

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

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### Risk Factors for Diabetic Retinopathy in Kuwaiti Type 2 Diabetic Patients

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**Objective:** To determine the risk factors associated with diabetic retinopathy in Kuwaiti subjects with type 2 diabetes.

**Methods:** Kuwaiti subjects with type 2 diabetes (n=165) attending the Diabetic Clinic at Al-Sabah Hospital, Kuwait between October 2000 and March 2005 were screened for diabetic retinopathy.

**Results:** Any diabetic retinopathy was found in 40% while 20.6% had sight threatening retinopathy. Mild NPDR was present in 21.2%, moderate to severe non-proliferative diabetic retinopathy (NPDR) in 7.9%, and proliferative diabetic retinopathy (PDR) in 3.0%. Maculopathy was present in 10.3% and 7.9% of the patients were photocoagulated. Compared to those without retinopathy, diabetic patients with any retinopathy were significantly older (51.7 +/- 10.3 versus 47.2 +/- 9.5 years; p<0.005), had longer duration of diabetes (13.1 +/- 6.3 versus 4.7 +/- 5.4 years; p<0.0001), higher systolic blood pressure (142.9 +/- 23.0 versus 130.3 +/- 20.2; p<0.0001) and poor glycemic control (Hemoglobin A1c = 10.1 +/- 2.4 versus 8.9 +/- 2.3; p<0.005). The prevalence of hypertension and nephropathy was significantly higher in patients with any retinopathy than those without retinopathy (70.8% versus 49.5%; p<0.01 and 64.4% versus 30.8%; p<0.0001) respectively. Longer duration of diabetes and presence of nephropathy was the most significant independent factors associated with any retinopathy and sight-threatening retinopathy. Treatment with sulphonylurea or insulin, and poor glycemic control were other significant independent factors associated with any retinopathy.

**Conclusion:** Longer duration of diabetes, presence of nephropathy, glycemic control and mode of treatment were the most significant independent risk factors of diabetic retinopathy. However, a population-based study is warranted to identify the risk factors, as well as the prevalence of diabetic retinopathy.

### Epidemiology of Childhood Meningitis in Kuwait

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**Background:** Haemophilus influenzae type b (Hib) conjugate vaccine was introduced as part of childhood routine immunization in Kuwait in 1996. The aim of this study is to describe the epidemiological, microbiological, and clinical features of meningitis among children in Kuwait from 2001 to 2003.

**Material/Methods:** A multicenter retrospective review of clinical records of otherwise healthy children hospitalized with a diagnosis of meningitis.

**Results:** A total of 172 children had a diagnosis of meningitis and had lumbar puncture during the study period. The median age was 8 months. The majority (67%) of the patients were less than 5 years

of age. Eighty-six (50%) of the patients had aseptic meningitis and 19 (11%) had partially treated meningitis. The remaining 67 (39%) were diagnosed with bacterial meningitis. The underlying organisms were: *Neisseria meningitidis* (49%), group B streptococci (18%), *Streptococcus pneumoniae* (18%), *Mycobacterium tuberculosis* (6%), Gram-negative organisms (6%), and *Haemophilus* species (1.5%). Twelve percent required admission to the intensive care unit. At the time of discharge from the hospital, 9% had neurological sequelae, the majority of which were in patients who had *S. pneumoniae* meningitis. Two patients died during the study period. Conclusions: *N. meningitidis* is the leading bacterial agent of bacterial meningitis in Kuwait. *S. pneumoniae* is responsible for the majority of neurological sequelae of bacterial meningitis in infants and young children. The results of this study can be used in future public health planning in the context of the newly available vaccines.

## Clinical and Microbiological Investigations of Typhoid Fever in an Infectious Disease Hospital in Kuwait

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A retrospective analysis of 135 typhoid cases was conducted to review the clinical, epidemiological and microbiological characteristics of enteric fever cases diagnosed and treated at the Infectious Diseases Hospital, Kuwait, from 2002 to 2005. Diagnosis of patients was based on clinical features, serology and blood culture. The susceptibility testing of the isolates to ampicillin, chloramphenicol, trimethoprim-sulfamethoxazole, ceftriaxone, ciprofloxacin and nalidixic acid was performed by the disc diffusion method, and MICs of ceftriaxone and ciprofloxacin were determined by Etest. Of 135 typhoid fever patients, 108 (88 %) were treated with ceftriaxone and 27 (20 %) were treated with ciprofloxacin. The mean time for fever defervescence with ciprofloxacin therapy was 8 days and 6.3 days for those treated with ceftriaxone. Of the 135 *Salmonella enterica* serotypes Typhi and Paratyphi A isolated from patients, 50 (37 %) were multidrug resistant (MDR) and 94 (69.6 %) isolates of both serotypes were nalidixic acid resistant (NAR). Between 90 and 100 % of MDR and NAR strains had decreased susceptibility to ciprofloxacin (0.125-1 microg ml(-1)). Low-level resistance to ciprofloxacin (MIC 0.125-1 microg ml(-1)) was also detected in 13.8 and 33.3 % of nalidixic acid-susceptible isolates of *S. Typhi* and *S. Paratyphi A*, respectively. All isolates were susceptible to ceftriaxone. Two relapses occurred in the ciprofloxacin-treated group. MDR strains and strains resistant to ciprofloxacin and ceftriaxone are a major threat in the developing world. A situation is fast approaching where the emergence of highly resistant *Salmonella* isolates is quite likely. Proper steps must be taken to avoid a pandemic spread of MDR *S. Typhi* strains.

## Cultural Factors and Patients' Adherence to Lifestyle Measures

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**Background:** Non-adherence to preventive and therapeutic lifestyle recommendations among patients at high risk of cardiovascular disease is more prevalent and varied than previously thought. The problem needs to be addressed by those who are involved in the care of these patients. AIM: To

measure adherence and barriers of complying with lifestyle recommendations among patients with high cardiovascular risk factors.

**Design of Study:** Prospective study.

**Setting:** Six family-practice health centres in Kuwait.

**Method:** Data are from 334 Kuwaiti adult males and females with hypertension, type 2 diabetes, or both, who completed a routine clinic visit in one of six family practice centres. Trained staff used a structured questionnaire to obtain a detailed medical history regarding exercise habits and barriers to compliance with diet and exercise programmes. Clinical criteria assessed were height, weight, and the control of blood pressure and blood sugar.

**Results:** From the study sample, 63.5% of patients reported that they were not adhering to any diet regimen, 64.4% were not participating in regular exercise, and 90.4% were overweight and obese. The main barriers to adherence to diet were unwillingness (48.6%), difficulty adhering to a diet different from that of the rest of the family (30.2%), and social gatherings (13.7%). The main barriers to adherence to exercise were lack of time (39.0%), coexisting diseases (35.6%), and adverse weather conditions (27.8%). Factors interfering with adherence to lifestyle measures among the total sample were traditional Kuwaiti food, which is high in fat and calories (79.9%), stress (70.7%), a high consumption of fast food (54.5%), high frequency of social gatherings (59.6%), abundance of maids (54.1%), and excessive use of cars (83.8%).

**Conclusion:** The majority of individuals in the sample were overweight, did not engage in recommended levels of physical activity, and did not follow dietary recommendations. Additional cultural and demographic variables need to be considered to improve adherence to lifestyle measures.

## Outcome and Survival in Different Peritoneal Dialysis Modalities

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Peritoneal dialysis (PD) has been accepted as a treatment option for patients with end-stage renal disease, yet experience with PD in Arab countries is limited. This study was undertaken to evaluate the outcome and survival of different PD modalities. All patients managed at the Mubarak Al-Kabeer Hospital Kuwait between August 1982 and December 2003 using PD for three months or more were included in the study. Demographic features, outcome and survival of the patients were analyzed. Four hundred and fifteen patients with end-stage renal failure were admitted into the PD program. Their mean age was 52.06 +/- 16.43 years. Hospital-based intermittent peritoneal dialysis (IPD), continuous ambulatory peritoneal dialysis (CAPD), nightly intermittent peritoneal dialysis (NIPD) and continuous cycling peritoneal dialysis (CCPD) were preferred by 203 (48.9%), 176 (42.4%), 30 (7.2%) and 6 (1.4%) patients respectively. The mean duration of follow up was 12.7 +/- 11.7 months. Fifty-five (13.3%) patients were continuing on PD, 55 (13.3%) had shifted to hemodialysis, 73 (17.6%) underwent renal transplantation, 114 (27.5%) died, 34 (8.2%) returned to their native countries, 79 (19%) transferred to other centers and follow up was lost for 5 (1.45%) patients. Patient survival at two years was 56%, 72% and 87% in IPD, CAPD and NIPD respectively. Technique survival at two years was 60.6%, 75.4% and 100% in IPD, CAPD and NIPD respectively. Peritoneal dialysis modalities provide a feasible modality of renal replacement therapy. The overall outcome and patient and technique survival in home PD modalities were better than hospital-based PD.