Pattern of craniofacial injuries in patients admitted to Tanta University Hospital – Egypt

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Abstract

Background & aim of the work: The goal of this work was to determine the craniofacial injury patterns in hospitalized patients to facilitate the awareness, by identifying, describing and quantifying trauma for use in planning and evaluation of preventive programs.

Patients & methods: Two-hundred and fifty five patients with craniofacial injuries were registered at the department of neurosurgery in Tanta University Hospital. Data were collected including age, gender, medical history, cause of injury and type of injury, location and frequency of soft tissue injuries, skull fractures, facial bone fractures, brain injuries and concomitant injuries, patient symptoms, clinical signs and the radiological findings. The most common causes of craniofacial injuries were road traffic accidents, followed by activity of daily life and assaults.

Results & conclusion: Gender distribution showed that, males were at higher risk than females with a ratio of 5.5/1. In total of skull fractures, 47.84% were fissure fracture and 24.31% were depressed fractures. In total of brain injuries, 7.06% for concussion, 4.71% for contusion, 10.98% for brain laceration, 14.12% for pneumocephalus and 36.47% for brain edema. Regression analysis revealed increased risk for skull fractures and brain injuries in traffic accidents were 84.78%, 94.20%, respectively, and 59.14%, 50.54% in activity of daily life, but the probability of soft tissue injuries increase in traffic accident and violence.

Key words: craniofacial- injuries- Pattern

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Evaluation of Blood Lead Levels and its Impact on Cognitive and Neurobehavioral Performance in a Sample of school aged Children in Gharbia Governorate (Egypt) and role of vitamin C

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Abstract

Background: Lead is one of the oldest-established poisons. However, lead exposure continues to be a major public health problem.

Aim of the work: The first objective of this study was to assess the prevalence of lead poisoning among a sample of school and working children in Gharbia Governorate, test the correlations between blood lead levels (BLL) in children and lead exposure levels in their environment, as well as assessment of cognition and neurobehavioral performance of these children. The second objective was to determine whether co consumption of nutritional supplements would decrease the BLL.

Materials & methods: The present study was carried out on 116 working children in some workshops, and 108 school children matched for age.

Results & conclusion: The environmental samples demonstrated that the concentration of lead for air and soil exceeded the international acceptable threshold values. However, the concentration of lead in water was below the acceptable threshold value. The BLL of both school and workshop children is above the acceptable threshold level of 10 μg/dL which was considered as the lowest level of concern for children’s blood lead levels. Hemoglobin levels of workshops children were significantly low as compared to school children. Following treatment with vitamin C, there was significant decrease in BLL when compared with the same workers before treatment. Furthermore, workshop children showed significantly lower IQ, in addition to more somatic problems and aggressive destructive behavior than school children.
Titanium-induced Histological and Immunohistochemical Alterations in Liver, Spleen, Lung and Kidney in Male Albino Rats

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Abstract

Background: Different metals are increasingly used to manufacture implants, especially in the field of dentistry. Metallic implants of titanium are used therapeutically in biomedicine because of their high corrosion resistance and excellent biocompatibility when compared to more conventional stainless steels and cobalt-based alloys. However, no metal or alloy is completely inert.

Aim of the work: Thus the aim of the present study was to determine the histopathological and immuno-histochemical effects in some target organs of adult male albino rats induced by titanium exposure.

Materials and methods: This work was carried out on tow groups: control group which included 10 rats and treated group which included 20 rats that received intraperitoneal injection of suspension of titanium dioxide (TiO2) in a dose of 150 mg/kg body weight (BW) per day for 45 days. Samples of liver, spleen, kidney, and lung were processed for histological examination.
Cryostat sections of spleen samples from each group were stained with common lymphocytic antigen (CLA) for lymphocyte detection.

Results & conclusion: Results revealed histopathological changes in the liver, spleen, lung and kidney of the treated group. The CLA staining of the spleen in the treated group revealed toxic alteration within the spleen, indicating that the immune system may be affected and so interfering in the body defense mechanism.

Key Words: Titanium- Histological - Immunohistochemical – Liver-Spleen- Lung – Kidney- Rats

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EVALUATION OF THE EFFECT OF ADJUVANT THERAPY IN ACUTE METHANOL TOXICITY ON RETINA AND OPTIC NERVE (A PILOT STUDY)

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Abstract

Background: Methanol poisoning is an important health problem because of its severe consequences (metabolic disturbances, permanent neurological dysfunction, and serious visual impairment). Treatment relies on fomepizole or ethanol to antagonize methanol oxidation, folic acid to facilitate the catabolism of formic acid, correction of acidosis and dialysis to accelerate methanol elimination. The search continues for potent, effective, and safe treatments.

Aim of the work: To evaluate the effect of adjuvant therapy (propolis, royal jelly and vitamin E) in acute methanol poisoning

Materials and methods: 160 adult male albino rats were divided into 4 groups: negative control group (1), positive control group (2) [subdivided into 2a (propolis), 2b (royal jelly) and 2c (Vitamin E)], methanol
intoxicated group (3) and methanol and adjuvant therapy group (4) [subdivided into 4a (methanol+ propolis), 4b (methanol + royal jelly) and 4c (methanol + vitamin E)]. Group (3) was given methanol (6g/kg, orally) once, while group (4) was given methanol at the same dosage. Propolis (200 mg/kg orally), royal jelly (300 mg/kg orally) and vitamin E (400 mg/kg orally) were administered daily till sacrifice after 30 days. Blood samples were collected for determination of plasma total antioxidant capacity. Retina and optic nerve were obtained and examined using light and electron microscopy.

**Results:** There was an evident decrease of plasma total antioxidant capacity and acute degenerative changes in the retina and optic nerve in methanol group compared with control groups. The adjuvant therapy improved the plasma total antioxidant capacity and the histological findings in the retina and optic nerve.

**Conclusion:** The use of propolis, royal jelly or vitamin E ameliorated the toxic effects of methanol on the retina and optic nerve.

**KEYWORDS:** methanol - retina - optic nerve - propolis - royal jelly - vitamin E

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**Role Of Selenium And Vitamin E In Occupational Exposure To Heavy Metals (Mercury, Lead and Cadmium): Impact Of Working In Lamp Factory**


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**Abstract**

**Background:** Heavy metals are environmental contaminants that may pose long-term health risks. Unfortunately, the consequent implementation of preventive measures was generally delayed, causing important negative effects to the exposed populations.
Aim of the work: The objective of this study was to determine whether co-consumption of nutritional supplements as selenium and vitamin E would treat the hazardous effects of exposure to mercury, lead and cadmium.

Patients and methods: 36 workers (20 males and 16 females) were the subject of this study, their ages ranged from 19-63 years, (M = 29.5±10.12). They were working in lamp factory for an average of 0.5-40 years (M= 5.3±8.8). Twenty control subjects matched for age and gender were used for comparison. All workers were subjected to neuropsychiatric evaluation.

Results: General Health Questionnaire (GHQ-28) revealed that 44.4% were complaining of anxiety, 52.7% of depression, 41.6% of social dysfunction and 22.2% of somatic symptoms. Cognitive tests revealed that long-term memory was not affected significantly when compared with controls, while short term memory and perceptual ability were affected significantly. Blood metal levels were measured by energy dispersive X-ray fluorescence (EDXRF), and revealed that the mean blood mercury, lead and cadmium concentrations before treatment were 1.6 mg/l, 0.39 mg/l and 1.7 µg/l, while they decreased significantly after treatment to 1.2 mg/l, 0.29 mg/l and 1.3 µg/l respectively. Anti-oxidative enzymes (paraoxonase and catalase) and lipid peroxidation product (malondialdehyde) were measured before and after treatment with selenium and vitamin E, and showed significant improvement.

Conclusion: It could be concluded that co-consumption of selenium and vitamin E produces significant decrease in mercury, lead and cadmium levels in blood, and significant improvement in the antioxidative activity which may treat the neuropsychiatric disorders occasioned by chronic occupational exposure to heavy metals.

Keywords: mercury, lead, cadmium, neuropsychiatric impairment, selenium, vit E.

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Study of The Prevalence of Some Substances of Abuse Among Some Injured Patients Admitted to Tanta University Emergency Hospital

By

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Abstract

**Background:** Trauma remains the leading cause of death among young adults, excessive alcohol and drug consumption are not only significant contributors to this epidemic, but are also independent predictors of injury recidivism (repeated trauma).

**Patients and methods:** In the present study one hundred injured patients with different types of injuries were randomly selected from Tanta University Emergency Hospital. Trauma sheet was done for every patient. Ten ml urine was obtained from each patient at the time of admission and before receiving any kind of treatment whether medical or surgical. Then, toxicological screening for some common substances of abuse (cannabinoids, benzodiazepines, opiates amphetamines and barbiturates) were done for every patient by using multi drug panel enzyme immunoassay (EIA) test.

**Results & Conclusion:** Toxicological screening of urine samples of the studied injured patients for drug of abuse revealed that the overall prevalence of positive screen was 50% of the total injured patients. Single substance abuse was reported in 52% of the positive cases for substance of abuse and poly-substances abuse incidence was 48%. Cannabinoids were the most prevalent substance of abuse and was found in 32% of the patients. Benzodiazepines were present in 28% of the injured patients followed by barbiturates 16%, opiates 8% and lastly amphetamines 2%. The majority of drug abusers had accidental and homicidal injuries. Road traffic accidents (34%) followed by violence (28%) are the main causes of injury among studied patients. There was a high prevalence of repeated injury and previous admissions for traumatic injuries among injured patients who were positive for substances of abuse.

**Key Words:** Trauma; substance of abuse; history; medical examination; urine screening.

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Domestic Violence and Human Rights Violations in Gharbia Governorate, Egypt (Incidence and Consequences)
Abstract

Background: Violence is sadly a frequent component of our patient’s lives. Domestic violence encompasses a wide variety of actions that coerce, control, or demean the victim. The response of the health care in our community has been variable and unfortunately lacking in many sectors because of barriers we face in the office or emergency room setting.

Aim of the work: The aim of this study is to throw light on medico legal aspects of cases of domestic violence in Gharbia Governorate, Egypt.

Patients and methods: The present study was carried out on 52 cases (25 males and 27 females) of domestic violence, during the period from January 2008 to December 2008. The cases were studied according to the distribution of their age, sex, type of violence, instruments used as tools for violence, site and type of injuries, type of perpetrators, outcome of violence and causes of death.

Results: The results showed that 88.4% of the cases were subjected to physical violence, 7.6% to sexual violence and 3.8% were subjected to psychological violence. Fractures were the most detected findings (26.9%). Most of the perpetrators (80.7%) were males. Death was the outcome in 20 cases (38.46%).

Conclusion: In short, forensic identification and documentation by family physicians of patients experiencing domestic violence, is an essential component of an overall safety plan that victims of abuse can use to break the
cycles of domestic violence.

**Key words:** Family violence; incidence; consequences; Egypt

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A study to investigate the written medical examination documents issued by some hospitals in the province of the administrative and submitted to the judiciary.

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**Ain Shams J Forensic Med Clin Toxicol Jul 2013**

**Summary**

The medical examination document is the first of the important documents submitted to the public prosecutor and the judiciary in many cases such as assault and rape. It may be the only medical and technical document in some cases.

This study aims to study the ways of preparing the first medical examination documents and identifying errors, and making recommendations to have a unified protocol in the examination of medical cases and a suitable framework for writing the medical examination document, in order to meet the demands of the public prosecutor and the court, according to the Egyptian law, to be implemented in all approved hospitals to give these examination documents.

It was studied 500 medical examination documents prepared in Tanta University Hospital and some hospitals attached to the Ministry of Health in the province, where the administrative part of the examination document (the hospital name issuing the examination document – date and time)
إصدار التقارير - بيانات المصاب - الجهة الطالبة للتقرير - سبب الإصابة - توقيع مدير المستشفى - خاتم المستشفى - الجزء الفني للتقرير من حيث ( بيانات الفحص العام للمصاب - بيانات الفحص الموضوعي للإصابة - الإجراءات التشخيصية والعلاجية - العروضات والتحويلات) والرأي الطبي فيما يتعلق بالوقت اللازم لشفاء وبيانات الطبيب المقابل للحالة والمقرر للتقرير. وقد توصلت الدراسة إلى وجود بعض نقاط قصور من إهمال تسجيل بعض البيانات بالقرير ووجود بعض الأخطاء الإدارية والفنية في التقارير الطبية الشرعية الأولية التي تم دراستها. ودراسة نقاط القصور وبالرجوع إلى المراجع العلمية وإلى تعليمات النيابة العامة بجمهورية مصر العربية تم اقتراح بروتكول لفحص الحالات الطبية الشرعية كما تم تصميم مقترح نموذج لكتابة التقرير الطبي الشرعي الأولي يغطي نقاط القصور في التقارير الحالية.

Comparative study of paraoxonase and cholinesterase enzymes activities in diagnosis of organophosphorus insecticide intoxication

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Abstract

Background: Many efforts have been made to evaluate organophosphorus (OP) toxicity by sensitive biomarkers.

Aim of the work: Therefore, the aim of this work is to evaluate cholinesterase and paraoxonase (PON1) enzymes activities as diagnostic tools in acute & chronic organophosphorus toxicity with poisoning severity assessment.
Patients and methods: The present study was conducted on 90 adult men after taking their informed consent, they were divided into three groups; group (I) included thirty patients who were acutely exposed to organophosphorus insecticides (OPI). Group (II) included thirty farm workers chronically exposed to OP. Group (III) included thirty healthy matched volunteers served as control group. The severity of symptoms and signs of acute OP poisoning was graded into mild, moderate and severe grade. Long term pesticide exposure intensity was estimated depending on mixing, application methods, repair activities and use of personal protective equipment (PPE). Exposure intensity score = (Mix + Apply + Repair) x PPE. Butyrylcholinesterase (BuChE), acetylcholinesterase (AChE) and paraoxonase (PON1) enzymes activities were determined.

Results & Conclusion: The result of the current study revealed significant decrease in BuChE, AChE and PON1 in groups I and II when compared to group III. Moreover, BuChE and AChE enzymes were significantly decreased in group I when compared to group II. Significant positive correlation was detected between AChE enzyme activity and both BuChE and PON1 enzymes activities in group I. However, group II showed significant positive correlations between BuChE enzyme activity and the activity of each of AChE and PON1. Moreover, there was significant decrease in AChE enzyme activity in severe cases compared to mild and moderate cases in group I. Nevertheless, group II registered significant decrease in BuChE, AChE and PON-1 when Pesticide Exposure Intensity Score is more than 10.

Keywords: paraoxonase – cholinesterase - organophosphorus - intoxication

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