

## Selected Abstracts of Articles Published Elsewhere by Authors in Kuwait

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### **Musculoskeletal Pain, Disability and Health-seeking Behavior in Adult Kuwaitis using a Validated Arabic Version of the WHO-ILAR COPCORD Core Questionnaire**

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**Clin Exp Rheumatol 2004; 22:177-183**

**Objective:** The WHO-ILAR Community Oriented Program for Control of Rheumatic Diseases (COPCORD) primarily aims to estimate the burden of musculoskeletal symptoms/disorders. We investigated data on musculoskeletal pain, disability and health-seeking behavior in the first community-based COPCORD study in Kuwait.

**Methods:** The validated Arabic version of the WHO-ILAR COPCORD Core Questionnaire was used in 2,500 randomly selected Kuwaiti households. The target population comprised Kuwaiti nationals aged 15 years and older. Twenty-four trained field workers completed the survey in 8 weeks. Those subjects reporting musculoskeletal pain were identified (Phase 1), and were asked to complete a self-evaluation questionnaire (Phase 2) prior to rheumatological examination (Phase 3). Phase 2 included questions on the site and severity of pain, traumatic events, functional disability, and treatment. Patients marked their pain sites on a mannequin during their interviews. "Sufferers" were defined as those with musculoskeletal pain and no history of trauma.

**Results:** A total of 7,670 adults were interviewed (response rate 88%), of whom 2,057 had musculoskeletal pain not related to trauma. Knees, back, and shoulders were the common sites of pain. Most of the sufferers reported the severity of pain as being moderate to severe. Functional disability was reported in 39.1% of the sufferers. The age-sex population adjusted prevalence rate for musculoskeletal pain was 35.7% in females and 20.2% in males. The most common sources for advice on treatment were physicians in hospitals (68.8%) and general practitioners (30.4%). 82% had prescriptions for their medications, while 19.4% had self prescribed tablets.

**Conclusion:** Musculoskeletal pain is a major health problem among Kuwaitis and deserves intense government attention.

### **Knowledge of and Attitudes towards Tobacco Control among Smoking and Non-Smoking Physicians in 2 Gulf Arab States**

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**Saudi Med J 2004; 25:585-591**

**Objective:** The global health professional survey is a project organized by the World Health Organization, to determine the smoking habits, knowledge and attitude towards tobacco control of health professionals in several countries around the world. This paper presents data from Kuwait and Bahrain.

**Methods:** The survey period was between May 2000 and March 2001. A questionnaire was distributed to all physicians in Bahrain and to a random sample from Kuwait. The responses to knowledge and attitude questions were on a scale of 1-5, (1 strongly agree, 2 agree, 3 unsure, 4 disagree and 5 strongly disagree).

**Results:** Four hundred and seventy physicians from Bahrain and 1095 from Kuwait completed the questionnaire. The prevalence of cigarette smoking in Kuwait was: current smokers 18.4%, previous smokers 15.8%, Bahrain 14.6% and 14.3%. The prevalence of shisha smoking was 12% and 6.4% for Kuwait and Bahrain, ( $p=0.004$ ). The mean scores of agreement with the association between passive smoking and lung diseases, lower respiratory tract infections in children were 1.6, 1.7 and 1.8, 1.9 for non smoking physicians and smoking physicians ( $P<0.01$ ). The mean scores of agreement with the following policies: large health warning on cigarette packages, complete ban on tobacco advertisement and an increase in the price of cigarette were 1.3, 1.4, 1.7 and 1.7, 1.7, 2.5 for smoking and non-smoking physicians ( $p<0.01$ ).

**Conclusion:** Smoking physicians have less knowledge and less favorable attitude towards tobacco control compared to non-smokers. There was no difference in the prevalence of cigarette smoking between Kuwait and Bahrain, but the prevalence of shisha smoking was higher in Kuwait.

## Post-dialysis Retention of Blood Lipoproteins and Apolipoproteins in Patients With End-stage Renal Disease on Maintenance Haemodialysis in Kuwait

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**Clin Chim Acta 2004; 344:149-154**

**Background:** The commonest cause of death in patients with end-stage renal disease (ESRD) on maintenance haemodialysis (MHD) is coronary heart disease (CHD). It has been suggested that dyslipidaemia, an important CHD risk factor, may be worsened by dialysis. This study evaluated changes in blood lipoproteins and apolipoproteins after dialysis in ESRD patients on MHD.

**Methods:** The subjects were 57 (20 M, 37 F; 24 diabetic, 33 nondiabetic) patients with ESRD, aged 21-73 years, undergoing MHD at a major Dialysis Unit in Kuwait. Pre- and post-dialysis non-fasting blood samples were collected from each subject on the same day, and analyzed for plasma glucose, urate, triglycerides (TG), total cholesterol (TC), HDL, LDL and apolipoprotein (apo) A1 and B. Pre- and post-dialysis levels for each of the analytes were compared for the diabetic and non-diabetic subgroups of patients and linear correlations sought between Delta values (corresponding to differences between pre- and post-dialysis levels) of the lipoproteins and apolipoproteins.

**Results:** There was a general trend towards significant increases in post-dialysis TC, HDL, LDL, and non-HDL levels in both sub-groups, and additionally for the non-diabetic, TG, apo A1 and apo B. The pre- to post-dialysis increases were essentially similar for the diabetic and non-diabetic groups- Diabetic: TC 14%, HDL 25%, LDL 19%, non-HDL 16%, apo A1 14%, apo B 10%; Non-diabetic: TC 20%, TG 29%, HDL 25%, LDL 26%, non-HDL 21%, apo A1 14%, apo B 14%. Generally, there were significant correlations between Delta values for the lipoproteins and apolipoproteins ( $r$ , 0.50-0.92) in both groups.

**Conclusion:** Levels of atherogenic lipoproteins increase post-dialysis in diabetic and non-diabetic patients with ESRD and the changing levels of these lipoproteins correlate significantly with corresponding changes in levels of apolipoproteins. The increase in lipid levels is therefore related to retention of apo A1 and B with each dialysis. We speculate that, with repeated dialysis, dyslipidaemia may get progressively worse and further accentuate CHD risk.

## **Contribution of AGC to ACC and other Mutations At Codon 315 of the katG Gene in Isoniazid-resistant Mycobacterium Tuberculosis Isolates from the Middle East**

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**Int J Antimicrob Agents 2004; 23:473-479**

The presence of ACC and other mutations at codon 315 in the katG gene was detected by PCR amplification followed by restriction fragment length polymorphism (PCR-RFLP) generated with restriction enzymes Msp I and MspA1 I in 37 isoniazid-resistant and 22-susceptible Mycobacterium tuberculosis isolates from Kuwait obtained in 2001. The mutation AGC to ACC was detected in 22 (60%) isolates while any mutation at codon 315 of the katG gene was present in 24 (65%) of 37 isoniazid-resistant isolates. The typing studies showed that majority of the isolates carrying mutations at codon 315 exhibited unique DNA banding patterns. The results were extended by additional analysis of 67, 28 and 17 isoniazid-resistant and 18, seven and six-susceptible M. tuberculosis isolates from Kuwait, Dubai and Beirut, respectively, that were analyzed previously for ACC mutation alone. These studies showed that one of 21, one of 10 and two of 11 isolates (all recovered from patients of Middle Eastern origin) with no AGC to ACC mutation from Kuwait, Dubai and Beirut, respectively, contained other mutations at codon 315 of the katG gene. None of the susceptible strains contained any mutation at codon 315. The PCR-RFLP with MspA1 I that detects all mutations at codon 315, compared with Msp I that detects only ACC mutation, identified more isoniazid-resistant strains with mutations at codon 315 in the katG gene. The data also showed that mutations other than AGC to ACC at codon 315 in the katG gene occur frequently in M. tuberculosis isolates recovered from Middle Eastern patients and should be incorporated in a rapid screen for the detection of mutations for isoniazid-resistance in the katG gene from this ethnic group.

## **Changes in Blood Levels of Eosinophil Cationic Protein and Tryptase after Exercise Challenge in Adolescents with Exercise-induced Asthma**

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**East Afr Med J 2004; 81:27-33**

**Background:** Exercise-induced asthma (EIA) is increasingly encountered among school children in Kuwait. Available evidence has shown that inflammatory mediators may be involved in the pathogenesis of EIA. Studies on release of inflammatory mediators have been carried out in adult patients with asthma in Kuwait, but no study on EIA involving children has taken place in this region.

**Objective:** To investigate changes in the concentration of some of the mediators involved in EIA in adolescent school children, using exercise challenge.

**Design:** Prospective, case control study.

**Setting:** Respiratory and Cardiology units Mubarak Hospital, Kuwait, between January and June 2001.

**Subjects:** Nine EIA and 14 non-EIA and 10 normal control subjects, designated as groups one, two and three aged between 13 and 17 years, who were non-smokers, were enrolled for the study.

**Main Outcome Measures:** Blood eosinophils (EOS), eosinophil cationic protein (ECP) and tryptase were estimated pre-exercise, 5 and 30 minutes after exercise. Spirometry was measured at the same period.

**Results:** In group one, ECP and tryptase levels fell after exercise, but significant difference in the levels were obtained only in tryptase between pre-exercise and 30 minutes after exercise (4.1 microg/L Vs 3.8 microg/L)  $P < 0.05$ , while the difference for ECP was not significant ( $P=0.09$ ). In group two, both tryptase (6.0 microg/L Vs 5.7 microg/L)  $P < 0.05$ , and ECP (21.8 microg/L Vs 12.1 microg/L)  $P < 0.01$ , fell after exercise. However, in group three, no appreciable difference was observed between pre and post exercise. Correlation between tryptase and EOS ( $r=0.770$ ;  $P < 0.05$ ) and between tryptase and ECP ( $r=0.850$ ;  $p < 0.05$ ) was observed pre-exercise and after exercise in groups one and two.

**Conclusion:** A fall in the level of the mediators was observed after exercise challenge, but the relevance of this finding in the pathogenesis of EIA remains unclear. Further studies are required to verify this finding.

## Emotional Distress in Infertile Women in Kuwait

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**Objectives:** Although previous studies conducted in the Western countries have reported that psychological factors are implicated in the experience of infertility, no study has assessed this relationship in Arab women. We postulate that with all important causal "confounders" such as age, gender, education and general health status controlled, any significant difference in psychological profile can be attributed to infertility.

**Methods:** An Arabic version of the Hospital Anxiety and Depression Scale (HADS) was used to examine the psychological status of 120 Kuwaiti infertile women and an age-matched sample of 125 healthy pregnant women as a control group.

**Results:** Compared with an age-matched pregnant control sample, the infertile women exhibited significantly higher psychopathology in all HADS parameters in the form of tension, hostility, anxiety, depression, self-blame and suicidal ideation. The illiterate group attributed the causes of their infertility to supernatural causes, such as evil spirits, witchcraft and God's retribution, while the educated group blamed nutritional, marital and psychosexual factors for their infertility. Faith and traditional healers were the first treatment choice among illiterate women, while the educated women opted for an infertility clinic for treatment. Childlessness resulted in social stigmatization for infertile women and placed them at risk of serious social and emotional consequences.

**Conclusions:** The prevalence and severity of psychological distress in this sample of infertile Kuwaiti women indicate the appropriateness of referring these patients for psychological evaluation. Programs successful in dealing with infertility in Kuwait need to include establishment of a community-based intervention strategy to educate people about infertility and to give guidelines for treatment.

## Strongyloidiasis: Challenges in Diagnosis and Management in Non-Endemic Kuwait

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Among immunocompromised individuals, hyper-infection with *Strongyloides stercoralis* may occur and lead to fatal strongyloidiasis. To clinicians and laboratory diagnosticians in non-endemic countries such as Kuwait, this severe infection poses a particular problem. The clinical histories and signs and symptoms of four Kuwaiti cases of *S. stercoralis* hyper-infection were reviewed. Each of the four was found not only to have lived in an area where *S. stercoralis* was endemic but also to have been treated with immunosuppressive steroids (for medical problems unrelated to the nematode infection). When they presented with undiagnosed hyper-infections their clinical features

were confusing. Three of the cases, all with low eosinophil counts, died but the other, who was treated with thiabendazole, survived. In the light of these observations, healthy medical examinees who had recently moved from endemic zones were checked for asymptomatic *S. stercoralis* infection, both by stool examination and ELISA-based serology. Of 381 stool samples investigated over a 3-month period, 183 (48%) were found positive for helminths, 7% for *S. stercoralis*. Of 198 individuals from endemic zones who were screened after another medical examination, 71 (35.8%) were found positive for intestinal helminth parasites, including one (1.45%) infected with *S. stercoralis*. Although ELISA appear reliable in making a presumptive diagnosis of strongyloidiasis, the results of such assays are not very specific and are best interpreted in conjunction with the patient's clinical status. The concurrent administration of anthelmintics to patients prescribed steroids who, because they live or have lived in an area where *S. stercoralis* is endemic, are at risk of infection with the nematode, should be considered.

## Diagnosis and Treatment of Traumatic Intrathoracic Major Bronchial Disruption

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The purpose of this study was to review our experience with intrathoracic major bronchial disruptions due to trauma and to describe the diagnosis and treatment.

**Methods:** A retrospective review was performed of major bronchial injuries managed in Kuwait (1995-2001), n=12. Clinical presentation, diagnostic evaluation, surgical management, and outcome were reviewed.

**Results:** The mechanism of injury involved blunt trauma in seven patients and penetrating trauma in five. Tachypnea and subcutaneous emphysema (occurring in 10, 9 of the patients, respectively) are common. Nine patients had pneumothorax and air leak after tube thoracostomy. The diagnosis was confirmed by bronchoscopy in all patients. The majority of the injuries were repaired primarily. Lung resection was necessary in two patients. Four patients sustained complications including death (two patients), atelectasis (one patient), and pneumonia (one patient). Follow-up bronchoscopy revealed no evidence of granulation tissue or stenosis at the site of repair.

**Conclusion:** The diagnosis of intrathoracic major bronchial disruptions required a high index of suspicion and liberal use of bronchoscopy. The majority were repaired primarily with good outcome.

## Impact of the Gulf War on Congenital Heart Diseases in Kuwait

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**Int J Cardiol 2004; 93(2-3):157-162**

**Background:** There has been concern over the increase in the number of babies born with congenital heart diseases (CHD) in Kuwait after the Gulf War.

**Methods:** We evaluated retrospectively the number of Kuwaiti infants who were diagnosed to have CHD within the first year of life. The comparison was made between those presented from January 1986 to December 1989 (preinvasion) and those presented after the liberation of Kuwait (from January 1992 to December 2000). The number of cases was considered per 10,000 live births in that year.

**Results:** The numbers of cases were 2704 (326 before the invasion and 2378 after liberation). The mean annual incidence of CHD was 39.5 and 103.4 (per 10,000 live births) before and after the Gulf War, respectively ( $P < 0.001$ ). There was an increase in the number of babies with CHD during the immediate 3 years postliberation with a relative reduction in the trend from 1995 to 2000, in some types of CHD.

**Conclusions:** In our series, there was an increased incidence of CHD almost immediately following the end of the Gulf War period. The cause of this increase remains relatively obscure. Environmental pollution may be a contributing factor; others such as possible psychological trauma remain subject to speculation.

## Comparison of Remifentanil and Alfentanil in Combination with Propofol to Facilitate Laryngeal Mask Insertion

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Remifentanil is a new opioid agent and has onset characteristics similar to those of alfentanil. The aim of this prospective double-blind randomised study was to compare LMA insertion conditions with alfentanil and remifentanil given as bolus during induction of anaesthesia with propofol. Sixty premedicated adult patients undergoing elective surgery requiring LMA insertion were randomly allocated to receive placebo saline (group I) or alfentanil 5 ugkg<sup>-1</sup> (group II) or remifentanil 0.5 ugkg<sup>-1</sup> (group III) before the induction of anaesthesia with I.V. propofol 2.5 mgkg<sup>-1</sup>. After preoxygenation and administration of trial drug over 30 seconds, propofol was administered until the loss of eyelash reflex. Ninety seconds after the administration of propofol, LMA insertion was attempted and graded. Heart rate (HR) and mean arterial pressure (MAP) were measured before induction of anaesthesia upto 5 min after LMA insertion. Excellent conditions were obtained in 11 (55%) patients in group I, 16 (80%) in group II and in 17 (85%) in group III patients. MAP decreased significantly ( $p < 0.001$ ) following induction of anaesthesia and remained significantly lower than the baseline values, which were well within clinically acceptable limits. The mean HR in group II and group III was significantly lower than the baseline values following LMA insertion ( $p < 0.001$ ). Both remifentanil and alfentanil when administered with propofol provide suitable conditions for insertion of LMA without haemodynamic disturbances.

**Keywords:** Anaesthesia-intravenous, propofol; Equipment- Laryngeal mask airway; Opioids- Remifentanil, Alfentanil

## Penile Fractures: Diagnosis and Outcome of Immediate Surgical Management

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**Purpose:** The purpose of this study is to describe the methods of diagnosis and the outcome of immediate surgical management of patients presenting with penile fracture to our Urology Unit.

**Patients and Methods:** Patients presenting with penile fracture and managed by immediate surgery in our unit over a 10 year period were studied. The time lapse between onset of injury and presentation was determined. The effect of time lapse and length of defect in the corpora cavernosum on the outcome of surgical management was analysed.

**Results:** Eleven patients (mean age 31.2. years) presented with acute penile fracture from 1993-2003. The mean time lapse before presentation was 6 hours (range 4-28). Three patients underwent cavernosography and one underwent urethrogram. Ten out of eleven patients had localized haematoma of penile skin with the tear in tunica albuginea palpable in 8 patients. Ruptured corporal bodies were confirmed in 10 patients at surgical exploration. All patients required surgical correction for control of haemorrhage, evacuation of haematoma, debridement and closure of defect in tunica. Two patients developed penile curvature post operative but this did not interfere with coitus. One of these two patients presented late, while the second patient had a defect greater than 3.5 cm in the tunica albuginea that was repaired.

**Conclusion:** Immediate surgical repair of penile fracture is associated with successful outcome in a high percentage of patients. Late presentation and a large defect in the tunica albuginea may be complicated by penile deformity.

**Key words:** Penis, fractures, injury, surgery.

## Tubularized Incised Plate Urethroplasty: Modification and Outcome

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**Background/Purpose:** To review the outcome of tubularized incised plate (TIP) urethroplasty in the primary treatment of penile hypospadias with minimal chordee and to describe our experience with the lateral flap used to cover the urethroplasty.

**Methods:** The charts of all patients with penile hypospadias who underwent primary TIP repair in our hospital between 1996 and 2001 were examined and pre as well as postoperative biodata were recorded. We used the lateral flap to cover the repair rather than a flap harvested from preputial skin as in the original description.

**Results:** 94 patients were identified but only 83 were suitable for analysis. The mean age of the evaluable patients was 2.67 years (range 1-10). The mean of follow-up was 17.49 months (range 1-54). The preoperative meatal position was coronal in 50 (60.2%), distal shaft in 28 (33.7%) and mid shaft in 5 (6.1%) patients. The mean length of the urethral plate was 8 mm (range 5-15) while the mean width of the plate was 6 mm (range 4-8). In 30 patients (36.14%) chordee was present preoperatively. All patients were admitted to the hospital following the TIP urethroplasty with a urethral stent in place. The lateral flap was used to cover the repair in 70 patients. The stent was left for an average of 7.83 days (7-10). The average hospital stay was 8.83 days (7-11). A cosmetically normal vertically oriented slit-like meatus was seen in 78 (94%) patients. The TIP repair revealed an apical meatus in 82 (98.8%) and a conical glanular configuration in 79 (95.20%) patients. The parents observed that the urinary stream and the penile shaft were straight in 75 (90.4%) and 82 (98.8%) patients respectively. Seven patients (8.4%) developed meatal stenosis requiring repeated dilatations; four patients (4.8%) developed urethrocutaneous fistula and one (1.2%) had postoperative bleeding requiring transfusion. Of the 70 patients who had the lateral flap, 3 (4.28%) developed urethrocutaneous fistula.

**Conclusion:** Our experience indicates that the TIP repair gives a good cosmetic and functional outcome with minimal complications. Urethroplasty coverage using the lateral flap is associated with a low incidence of urethrocutaneous fistulae.