

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

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### Subjective Quality of Life of Outpatients with Diabetes: Comparison with Family Caregivers' Impressions and Control Group

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**Background:** There is a paucity of studies on comparison of quality of life (QOL) of type-1 and type-2 diabetes patients, and the impact of family caregivers' impressions on the QOL of patients.

**Objectives:** To assess the subjective QOL of Sudanese diabetics using the WHOQOL-Bref, compared with a general population sample; examine caregiver-patient concordance; and assess the variables that impact on QOL.

**Method:** The responses of 105 outpatients with type-1 diabetes and 136 with type-2 diabetes were compared with their family caregivers' impressions and 139 general population subjects.

**Results:** Patients were predominantly dissatisfied with their life circumstances. Type-1 diabetics had significantly lowest QOL scores, while the control group had highest scores. Having additional medical problems; having diminished sexual desire; and being young, unemployed and single were associated with poor QOL, but illness duration was not. Type-2 diabetics had lesser concordance with caregivers. The only predictor of patients' QOL was the caregivers' impression of patients' QOL.

**Conclusions:** Caregivers' impression of patients' QOL impacted on outcome. Caregiver education is, therefore, important. The factors associated with QOL indicate a group that needs focused attention. The good QOL for type-2 and nonsignificance of illness duration encourage therapeutic optimism.

### The Effect of Seventy-Two-Hour Continuous Infusion of Long-acting Natriuretic Peptide on Acute Ischemic Renal Failure in the Rat

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**Objectives:** Atrial natriuretic peptide (ANP(1-28)) protects the kidneys against acute renal failure in animals; however, its use in humans has been disappointing. Long-acting natriuretic peptide (LANP(1-30)) has natriuretic and diuretic actions similar to ANP(1-28), but it has a longer half-life and a different receptor site. Therefore, this study's aim was to determine if LANP(1-30) has better renal protection than ANP(1-28), which may make it useful in the treatment of acute renal failure.

**Subjects/Methods:** Three groups of male Sprague-Dawley rats were used, each with a body weight between 250-300 gm. Group 1 (ischemia only, n = 6) had a right nephrectomy followed by 30 minutes of left renal pedicle clamping. Group 2 (LANP Peptide treated, n = 7) had renal ischemia similar to Group 1, followed by an intraperitoneal bolus of 10 microg of LANP(1-30) and the placement of mini-osmotic pumps delivering LANP(1-30) at a rate of 1 microg/hr for 72 hours. Group 3 (controls, n = 6) was used to measure the baseline creatinine level and had no renal ischemia or surgery.

**Results:** Seventy-two hours post-renal ischemia, the weight loss in the ischemia group was similar to the peptide treated group (7.65 +/- 1.14% and 10.03 +/- 0.9% body weight loss, respectively, p = 0.126). The ischemia group had significantly higher creatinine levels compared to the controls (66.3 +/- 5.3 versus 30.1 +/- 0.9 micromol/L, p = 0.002). The peptide-treated group had higher creatinine (174.1 +/- 77.8 versus 66.3 +/- 5.3 micromol/L, p = 0.035) and LANP(1-30) levels (673.14 +/- 69.64 versus 45.83 +/- 8.45 pg/mL, p = 0.001) than the ischemia group.

**Conclusion:** Prolonged use of LANP(1-30) has no renal protective effect.

## High Prevalence and Level of Resistance to Metronidazole, but Lack of Resistance to Other Antimicrobials in Helicobacter Pylori, Isolated from A Multiracial Population in Kuwait

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**Aliment Pharmacol Ther** 2006; 24:1359-1366

**Background:** The primary treatment regimen for Helicobacter pylori infection for Kuwaitis does not contain metronidazole, but that for expatriates does. There is also increasing failure of antimicrobial therapy.

**Aim:** To determine the susceptibility of H. pylori from upper gastrointestinal biopsies of Kuwaitis and non-Kuwaitis to find out if differences existed in the susceptibilities of the isolates from the two different populations.

**Methods:** The susceptibilities of 96 H. pylori isolates were tested against metronidazole, amoxicillin, clarithromycin and tetracycline by the E test. The rdxA gene was analysed from selected metronidazole-susceptible and metronidazole-resistant strains to find out polymorphism and the basis of metronidazole resistance.

**Results:** Approximately, 70% of isolates from both populations were metronidazole resistant with 65% isolates showing high minimum inhibitory concentration values of >256 µg/mL. No resistance to the other three antimicrobials was found. There were novel nonsense and missense mutations with no deletion in the rdxA gene by insertion of mini-IS605.

**Conclusions:** The prevalence and level of metronidazole resistance in H. pylori in the two populations was high with no difference, in spite of different treatment regimens. Metronidazole resistance in this transitional country appeared to be independent of prior metronidazole use for treatment of H. pylori infection.

## Determinants of Plasma Homocysteine in Relation to Hematological and Biochemical Variables in Patients with Acute Myocardial Infarction

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**Background:** Elevated plasma total homocysteine (tHcy) is a risk factor for coronary artery disease (CAD), but the mechanism is not known. This study evaluates the determinants and associations of tHcy in patients presenting with acute myocardial infarction (AMI).

**Methods:** Plasma concentration of tHcy, protein C, protein S, and antithrombin were measured in 210 (177 males and 33 females) patients with first AMI and 167 (87 males and 80 females) controls. Serum vitamin B12, folate, creatinine, lipid profile, fasting glucose, full blood count and red cell folate were determined. Creatinine clearance was calculated using the modification of diet in renal disease formula. Univariate and multivariate analyses were used to determine the associations of tHcy.

**Results:** Mean tHcy was higher in male than female patients. On logistic regression analysis, the most important determinants of tHcy in the patients were age, creatinine, creatinine clearance, vitamin B12 and red cell folate. When study patients were compared with the controls, tHcy, fasting glucose and serum creatinine were significantly higher, while creatinine clearance and HDL cholesterol were significantly lower in the study patients. Logistic regression analysis showed significant association of tHcy with AMI, odds ratio = 1.39, in the presence of other confounding factors.

**Conclusion:** Our results show that tHcy is a significant risk factor for CAD in our patient population. The determinants in the patients are age, glomerular filtration rate and the status of vitamins B12 and folate. The above determinants should be kept in mind when using tHcy as a risk factor for CAD.

## Prevalence and Associations of Low Plasma Erythropoietin in Patients with Type 2 Diabetes Mellitus

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**Aims:** Low plasma erythropoietin (EPO) is a key causal factor in the anaemia of diabetic patients. The aim of this study was to investigate the prevalence of anaemia in relation to EPO in patients with Type 2 diabetes.

**Methods:** In a clinic-based cross-sectional study of 161 Type 2 diabetes patients, we measured EPO, ferritin and full blood count. The patients were classified on the basis of the urine albumin:creatinine excretion ratio as normo-, micro- or macroalbuminuric. Serum creatinine, cystatin C and glomerular filtration rate (GFR) calculated from cystatin C were used as markers of renal function. All the patients were assessed for symptoms and signs of diabetic complications, including diabetic peripheral sensory neuropathy (PSN).

**Results:** Twenty-one (13.0%) patients were anaemic; 80 patients (49.7%) had low EPO (< 5 mU/ml), of whom 28.8% had a GFR < 60 ml/min per 1.73 m<sup>2</sup>; 57.5% were normoalbuminuric, 33.7% were microalbuminuric and 8.8% macroalbuminuric. Although EPO was significantly higher in anaemic patients compared with non-anaemic patients, the EPO response was inappropriate for the degree of anaemia. Of patients with PSN, 66.7% had low EPO but there was no significant difference in EPO between patients with and without PSN. Log EPO correlated significantly with urine microalbumin:creatinine ratio and logistic regression analysis showed that haemoglobin, age and urine microalbumin:creatinine ratio were the main determinants of EPO.

**Conclusion:** The degree of microalbuminuria is the most significant determinant of plasma EPO, which is often low or inappropriately normal in diabetic patients with and without anaemia.

## Treatment of Calculi in Kidneys with Congenital Anomalies: An Assessment of the Efficacy of Lithotripsy

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We studied the effectiveness of extracorporeal shock wave lithotripsy (ESWL) in the treatment of stones in kidneys with congenital anomalies to determine factors that may affect the results. Patients found to have renal calculi in kidneys with different types of congenital anomalies were treated using ESWL. All patients were investigated by intravenous urography (IVU) to confirm the diagnosis. J stents were inserted prior to therapy in renal units with calculi exceeding 1.5 cm in diameter. Complications encountered and factors affecting success using this treatment modality were analysed. Twenty-five patients (18 males, 7 females) were studied between August 1988 and July 2005. There were nine patients with horseshoe kidneys, eight with ectopic kidneys, three with malrotated kidneys, two with duplex renal system, and one patient each with polycystic kidneys and hypoplastic kidney. The IVU showed 31 isolated calyceal or renal pelvic stones with mean stone burden of 1.44cc. All 25 patients were treated by lithotripsy. Twenty-four (77.4%) renal units (in 19 patients) were completely cleared of stones, 2 (6.5%) renal units (2 patients) were partially cleared of calculi and the procedures failed in 5 (16.1%) renal units (4 patients). Out of five renal units in which the procedures failed, open surgery was performed in three renal units and percutaneous nephrolithotomy (PCNL) was performed in two. None of the 25 patients developed any major complications. No significant adverse changes in renal function tests were observed at 3-month follow-up. The stone-free rate was influenced and reduced by stone size and location in the pelvicalyceal system. Calculi in kidneys with congenital anomalies may be treated successfully by ESWL as a first-line therapy in the majority of patients. With position modifications, localization of stones may be facilitated and disintegrated. The outcome in patients so treated does not differ significantly from that in those with normal kidneys.