

Abstracts/Titles of Articles Published Elsewhere by Authors in Kuwait

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Pre-and Postnatal Tissue Selenium of the Rat in the Growing State

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The aim of this study is to quantify the selenium (Se) content (in $\mu\text{g/g}$) during different gestational periods in rat fetal tissues, and to follow up the changes in the Se content of the placenta, fetal head, liver and lung during gestation and postpartum periods. Locally reared virgin female Westar rats were mated. Pregnant rats were sacrificed on days 15, 18 and 21 of pregnancy. Newborn pups at the age of 3 days and rats at the age of 1 month were also investigated. There was a gradual increase in placental and whole head Se content as gestation proceeded compared to day 15; however, the differences between the group were not statistically significant. The liver Se content at day 18 of gestation was significantly higher than at day 21 of gestation and in rats at 3 days of age, but lower than the Se content of the liver of rats at the age of 1 month and the differences were statistically significant. The lung Se content was higher at 18 of gestation than at day 21 and in the 3-day-old rats, and all differences between all groups were statistically significant except when the lung Se content at day 18 is compared to that of 1-month-old animals. The continuous increase in the SE content of the placental tissues and the whole head, although not significant statistically, may indicate that the fetus relies heavily on its supply of Se from the maternal blood and in part on the supply of heavily on its supply of Se from the maternal blood and in part on the supply of thyroid hormones which are important for brain development, as evidence exists that T4 and T3 are present in the fetal brain in early fetal life before the onset of fetal thyroid function. The higher content of Se on day 18 and its decline on day 21 of gestation in the liver may imply that it is stored and being utilized partly in other tissues for other functions and particularly for thyroid hormone synthesis, metabolism and functions.

Diagnosis and Treatment of Isolated Tuberculous Mediastinal Lymphadenopathy in Adults

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Objective: To evaluate the diagnostic yield of bronchoscopy and mediastinoscopy in adults with isolated mediastinal tuberculous lymphadenitis and to assess the effect of antituberculous treatment.

Design: Prospective longitudinal cohort study of 34 patients with mediastinal tuberculous lymphadenitis followed for 6 to 19 months after completion of treatment.

Setting: Tertiary care hospital, Kuwait.

Patients: 34 consecutive patients who presented with isolated mediastinal lymphadenopathy from 1996 to 1998.

Interventions: Bronchoscopy and cervical mediastinoscopy for all patients.

Main outcome measures: Diagnostic yield of bronchoscopy and mediastinoscopy, and the outcome of treatment in patients with tuberculous lymphadenopathy.

Results: The mean age was 35 years (range 15-58). The most common symptoms were cough, fever, and weight loss. The chest radiographs and computed tomograms showed abnormal mediastinal shadows with no evidence of parenchymal disease. All patients had right sided paratracheal lymphadenopathy. Tuberculin skin test gave a weal of >15 mm in

17 patients (50%). Sputum smears and cultures failed to grow acid-fast bacilli in any patient. Seven patients had an endobronchial abnormality and samples taken at bronchoscopy gave a definite diagnosis in 3 (9%). Paratracheal lymph node biopsy and culture by mediastinoscopy diagnosed tuberculosis in all cases. All patients were treated by a six month course of rifampicin and isoniazid supplemented initially by pyrazinamide for two months. Twenty-eight patients had a good response and the remaining patients were treated for a further 3 months.

Conclusions: Bronchoscopy has a low diagnostic yield in mediastinal tuberculous lymphadenopathy in the absence of a parenchymal lesion. Mediastinoscopy is a safe but invasive procedure and provides a tissue diagnosis in most cases. Six months treatment with rifampicin and isoniazid supplemented initially by pyrazinamide is adequate treatment for most adults with tuberculous mediastinal lymphadenopathy.

Diagnosis of Imported Malaria by Plasmodium Lactate Dehydrogenase (pLDH) and Histidine-rich Protein 2 (PfHRP-2)-Based Immunocapture assays.

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This study was conducted to evaluate the performance of two rapid non-microscopic assays: Plasmodium lactate dehydrogenase (pLDH) assay (OptiMAL) and Plasmodium falciparum histidine-rich protein 2 (PfHRP-2) assay (ICT Malaria). The assays were used to detect malaria infection in 515 immigrants living in Kuwait. The performance of both assays was compared to that of microscopy of Giemsa-stained thick blood films and to each other. Of the 515 patients tested, 163 were positive for malaria parasites by microscopy of thick blood film. Of these, 87 were infected with Plasmodium vivax parasites, 63 with P. falciparum, 1 with Plasmodium malariae, and 12 had mixed infections of P. falciparum and P. vivax. The PfHRP-2 assay detected 53 P. falciparum infections and, as expected, failed to detect all but one case of P. vivax. Three cases of mixed infections were also not detected by this assay. The pLDH assay detected 56 P. falciparum cases and 77 P. vivax infections but failed to detect 4 cases of mixed infections. Compared to microscopy, the performance of both the assays to diagnose P. falciparum infection was comparable. The sensitivity for the PfHRP-2 assay was 82% with a specificity of 99.0% and for the pLDH assay the sensitivity was 89% with a specificity of 99.5%. The PfHRP-2 assay detected 4 false positive cases, 2 of which were also detected by the pLDH assay. These patients reported treatment with chloroquine in the last 2-5 weeks. Though the immunocapture diagnostic assays may be helpful in certain situations, microscopy of thick blood film is still the method of choice in diagnosing imported malaria.

Malocclusions and Traumatic Injuries in Disabled Schoolchildren and Adolescents in Kuwait

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The present study was carried out to determine the prevalence of malocclusion and traumatic injuries in disabled children and adolescents attending the special-needs schools in Kuwait. Included in the study were 818 children (438 males and 380 females), in the age groups of 3-20 years, who have visual impairment, hearing impairment, physical handicaps, or developmental disorders. The mean age of participants was 11.9 years. The survey was carried out according to the methods of WHO. The prevalence of severe malocclusion was 23.6%, and that of slight malocclusion was 37.0%. Children with Down syndrome (OR = 2.3; 95% CI = 1.51-3.52), those of increasing age (OR = 1.1; 95% CI = 1.01-1.10), and males (OR = 1.5; 95% CI = 1.05-2.07) had higher risk for the occurrence of severe malocclusion. Less than one-fifth of the subjects (16.9%) had traumatized anterior teeth. Severe malocclusion (OR = 1.8; 95% CI = 1.17-2.77) and increasing age (OR = 1.2; 95% CI = 1.13-1.26) were significant risk factors for the occurrence of traumatic injuries. We concluded that malocclusion and traumatic injuries are more prevalent among these subjects with disabilities than among the healthy population in Kuwait.

Cryptosporidiosis in Kuwaiti Children: Seasonality and Endemicity

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Objectives: To detect the incidence of cryptosporidial infection in children presenting with gastrointestinal symptoms at the local hospital in Kuwait.

Methods: Over a period of 3 years, September 1995 to August 1997, a single fecal sample from 3549 children was analyzed by modified safranin-methylene blue (SM-B) staining and a direct immunofluorescence test for the presence of *Cryptosporidium* oocysts.

Results: *Cryptosporidium* oocysts were detected in 51 (10%) children with diarrhea. Prevalence was highest (73%) in children > 2 years of age compared with children < 2 years of age. The maximum number of cases, 38 of 51 (75%), was seen during the months January to April, indicating a marked seasonal variation. Polyparasitism was common in children with diarrhea; however, 43 of the 51 (84%) children with cryptosporidiosis had cryptosporidium infection only. *Blastocystis hominis* and *Endolimax nana* were the most common parasites detected (38% and 15%, respectively). Forty-seven of the 51 (90%) children with cryptosporidiosis were Kuwaiti and gave no history of travel abroad, suggesting that the infection was acquired indigenously. Sociodemographic information on children with cryptosporidiosis suggests three possible modes of transmission of infection: drinking contaminated water stored in overhead water tanks, person to person, or contact with infected animals.

Conclusion: In this study, we observed water-borne transmission of cryptosporidium infection in children with diarrhea. The infection is seasonal and endemic.

Pediatric Dental Procedures Under General Anesthesia at the Amiri Hospital in Kuwait

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Ninety-six patients, fifty-eight healthy patients and thirty-eight special needs patients, ranging in age from 3 to 31 yr (average age 6.9 yr) had received dental treatments under general anesthesia (GA) at Amiri Hospital. The mean number of dental procedures per child was 13.6 (SD+/-5.4) with a mean number of 15.6 procedures for healthy patients and 10.5 special needs patients. There was a statistically significantly higher number of dental procedures for healthy patients than for special needs patients ($p < 0.001$). The number of pulpotomies and stainless steel crowns placed for healthy patients was significantly higher (3.5) than for special needs patients (1.3) with ($p < 0.001$). The average number of extractions was similar for the two groups of patients, 2.8 for normal and 2.2 for handicapped. On the basis of these results, it was concluded that dental treatment under GA in hospital environment is beneficial for certain group of patients, such as very young children and those with special needs. Underlying medical conditions influenced the treatment provided.

Impact of Glycemic Control on Serum Lipoprotein (a) in Arab Children with Type 1 Diabetes

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Background: Lipoprotein (a) (Lp (a)) is an independent risk factor for coronary artery disease (CAD), a major cause of death in patients with type 1 diabetes mellitus. Both type 1 diabetes and CAD represent major problems in Kuwait. Data on the effect of metabolic control on Lp (a) in diabetic children are limited and this is particularly true for Arab children. The objectives of the present study were to analyze serum Lp (a) levels in patients with type 1 diabetes compared with non-diabetic children, taking into account the effect of glycemic control.

Methods: Circulating lipids, including Lp (a), were measured in serum samples from 60 prepubertal non-diabetic children and 58 prepubertal children with type 1 diabetes. Comparisons of Lp (a) concentrations were made between the non-diabetic and diabetic children with good to fair control (glycosylated hemoglobin (GHb) $< 11\%$) and a group of diabetic children with poor control (GHb $\geq 11\%$).

Results: The mean serum Lp (a) level in all diabetic children was 187.62 ± 160.43 mg/L, compared with 162.88 ± 156.06 mg/L in the control group. The group of children with poor glycemic control had higher median Lp (a) levels (147.50 mg/L) than either the group of diabetic children with good to fair control (95 mg/L; $P < 0.028$) or the group of non-diabetic children (125 mg/L; $P < 0.04$). Moreover, 38.3% of poorly controlled diabetic children had elevated Lp (a) levels ≥ 250 mg/L, compared with 12.5% of diabetic children with good to fair control and 16.7% of non-diabetic children ($P < 0.025$ and $P < 0.039$, respectively). No association was found between Lp (a), diabetes duration and insulin dose.

Conclusions: In Arab children, highest Lp (a) levels are associated with poorest metabolic control. The prevalence of Lp (a) levels associated with cardiovascular risk is higher in poorly controlled diabetic children. Increased levels of Lp (a) may be another contributing factor to the high risk for CAD in diabetic patients.

Initiation Factors for Substance Abuse

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Aim: The study reported in this paper investigated factors that led to the initial use and abuse of drugs in 237 addicts receiving treatment at the Psychological Medicine Hospital, Kuwait.

Method: A self-administered questionnaire was designed to elicit information regarding socio-demographic data and initiation patterns. Questions about initiation patterns were related to personal, familial and social variables in addition to accessibility to drugs.

Results: Almost all the sample were male (99.2%) and 42.6% were married. The findings were grouped into (1) factors associated with drug abuse and (2) initial/ significant factors for drug abuse. One way ANOVA showed that there was a significant statistical association between current age and source of drug. Also, there was a significant statistical association between the age of the addict when first started on drugs, and the source of drugs. Multiple regression analysis was also computed for initial significant factors. One factor 'excessive unsupervised free time' was statistically significant.

Recommendations: Strategies for primary, secondary and tertiary interventions in addition to recommendation for further studies are suggested.

Cancer after Renal Transplantation in Kuwait

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A high incidence of cancer has been reported following organ transplantation. This study explores the incidence in Kuwait and the effect of Cyclosporin on cancer occurrence. The files of 800 recipients were reviewed. Transplantation procedures were performed between May 1972 and December 1998. Of these, 506 were males (63.2%), and 52 were under the age of 16 years. The donor source was a living donor in 708 (88.5%) and cadaver donor in 92 (11.5%). Maintenance immunosuppression was either with Azathioprine and Prednisolone (AZA+PRED) or Cyclosporin as well (AZA+PRED+CYA).

Thirty-six instances of cancer were diagnosed at 4 to 288 months (mean 77 months) after transplantation in 32 recipients, with a disease incidence of 4.5%. Recipients with cancer were 16 males and 16 females, aged 15 to 66 years at the time of transplantation. Kidney grafts were obtained from 27 (84.4%) living donors and 5 (15.6%) cadaveric donors. For patients on (AZA+PRED), the mean interval to diagnosis of cancer was 156 months and for patients on (AZA+PRED+CYA) was 48 months (p value:0.00). Histopathological types were 9 cases of Kaposi sarcoma, 9 cases of non-Hodgkin's lymphoma, 4 cases of squamous cell carcinomas, 2 cases of carcinoma of the urinary bladder and 9 less common cases.

Eleven recipients are alive (34.4%). Nine of them (28.1%) with functioning grafts for 12 to 132 months after diagnosis of malignancy, and 2 (6.3%) on dialysis therapy for 17 and 91 months following graft rejection. 19 recipients (59.4%) died with functioning grafts 4 days to 62 months after diagnosis of cancer. The remaining 2 recipients (6.3%) died after losing their grafts and starting dialysis.

We conclude that post transplantation cancer incidence is 4.5% in Kuwait. Kaposi sarcomas and non-Hodgkin lymphomas are commonest cancers. Cyclosporin significantly decreases time interval to cancer occurrence.

Attitude of ICU Staff in Kuwait Regarding Organ Donation and Brain Death

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Kuwait organ transplantation law recognizes brain death and permits organ donation. An active cadaver program was started in Kuwait in 1996 with progressive improvement in the number of referred cases of brain death. Still only one third of transplanted kidneys in Kuwait are obtained from brain dead cadavers .to study the attitude of intensive care unit (ICU) staff towards the cadaver program, brain death and organ donation, a questionnaire was distributed in seven major ICUs in Kuwait.

27 anesthesia doctors and 50 nurses responded. 26 doctors (96%) and 44 nurses (88%) acknowledged the important of organ shortage .19 doctors (70%) and 25 nurses (50%) accepted the concept of brain death. Only 7 doctors (33%) and 27 nurses (54%) accepted organ donation for themselves but only 7 doctors (26%) and 16 nurses (32%) accepted organ donation for their families and loved ones .

It is concluded that the majority of ICU staff in Kuwait accepts organ donation after brain death for their patient but not for themselves of their families . The concept of brain death is not well accepted by the nurses and both doctors and nurses are reluctant to ask families for organ donation.

Socioeconomic Variables Associated with Perinatal Mortality in Kuwait

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Sickle Cell Disease In Kuwait

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