinalis) on Experimental Colitis in Mice. A Elmasry, MH Daba, AA El-Karef

Effect of Different Doses of Sitagliptin in Treatment of Experimentally Induced Colitis in Mice. R Elkatary, K Abdelrahman, A Hassanin, AI Elmasry, A El Karef, British Journal of Pharmaceutical Research, 7(2): 140-151, 2015, Article no. BJPR. 2015.098 ISSN: 2231-2919

Histopathological study of cesarean section niche in symptomatic patients. E Ahmad, A Refaat, E Samia, A El.Karef

The Value of TOX as a Diagnostic Marker for Mycosis Fungoides (MF) Sherine Refat MSc , / Ibrahim EL-Shawaf PhD, Azmy Abd EL- Hameed PhD, Eman EL-Tanaihy PhD and Amro Elkaref MD. Z.U.M.J. Vol. 21; No.4 July; 2015

Antioxidants and Mesenchymal Stem Cells Ameliorate Cisplatin Induced Acute Kidney Injury in Rats. Faten Zahran⁴, Ahmed Nabil⁵ , Amro El-Karef ³, Ahmed Lotfy², Khaled Mahmoud¹, Mohamed Sobh^{1, 2} (In press)