

## Abstracts of Articles Published Elsewhere by Authors in Kuwait

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### **The introduction of breast milk donation in a Muslim country**

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**J Hum Lact 2000; 16(4):346-350.**

Breast milk donation (wet-nursing) for full-term babies is a well-known practice in Kuwait, but it has never been organized formally in a neonatal intensive care unit (NICU) for preterm babies. Donor milk banking as conducted in Western society is not considered to be ethical in Muslim society, where the milk donor and the recipient are required to know each other. Human milk is known to decrease the incidence of necrotizing enterocolitis; improve host defenses, digestion, absorption of nutrients, gastrointestinal function, and neurodevelopment of the child; and contribute to maternal physical and psychological well-being. A culturally accepted approach to donor milk banking is proposed as a means of overcoming the ethical issues surrounding milk donation in Muslim society. This report addresses the first step in raising awareness of the valuable contribution of donor milk to preterm babies and the organization of human milk donation for use in an NICU.

### **Burn mortality during 1982 to 1997 in Kuwait**

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**Eur J Epidemiol 2000; 16(8):731-739.**

The study group is comprised of 234 patients (6.4%) who died out of 3680 patients treated for burn injuries during the period January 1982 to December 1997 in Kuwait. There were 112 (47.9%) males and 122 (52.1%) females and their mean age was 30 years (range 1-93) when compared with 24 years among survivors. The high mortality amongst two age groups 0-5 years (39 deaths, 16.7%) and 16-35 years (109 deaths, 46.6%) shows their vulnerability in the society. In 190 patients (81.2%) the burn injuries occurred at home. A total of 216 patients (92.3%) sustained flame burns mainly due to clothes on fire (40.6%) and cooking gas accidents (25.2%), and in 18 patients (7.7%) the burns were due to scalds. The suicidal burns occurred in 22 female and 5 male patients mainly of younger age groups. The mean percentage of burns was 71% (range 9-100%) as against 20% amongst survivors, and 195 patients (83.3%) had > or = 50% total body surface area (TBSA) burn. Four patients (1.7%) had superficial dermal burns, 94 (40.2%) had full thickness and 136 (58.1%) had mixed with full thickness burns predominance. The associated inhalation injury was diagnosed in 132 patients (56.4%). A total of 61 patients (26.1%) had either single or multiple pre-existing diseases and 51 of them sustained flame burns. The day of death varied from 1 to 103 days (mean 16 days) but 58 patients (24.8%) died within 48 hours of post burn. A total of 120 patients (51.3%) died due to septicaemia, 83 (35.5%) due to renal failure, 28 (10.2%) due to multi-organ failure, and 7 (3.0%) due to bronchopneumonia. The overall mortality rate was 6.4%, but this has significantly lowered to 4.4% ( $p < 0.01$ ) during last four years probably due to better burn care. The study thus shows that age group 0-5 and 16-35 years, domestic accidents, flame burn, inhalation injury, and pre-existing diseases are risk factors and septicaemia as the dominant cause of death in our patients.

## Reinforced primary repair of early distal oesophageal perforation

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**Eur J Surg 2000; 166(12):938-941.**

**Objective:** To describe our surgical technique for, and results of, reinforced primary repair in benign distal oesophageal perforation in early cases.

**Design:** Retrospective study.

**Setting:** Tertiary care hospital, Kuwait.

**Patients:** 15 patients with iatrogenic or traumatic benign distal oesophageal perforation.

**Intervention:** Primary repair with reinforcement using pleura, pericardial flap, or gastric fundus. Of the 3 patients with achalasia, 2 had oesophagomyotomy alone and 1 had oesophagomyotomy with fundoplication. Associated distal obstruction caused by reflux stricture was treated by dilatation and fundoplication in 1 patient.

**Main outcome measures:** The causes of perforation, presence of underlying oesophageal disease, time to operation, postoperative leakage, mortality, and follow-up.

**Results:** Perforation was caused by instrumentation in 10 patients, trauma in 3, and ingested foreign bodies in 2. 6 patients had pre-existing oesophageal diseases: achalasia in 3, hiatus hernia in 2, and reflux stricture in 1. 10 patients presented within 12 hours, and 5 patients more than 12 hours after the perforation. 4 postoperative leaks developed. One patient perforated a stress gastric ulcer and then developed pneumonia and died of multiple organ failure. At follow-up, all 14 surviving patients were able to eat a normal diet. 2 patients who had gastric fundus used as a reinforcement tissue developed mild gastro-oesophageal reflux and oesophagitis. Both responded to medical treatment.

**Conclusion:** Primary repair and tissue reinforcement of benign distal oesophageal perforation is safe early cases and obviates the need for a second operation.

## Is regional tonometry a reliable index of tissue oxygenation? A comparative study with conventional global monitoring

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**Middle East J Anesthesiol 2000; 15(5):515-528.**

This study was carried out on 30 critically ill patients admitted to the ICU of Farwania Hospital (Kuwait). All patients had clinical evidence of organ dysfunction or impending multiple organ failure. The severity of their pathology on admission was assessed according to the APACHE II score. The study of each patient began after inserting the pulmonary artery catheter. The prospectively defined end-point of the study was the removal of the pulmonary artery catheter (72 hours) or death of the patient with the catheter in situ. The aim of the study was to determine the sensitivity and specificity of the intra-gastric mucosal pH (pHi) and other derived data in assessing the adequacy of tissue oxygenation, guiding therapy and prediction outcome. The results showed that pHi, pHa-Hi and PaCO<sub>2</sub>-PO<sub>2</sub>regional (reg) gradients were the most sensitive indices of tissue oxygenation and predictors of outcome. The mortality rate increased when pHi, PaCO<sub>2</sub>-PCO<sub>2</sub>reg and pHa-pHi gradients were < 7.3, > 10mm Hg and < 0.2 respectively. The derived variables obtained by invasive monitoring like base deficit (BD), lactate concentration in mixed venous blood (Lmv) and oxygen uptake index (O<sub>2</sub> UI) were valuable adjunct indices of tissue oxygenation. The risk of mortality increased when the BD was > -5.5 +/- 1.2 meq.L-1, Lmv was > 4.5 +/- 1.2 mmol.L-1, and O<sub>2</sub>UI was < 100 +/- 6 ml.min-1.m-2. We recommend the use of gastric tonometry in routine ICU clinical practice.

## **The association of skin test reactivity, total serum IgE levels, and peripheral blood eosinophilia with asthma in Kuwait**

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**J Asthma 2000; 37(6):481-488.**

There is evidence that elevated serum immunoglobulin E (IgE) and eosinophilia correlate well with allergic skin test reactivity. These parameters have been used as alternative methods to characterize atopic subjects. Skin test reactivity is the only measure used routinely in clinical practice in Kuwait to reflect atopy in asthma patients. This study examines the usefulness of the two other parameters of atopy in patients with asthma, and to determine the most common allergens involved in Kuwait. Between 1998 and 1999, 101 asthma patients and 33 healthy controls were recruited for this study. Skin sensitivity test, serum total and specific IgE, total blood eosinophil count (B-EOS), and eosinophil cationic protein (ECP) tests were performed in patients and controls. Nine allergens known to be prevalent in this environment were selected for the skin test and specific IgE test. Spirometry was also measured. These parameters were repeated after 4 weeks of therapy in the patients only. Skin test reaction was positive in 81% of the patients, while total IgE above 200 kU/L was obtained in 63% of cases. B-EOS above  $300 \times 10^3/L$  was found in 75% of cases. House dust mite reactivity (positivity) was the most frequently encountered skin allergy, occurring in 28% of the patients. IgE correlated positively with B-EOS and ECP. B-EOS similarly correlated positively with ECP. There was a negative correlation between ECP and forced expiratory volume in 1 sec (FEV1) (% predicted) as expected. At least one positive parameter of atopy was found in 95% of the patients. In 48% of the patients, all three parameters of atopy were found to be positive. Skin test reactivity and elevated IgE were found together in 62% of the cases. This study reveals a significant degree of allergy among patients with asthma in this environment. Skin testing was found to be the most effective measure of atopy in this environment, and correlates well with the other more sensitive newer tests.

## **The Kuwait University anxiety scale: psychometric properties**

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**Psychol Rep 2000; 87(2):478-492.**

This study was undertaken to construct the Kuwait University Anxiety Scale in two comparable Arabic and English versions. The intent was to provide a research tool as well as a measure of predisposition to develop anxiety in general among adults and adolescents. The scale is comprised by 20 brief statements answered on a 4-point intensity scale, anchored by 1: Rarely and 4: Always. Factor analysis yielded three high-loaded factors of Cognitive/Affective, Behavioral/Subjective, and Somatic Anxiety, with moderate interfactor correlations. Item-remainder correlations ranged from .27 to .74. Reliabilities ranged from .88 to .92 (alpha) and between .70 and .93 (test-retest), denoting good internal consistency and stability. Criterion-related validity of the scale ranged between .70 and .88 (5 criteria), while the loadings of the scale on a general factor of anxiety were .93 and .95 in two factor analyses, demonstrating the scale's criterion-related and factorial validity. Discriminant validity of the scale was demonstrated. The scale correlated .65 with scores on the Beck Depression scale. Male adolescents attained a higher mean score than male undergraduates. Females have significantly higher mean scores than their male counterparts. Kuwaiti norms (N = 4,660) were reported. An English version of the scale is available.

## **Relation of serum total sialic acid concentrations with diabetic complications and cardiovascular risk factors in Kuwaiti Type 2 diabetic patients**

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**Diabetes Res Clin Pract 2000; 50(1):65-72.**

Serum total sialic acid is a marker of the acute phase response. Elevated levels have also been associated with cardiovascular disease in the general Caucasian population and especially in Type 2 diabetic subjects. The purpose of this study was to estimate serum total sialic acid concentrations among Kuwaiti Type 2 diabetic subjects and to investigate its association with macro and microvascular diabetes-related complications in that population. Serum total sialic acid levels were estimated by an enzymatic spectro-photometric assay in two groups of subjects: (i) 358 Kuwaiti Type 2 diabetics (156 men and 202 women) referred for their annual evaluation to the specialised diabetic clinic at the main university teaching hospital in Kuwait, and (ii) 47 healthy age and sex matched non-diabetic Kuwaiti control population (13 men and 34 women). Serum sialic acid levels were significantly higher ( $P < 0.001$ ) among the diabetic patients (mean  $\pm$  S.D.) ( $81.2 \pm 13.2$  mg/dl) compared to the non-diabetic controls ( $66.9 \pm 11.0$  mg/dl). Kuwaiti diabetic women had significantly higher concentrations compared to diabetic men ( $85.2 \pm 12.1$  vs.  $75.9 \pm 13.0$  mg/dl,  $P < 0.001$ ). Among the controls there was no significant gender difference in sialic acid levels of women, ( $68.3 \pm 11.6$  mg/dl) versus men ( $63.2 \pm 8.2$  mg/dl). The gender difference in the diabetic patients was unrelated to the degree of obesity. Significant correlations were found between serum total sialic acid concentrations and such cardiovascular risk factors as plasma levels of apolipoprotein B, low density lipoprotein cholesterol, triglycerides and uric acid in the diabetic subjects. Furthermore, there was a significant elevation in serum total sialic acid concentrations with increasing urinary albumin excretion,  $P < 0.001$ , but not with retinopathy or neuropathy.

## **Searching for socioeconomic risk factors in perinatal mortality in Kuwait: A case control study**

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**Soc Sci Med 2000; 51(4):539-550.**

The aim of this paper was to investigate whether socioeconomic factors such as parent's education, occupation, and income constitute risk factors in perinatal mortality after controlling for biological variables such as birth weight and length of gestation, and maternal factors such as age, parity and reproductive history. A case-control study covering all perinatal deaths in Kuwait was conducted for one year from 1 October, 1997 to 30 September, 1998. Each case (perinatal death) was matched with a control (live birth). Matching criteria were: father's nationality, place, and date of birth. Information was successfully collected on 463 matched pairs, 274 Kuwaitis and 189 non-Kuwaitis. Only singleton births were included in the analysis. Bivariate analysis showed that several of the socioeconomic variables (e.g. lower education, lower income) increased the risk of a perinatal death. However, none of these variables remained significant in the multivariate analysis in which birth weight and length of gestation emerged as the two major determinants of perinatal deaths.

among both nationality groups. Among the Kuwaitis, primiparity and high parity, and previous history of miscarriage were also significant risk factors. Among the non-Kuwaitis, none of the socioeconomic factors, or the maternal factors, were significant predictors of perinatal mortality. For Kuwaitis, it appears that the government's policies and programs aimed at reducing social inequalities in the society have been effective in eliminating perinatal mortality differences between socioeconomic groups. Among non-Kuwaitis, the lack of differences is reflective of the fact that this group is relatively homogenous and selective of the more affluent who can bring the family to Kuwait. Both nationality groups benefit from the government's free health services. However, charges for non-Kuwaitis are due to be levied soon which may increase disparities in access to health care.