

Selected Abstracts of Articles Published Elsewhere by Authors in Kuwait

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Flexible Fiberoptic Bronchoscopy. Diagnostic Yield

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Objective: Fiberoptic bronchoscopy is a minimally invasive procedure with a high diagnostic yield. The aim of this study was to document the usefulness of the procedure in the diagnosis of various respiratory disorders in a Middle East country.

Methods: Data on all bronchoscopies carried out in Chest Diseases Hospital, Kuwait from January 1996 to December 1998 were retrospectively collected.

Results: Out of 968 cases, only 620 (64%) patients had a full follow up. Suspected pulmonary tuberculosis (TB) (51.6%), unresolving pneumonia (16.1%), hemoptysis with a normal chest radiograph (8.4%), lung mass (7.7%) and hilar lymphadenopathy (3.2%) were the most common indications. Eleven percent of patients who underwent bronchoscopy had a normal chest radiograph, the reason being hemoptysis in 75.4%, inhalation injury in 21.8% and suspected upper airway obstruction in 2.9%. In smear negative suspected TB cases, 22.5% proved to have active disease. Acid fast bacillus was identified in bronchoalveolar lavage, either by smear or culture, in 44 (73.3%) patients with suspected pulmonary TB and in 6 (54.5%) patients with miliary shadows. An underlying cause was identified in 28 (28%) patients with unresolving pneumonia. Ninety-four percent of cases with clinical impression of bronchogenic carcinoma could be diagnosed. Transbronchial biopsy was diagnostic in 79% patients with diffuse parenchymal lung disease. No complications other than transient hypoxemia and controllable bleeding were noticed.

Conclusion: Generally, the indications for flexible fiberoptic bronchoscopy remained similar to elsewhere. Unlike western series, the majority of the cases were for the diagnosis of pulmonary infections especially TB.

All-transretinoic Acid and Chemotherapy in the Treatment of Acute Promyelocytic Leukemia

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Background: All-transretinoic acid (ATRA) and chemotherapy has improved complete remission rates and disease free survival in acute promyelocytic leukemia (APL). There is scanty data from Middle East. **AIM:** To determine the efficacy of ATRA and multi-agent combination chemotherapy in treatment of APL in a single Centre in Kuwait.

Set-Ups And Design: Tertiary cancer centre, retrospective study. **Methods And Material:** All newly diagnosed APL patients were treated with oral ATRA 45mg/m² daily until complete remission (CR), intravenous daunorubicin 50mg/m² on days 1,3 and 5, cytosine arabinoside 100mg/m² 12hrly on days 1 through 10 and etoposide 100mg/m² on days 1 through 5. Post remission three courses of intensive consolidation chemotherapy were administered. Since October 1999, maintenance chemotherapy consisting of oral 6 mercaptopurine 90mg/m² daily, methotrexate 15mg/m² weekly and ATRA 45mg/m² for 2 weeks every three months was added. Complete remission rates and duration, relapse rate and toxicity were studied.

Results: 22 of 24 evaluable patients (91.6%) achieved CR. The median duration of remission was 13 months (range 2-55 months). Three patients (12.5%) relapsed. Two patients (8.3%) developed retinoic acid syndrome and responded to dexamethasone. Five patients (20.8%) died one each of refractory disease, during remission induction and of relapse. Two patients died while in remission. **Conclusion:** ATRA and combination chemotherapy results in high complete remission rates and low relapse rate in newly diagnosed APL. Maintenance therapy may be useful in preventing relapses.

Impaired Gestational Glucose Tolerance. Its Effect on Placental Pathology

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Objective: The aim of this study was to investigate several macroscopic and microscopic features of placenta in cases with impaired gestational glucose tolerance.

Methods: Seventy-five gm World Health Organization criteria for the diagnosis of gestational diabetes and impaired gestational glucose tolerance were followed during the period June 1999 through to June 2000, at the Maternity Hospital of Kuwait. Macroscopic and microscopic examinations of 95 placentas were carried out. Sixty-five were from the control patients and 30 were from cases with impaired gestational glucose tolerance.

Results: Mean maternal age, maternal weight and parity was significantly higher in the impaired gestational glucose tolerance (IGGT) group compared to the control group. Mean birth weight of the baby was significantly higher in the IGGT group compared to the control group. Mean placental weight and the percentage of the cesarean delivery was higher in the IGGT group but did not reach the level of significance. There was no significant association between the microscopic features of the placenta in the control and IGGT groups.

Conclusion: Impaired gestational glucose tolerance is related to increased neonatal and placental weight, which may lead to a higher number of cesarean deliveries, stressing the similarity between impaired gestational glucose tolerance and gestational diabetes mellitus. More stringent criteria may be necessary to define gestational diabetes. Microscopic features of placenta both in the control and IGGT groups did not show any significant difference.

Differences in the Etiology of Mandibular Fractures in Kuwait, Canada, and Finland

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We studied causes of mandibular fractures treated in oral and maxillofacial units in three countries in years 1990-2000 in Kuwait (n=596), 1995-2000 in Canada (n=228), and 1990-99 in Finland (n=268). Of the Finnish patients, 27% were women. Corresponding percentages in Kuwait and Canada were 13 and 17%, respectively. Traffic crashes were the cause of injury in 55% of the cases in Kuwait and 33% in Oulu, but only 7% in Toronto. In Kuwait, the victims were often young people, which is why more traffic education, more control of speed, and more control of the use of safety belts should be implemented. Assault was the cause in 54% in Toronto, 12% in Kuwait, and 37% in Oulu. Falling was the cause in 22% of the cases in Kuwait. Alcohol was implicated in 21% of cases in Canada and 15% in Finland.

Pattern of Antibiotic Prescription in the Management of Oral Diseases among Dentists in Kuwait

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Objectives: The use and abuse of antibiotics have been of concern to the medical and the dental profession for sometime now, due mainly to the emergence of antibiotic-resistant bacteria. The objective of this project was to determine the rationale and the pattern of antibiotic prescription for dental management in Kuwait.

Methods: A questionnaire was distributed to 200 dental practitioners working in the Ministry of Health dental centers in Kuwait. The questionnaires sought answers to the clinical and non-clinical factors; signs, clinical conditions and dental treatment modalities for which the practitioners would prescribe antibiotics.

Results: Of the 200 questionnaires sent out, 168 (84%) respondents returned fully completed forms. A total of 107 (63.7%) of the respondents were males. Of respondents, 90% would prescribe antibiotics for patients with elevated body temperatures and evidence of systemic involvement, gross or diffuse facial swelling and closure of the eye due to inflammatory swelling. However, over 50% would prescribe antibiotics for cases with localized fluctuant swelling without any systemic involvement, while 59.6% would prescribe for patients with difficulty in swallowing as a result of an oral infection. Many respondents would consider antibiotic prescription for routine dental extraction, and for non-clinical reasons such as uncertainty of diagnosis, convenience, expectation of the patient and lack of time to treat immediately. Amoxicillin was the most frequently prescribed antibiotic. Higher knowledge regarding adequate indications for antibiotic use was associated with longer professional experience.

Conclusions: The results of this analysis suggest that there is lack of uniformity in the rationale for antibiotic use among dental practitioners in Kuwait. There is an urgent need for the formulation of evidence-based guidelines, which should take into account the peculiar behavioral characteristics of the community.

Lactic Acidosis and Developmental Delay due to Deficiency of E3 Binding Protein (protein X) of the Pyruvate Dehydrogenase Complex

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Pyruvate dehydrogenase deficiency is an important cause of primary lactic acidosis. Most cases occur as a result of mutations in the gene for the E1 alpha subunit of the complex, with a small number resulting from mutations in genes for other components, most commonly the E3 and E3-binding protein subunits. We describe pyruvate dehydrogenase E3-binding protein deficiency in two siblings in each of two unrelated families from Kuwait. The index patient in each family had reduced pyruvate dehydrogenase activity in cultured fibroblasts and no detectable immunoreactive E3-binding protein. Both were homozygous for nonsense mutations in the E3-binding protein gene, one involving the codon for glutamine 266, the other the codon for tryptophan 5.

Unmet Need for Contraception in Kuwait: Issues for Health Care Providers

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Based on a nationally representative household survey of Kuwaiti women held in 1999 (n = 1502) unmet need for contraception was analyzed in Kuwait, an oil-rich Muslim country. It was found that 9.7% currently married women had an unmet need for contraception. Of those, 6.1% wanted to stop child bearing, while 3.6% wanted to space their children. A bivariate comparison of the women with unmet need and current contraceptors showed that the unmet need group comprised of relatively older women with a significantly higher level of parity and ones where husband or wife disapproved of contraception. Also, larger percentages of the unmet need group belonged to relatively lower socio-economic status and were Bedouins. Among the reasons for current non-use, two-third believed that they had a low risk of pregnancy due to infrequent sexual activity or sub-fecundity, and 22% were not using a method because of health concerns. A significantly larger percentage of the unmet need group disapproved of contraception, and believed that Islam forbids family planning, compared to current users (30% and 15%, respectively). The logistic regression analysis showed that the wife's perception of the husband's disapproval of contraceptive use had the strongest negative association with unmet need. We conclude that the contraceptive needs of about 90% of all non-pregnant currently married women who wanted to delay or limit children were being met adequately despite the absence of a formal family planning program, while about 10% women had an unmet need. Issues for health care providers are discussed and family planning counseling is recommended for higher risk older women with unmet need.

Diabetes Mellitus as a Contributor to the In-hospital Mortality after Acute Myocardial Infarction in Kuwait

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Objectives: First, to compare the in-hospital mortality after acute myocardial infarction (AMI) among diabetic versus non-diabetic patients. Secondly, to evaluate if this association remains the same across gender and ethnic groups.

Methods and Results: We used a 1:2 individually matched retrospective case-control study. All patients admitted to Mubarak Al-Kabeer hospital in Kuwait, with a confirmed diagnosis of AMI during August 1997 and July 2002 made up the study population. All 149 patients who died during this period made up the cases. Two control subjects to match each case were randomly chosen from survivors, after hospitalization with AMI. Cases and controls were individually matched by age, sex and ethnicity. History of diabetes mellitus (DM) was found to be significantly associated with in-hospital mortality after AMI (odds ratio: 1.9, 95% CI: 1.2-3.0). None of the other cardiovascular related histories were associated with mortality. Further analyses on the type of diabetes showed that the NIDDM (non-insulin dependent diabetes mellitus) risk of mortality was significantly raised after AMI. Also among women (odds ratio: 2.7, 95% CI: 1.2-5.9), and non-Kuwaiti population (odds ratio: 3.4, 95% CI: 1.1-9.9) the risk was significantly elevated.

Conclusions: Risk of in-hospital mortality after AMI is almost doubled among diabetic patients. This association was found to be significantly higher among NIDDM, women and non-Kuwaiti population.

Angiotensin-Converting Enzyme Gene Polymorphism and Lipid Profiles in Kuwaiti Children with Type 1 Diabetes

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Methods: We studied angiotensin-converting enzyme (ACE) gene polymorphism and lipid profiles in Kuwaiti children with uncomplicated type 1 diabetes. A total of 125 children with type 1 diabetes were matched in a case-control study on age and gender to 125 non-diabetic children as controls. Serum lipids (total cholesterol, TC; high-density lipoprotein cholesterol, HDL; low-density lipoprotein cholesterol, LDL-c; triglycerides, TG; apolipoprotein A1 and B, apo A1 and B; lipoprotein(a), Lp(a)); and glycated hemoglobin, HbA1c were evaluated according to ACE genotypes. Results: Genotype distributions were found to be similar in cases [ACE insertion/insertion (II) 9.6%, ACE insertion/deletion (ID) 38.4%, ACE deletion/deletion (DD) 52.0%], and controls (II 8.8%, ID 43.2%, DD 48.0%), and were characterized by higher frequencies of DD, ID, and lower frequencies of II. Diabetic children with DD genotype showed significantly higher levels of TC ($p < 0.01$), HDL ($p < 0.001$), and apo A1 ($p < 0.001$) than controls. There was a higher proportion of diabetic children with family history of cardiovascular disease (CVD) in the DD genotype group (51.9%) than those with II genotype group (11.1%) ($p < 0.001$). Also, there was a significant increase in the frequency of diabetic children with Lp(a) > 30 mg/dL in children with a family history of CVD ($p = 0.008$). Lp(a) levels were correlated with HbA1c in the diabetic group ($r = 0.239$, $p = 0.019$), but when patients with poor glycemic control (HbA1c $> 9\%$) were excluded, the significant correlation disappeared ($r = 0.127$, $p = 0.381$). After adjusting confounding between variables, the logistic regression analysis showed that the two significantly related variables with the rise in Lp(a) were increasing TC level and poor glycemic control. Conclusions: In children with type 1 diabetes, the role of ACE polymorphism as a probable contributor to CVD seems to be partially mediated through other factors such as poor glycemic control, TC, and Lp(a) level. A longitudinal study is recommended with a larger number of patients in each ACE genotype group in order to assess such associations.

Isolation and Molecular Identification of *Candida Dubliniensis* from Non-human Immunodeficiency Virus-infected Patients in Kuwait

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Candida dubliniensis is an emerging pathogen capable of causing oropharyngeal, vaginal and bloodstream infections. Although *C. dubliniensis* is similar to *Candida albicans* in several phenotypic characteristics, it differs from it with respect to epidemiology, certain virulence factors and the ability to develop resistance to fluconazole rapidly. In this study, the first seven isolations of *C. dubliniensis* from Kuwait are described, all originating from non-human immunodeficiency virus (HIV)-infected patients. The isolates were initially identified by the Vitek 2 yeast identification system, positive germ tube test, production of rough colonies and chlamydospores on Staib agar and by their inability to assimilate xylose, trehalose or methyl alpha-D-glucoside. The species identity of the isolates was subsequently confirmed by specific amplification of rDNA targeting the internally transcribed spacer 2 (ITS2), restriction endonuclease digestion of the amplified DNA and direct DNA sequencing of the ITS2. Using the E-test method, the MICs of *C. dubliniensis* test isolates were in the range 0.125-0.75 microg ml⁻¹ for fluconazole, 0.002-0.75 microg ml⁻¹ for itraconazole, 0.006-0.125 microg ml⁻¹ for ketoconazole, 0.002-0.5 microg ml⁻¹ for amphotericin B and 0.002-0.016 microg ml⁻¹ for voriconazole. Two of the isolates were resistant to 5-flucytosine (>32 microg ml⁻¹), but none against fluconazole. The study reinforces the current view that *C. dubliniensis* has a much wider geographical and epidemiological distribution.