

Selected Abstracts of Articles Published Elsewhere by Authors in Kuwait

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Hepatitis C Virus Infection in Patients on Maintenance Dialysis in Kuwait: Epidemiological Profile and Efficacy of Prophylaxis

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Data on hepatitis C virus (HCV) infection in patients undergoing maintenance hemodialysis (HD) in Kuwait were collected retrospectively in December 1994. Ninety three of 232 patients (40%) studied had hepatitis C antibodies (anti-HCV) when tested by a second generation enzyme linked immunosorbent assay (ELISA-II). Since October 1992, all HD patients tested positive for anti-HCV were dialyzed on separate machines and blood transfusions were limited to acute life-threatening emergencies through regular use of recombinant human erythropoietin. The prevalence of anti-HCV positivity among dialysis patients who received treatment during the "HCV-prophylaxis period" was 33/163 (20.2%), as compared to 46/55 (83.6%) of those who received HD during the 27 months prior to October 1992 ($p < 0.0001$), and had similar average duration on dialysis (12 + 7 and 13 + 7 months, respectively). Excluding the 15 patients who had anti-HCV on entry to HD during "HCV-prophylaxis period", the estimated incidence of positive anti-HCV seroconversion was 11.5 per 100 patients per year on HD. In the 93 anti-HCV positive patients, alanine aminotransferase (ALT) levels were elevated for more than 6 months in 32 (34.4%), elevated in multiple peaks in 22 (23.7%) and showed combined variation of the latter 2 abnormalities in 16 (17.2%). Histological evidence of chronic active hepatitis was present in 5 of 6 patients who manifested persistent ALT abnormalities. Vaccination against hepatitis B virus produced positive seroconversion in 76.1% patients, and those with positive anti-HCV were not at a disadvantage. In conclusion, HCV infection is common in patients undergoing HD in Kuwait. Improvement in screening assays, isolation of anti-HCV positive patients during dialysis and limitation of blood transfusions may decrease the transmission of this disease in this patient population.

Psychiatric Morbidity among Housemaids in Kuwait III: Vulnerability Factors

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Background: Housemaids are a relatively homogenous immigrant subgroup in terms of their gender; ethnic origin; and socio-cultural, educational and occupational background. Psychiatric morbidity among housemaids is two to five times higher than the native female population. AIMS: To determine the possible pre-immigration risk factors for prospective psychiatric breakdown among the housemaids.

Methods: The sample consisted of all the housemaids (N = 197) hospitalised during the two-year study period. The controls comprised all the newly arrived housemaids (N = 502). The measures obtained included demographic characteristics and previous history of physical illness, psychiatric

illness, hospitalisation and family history of psychiatric disorder.

Results: More than a quarter of the hospitalised group broke down within one month of their arrival. The hospitalised group had a significant excess of Sri Lankan housemaids; non-Muslims; those with less than four years of education and those with a previous history of physical illness, psychiatric illness or hospitalisation.

Conclusions: A number of potential risk factors results in premature repatriation of housemaids on mental health grounds. Preventive measures involving recruitment procedures and pre-departure orientation courses are needed to minimise the expatriate failure among the housemaids.

Prevalent PCR Ribotypes of Clinical and Environmental Strains of *Clostridium Difficile* Isolated from Intensive-Therapy Unit Patients in Kuwait

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Ninety-five isolates of *Clostridium difficile* from symptomatic and asymptomatic patients and 18 from their environment in the intensive-therapy units (ITUs) of four teaching hospitals in Kuwait were typed by PCR amplification of rRNA intergenic spacer regions (PCR ribotyping). A total of 32 different ribotypes was detected among the clinical isolates. The predominant ribotypes from the clinical isolates were types 097 and 078, which accounted for approximately 40 % of all isolates in the ITUs in Kuwait. Ribotypes 097 (toxigenic), 078 (toxigenic) and 039 (non-toxigenic) were three distinct clones that were circulating in all four hospitals. Ribotypes 097, 078 and 076 (i.e. 50 % of isolates from symptomatic patients) were the predominant isolates associated with *C. difficile*-associated disease (CDAD). The environmental isolates belonged to a diverse range of ribotypes, with no particular types common to all the hospitals. Ribotype 078 was found only in the patient environment in Mubarak hospital, while ribotype 097 was restricted to Amiri hospital. The hospital environment occupied by symptomatic as well as symptom-free patients was contaminated with *C. difficile*. Eight new strains that did not match any in the PCR ribotype library established at the PHLS Anaerobe Reference Unit, Cardiff, UK, were assigned ribotypes 105, 125, 128, 129, 131, 134, 140 and 141. These findings show that the isolates associated with CDAD in Kuwait are different from those found in the UK and some other European countries.

Specialty Choices of Kuwaiti Medical Graduates during the Last Three Decades

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Introduction: This study examined postgraduate specialty training of Kuwaiti medical graduates during 1968 to 1999 and identified their attained professional qualifications to reveal scarcity in some specialties.

Methods: A survey was carried out involving review of the records maintained at the Kuwait Institute for Medical Specialization (KIMS) and the Ministry of Health for all of the trainees who

were enrolled in higher training programs for specialization. Information obtained from the records was ascertained through matching with the doctors' career destinations and employment in the recruitment departments of the health sector.

Results: A total of 652 Kuwaiti medical graduates attained their higher postgraduate qualifications until 1999. There were more female postgraduates compared with males from 1993 upwards and a drop in 1991 in the number of postgraduates owing to the Gulf War. Specialty differed according to gender: males mostly opted for medicine and surgery, whereas females mainly chose obstetrics and gynecology, pediatrics, and family medicine. The nature of postgraduate qualifications differed according to gender: fewer females undertook academic qualifications.

Discussion: The number of Kuwaiti medical graduates with higher professional qualifications significantly increased after 1985 owing to the establishment of KIMS and the Kuwait Faculty of Medicine. The increase in the number of female postgraduates since 1993 is attributable to the social and cultural transitions witnessed by Kuwait. Gender significantly affected the nature of postgraduate studies and the choice of specialty. The pattern of preference of Kuwaiti graduates to specialties was consistent with other parts of the world. Scarcity in some specialties has been revealed and needs to be adjusted.

Pulmonary Resection in Infants for Congenital Pulmonary Malformation

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Study Objectives: To review our experience with indications, timing, and results of pulmonary resection in infants.

Design: Retrospective cohort study.

Settings: Thoracic Surgery Department, Chest Diseases Hospital, Kuwait. Patients and intervention: Forty-seven infants with congenital lung diseases were treated with pulmonary resection from January 1993 to December 2000.

Results: The mean age at the time of diagnosis was 90 days (range, 7 days to 11 months). Thirty-four patients were male (72%). Congenital lobar emphysema, congenital cystic adenomatoid malformation, pulmonary sequestration, and atelectasis were seen in 26, 10, 6, and 5 patients, respectively. The indications for surgery were respiratory distress in 32 patients (68%), respiratory tract infections in 12 patients (26%), and the presence of asymptomatic chest radiographic findings in 3 patients (6%). A lobectomy was performed in 42 patients (89%), bilobectomy in 2 patients (4%), left pneumonectomy in 1 patient (2%), and excision of a mass in 2 patients with extralobar sequestration (4%). An emergency lobectomy was performed in seven patients (15%). Only one postoperative death occurred following a left pneumonectomy for extensive congenital adenomatoid malformation due to pulmonary hypertension. Four patients (9%) had postoperative complications: atelectasis (n = 2), prolonged air leak (n = 1), and pneumothorax (n = 1). Mean follow-up was 4 years (range, 1 to 5 years) for all patients. None of the patients had any physical limitations.

Conclusions: Pulmonary resection is indicated for the majority of patients with congenital lung malformations. In case of severe respiratory distress, an emergency lobectomy can be performed safely.

Reported Frequency of Physical Activity, Fitness and Fatness in Kuwait

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We studied reported frequency of physical activity (PA), body composition, and fitness in Kuwaiti females ($n = 84$) and males ($n = 72$), urban office government employees, or students. A sedentary (SED) group reported no or occasional participation in self-directed PA of 30 minutes or more during the week for the last 6 months; group LOF (low frequency) participated in 1-2 sessions/week (walking, jogging, sports such as volleyball, soccer, or gym); group HIF (higher frequency) reported three or more sessions/week. Aerobic fitness was measured using Bruce's treadmill protocol. Body fat and fat-free mass (FFM) were estimated from seven skinfolds and body weight (BW). Grip strength and trunk flexibility were also measured. Maximal O_2 consumption (VO_2 max)/BW was proportional to reported frequency of PA in males and females, indicating reliability of the reported PA frequencies. SED males (%fat > 25), SED and LOF females (% fat > 30) were overweight. In males, LOF PA was associated with lower % fat and higher flexibility than SED, and in females with higher VO_2 max/FFM than SED. LOF females, in contrast to males, were resilient to or exercised at levels insufficient for fat loss but sufficient for aerobic conditioning of the FFM, likely related to the low VO_2 max of females in which PA would have the most effect. HIF PA (> / =3/week) was associated in females with significantly lower %fat and higher flexibility than SED females and no further aerobic conditioning of the FFM, and in males with no further differences in study variables compared with LOF males. Grip strength was higher in males than females but was unrelated to frequency of PA, likely reflecting lack of strength training in the activities of most participants. Thus, low-frequency PA was associated with health benefits both in males (lower %fat) and females (higher VO_2 max/FFM). Probably due to the generally low fitness level of females and, hence, the high aerobic effort (% VO_2 max) required for exercise sufficient to impinge on fat stores, this was only achieved in females participating in higher weekly frequency (> / =3) of PA.

Influence of Smoking on Cutaneous Delayed-Type Hyper Sensitivity Reaction by Tuberculin Skin Test

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Tuberculin test (purified protein derivative) is currently accepted as a standard investigation used in the diagnosis of tuberculosis (TB). Although the sensitivity of the test is reliable, a substantial number of those subjected to screening for TB by such test are cigarette smokers. This study is designed to investigate the effect of smoking on cell-mediated delayed-type cellular hypersensitivity (DTH) reaction by PPD. Prospective, case-control study was conducted at the Chest and TB unit of Chest Hospital Kuwait. The study population consisted of 357 healthy volunteers serving as controls and 200 in-patients under direct medical supervision and treatment for tuberculosis as cases. The mean age was 33.69 ± 8.6 SD; 286 were current smokers and 271 were lifetime non-smokers. PPD test was done using 2TU RT23 SSI-Denmark on all subjects. Median PPD was significant among the cases ($P = 0.03$) between smokers and non-smokers and was highly significant among the healthy controls ($P < 0.001$). No significant difference was seen between median pack years of smoking and PPD levels among the patient group ($P = 0.264$) but the difference was significant among the control group ($P < 0.001$). Univariate analysis of variance (ANOVA) on

PPD, taking into account age, pack years of smoking, ethnic groups and BCG scar showed sufficient response but was not statistically significant to all these factors. Smoking habit does not appear to influence the cutaneous delayed type hypersensitivity reaction by tuberculin skin test.

Lack of Essential Asthma Medications in Primary Care Centres in Kuwait

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Setting: Asthma is a common chronic disease that can affect any age group. Available, affordable and effective asthma medications are essential to achieve good asthma control.

Objectives: To determine the availability of essential asthma medications in primary care centres and the cost of a year's supply in Kuwait.

Methods: A telephone survey was conducted in 36 centres. The cost of asthma medication was calculated based on estimated annual needs for the different grades of asthma severity.

Results: None of the centres surveyed had adequate asthma medication: 12 (33%) had just adequate and 24 (67%) had below adequate supplies. All had intravenous hydrocortisone and nebulised bronchodilators, but none had high-dose inhaled steroids; 24 (67%) had neither oral steroids nor salbutamol inhalers. All had oral bronchodilators, aminophylline and theophylline. Family medical centres had more asthma medications. The annual cost of treating a case of moderate asthma in Kuwait is 562 US dollars.

Conclusions: Most of the primary care centres in Kuwait lack essential asthma medications. This creates over-reliance on hospital emergency departments and affects asthma management.

Clinicopathological Features and HLA Tissue Typing in Pemphigoid Gestationis Patients in Kuwait

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Pemphigoid gestationis (PG) is a rare autoimmune disease of pregnancy. We report a series of 22 cases of PG in Kuwait. They constituted 18% of all the autoimmune bullous diseases registered in our centre over a span of 11 years. PG was observed to be the third most common bullous disease in our region. Ninety-five per cent of the patients were of Arab ethnicity. The clinical features observed in our patients were comparable to those reported elsewhere. Systemic steroids (prednisolone 20-60 mg daily) remained the mainstay of treatment to control the active disease and an optimal dose of 20 mg of prednisolone was maintained throughout the pregnancy and immediate postpartum period. We observed a favourable outcome of pregnancies complicated by PG without any associated maternal or foetal morbidity. Kuwaiti patients with PG were observed to have a predominance of HLA-DR3 and DQ2 antigens. No predominance of HLA-DR4 antigen was observed.

Efficacy and Reliability of Fundus Digital Camera as a Screening Tool for Diabetic Retinopathy in Kuwait

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Objectives: Many screening and follow-up methods are available for detecting diabetic retinopathy (DR). However, once patients develop retinopathy, it is unclear as to what method should be used for their review. This study is designed to assess the correlation between fundus digital image and clinical examination and to develop a screening program for the early detection of sight-threatening DR using a Canon CF 60 UV fundus camera.

Methods: Patients who were not treated for DR earlier were enrolled in the study. All patients underwent digital fundus photography. The photographs were evaluated and compared with the clinical findings as recorded by retinal specialists. DR and macular edema were analyzed separately, and the correlation was statistically measured. The kappa statistic was used to estimate the extent of the agreement between the two procedures.

Results: A total of 92 eyes of 51 patients were eligible to be entered in the study. Comparison of the digital image of the fundus and the examination by an ophthalmologist showed a good correlation. The kappa score for retinopathy was estimated to be 93% with 95.6% concordance. The kappa score for diabetic maculopathy was 88% with concordance of 92.2%.

Conclusion: We conclude that digital images provide an efficient method for diagnosing and classifying sight-threatening DR, particularly proliferative diabetic retinopathy (PDR). However, agreement between the digital fundus camera and clinical examination by an ophthalmologist for diabetic maculopathy detection, though substantial statistically, was not very satisfactory. It was also felt that the digital photographs can be used as a tool for teleophthalmology and can be integrated as a screening system in Kuwait.