

Abstracts of Dissertations December 2008 Exit Assessment Exercise

CLINICAL FEATURES AND MANAGEMENT OF DIGOXIN TOXICITY: EXPERIENCE OF A GENERAL TEACHING HOSPITAL FROM 2003 TO 2008

Dr Wong Siu Ming, Raymond, Department of Medicine & Therapeutics, Prince of Wales Hospital (November 2008 Clinical Pharmacology and Therapeutics Exit Assessment Exercise)

Background Digoxin has been the cornerstone in the treatment of atrial fibrillation and heart failure for more than two centuries. It has a low therapeutic index and toxicity continues to be a problem in patients receiving long term therapy.

Objective This study was carried out to evaluate the characteristics, clinical features, management and outcomes of patients with digoxin intoxication in our local population. The emphasis was on the avoidable factors in patients with digoxin toxicity.

Methods Case records of all patients with digoxin intoxication presenting to the Prince of Wales Hospital from July 2003 to June 2008 were retrospectively reviewed. Relevant data were retrieved and analyzed.

Results Nineteen patients (3 males, 16 females) were diagnosed to have digoxin toxicity based on the clinical presentation, ECG findings and elevated serum digoxin concentrations. Median age was 72 years (range 22-94 years). Two patients had acute toxicity following intentional overdose. Risk factors predisposing to toxicity in the 17 patients with accidental poisoning include renal impairment (n=9), excessive dosage and compliance problems (n=8), concurrent medical illness (n=8), and drug interactions (n=6). Two patients received 2 digoxin Fab fragments and one patient required temporary cardiac pacing. All patients recovered from digoxin toxicity.

Conclusion Digoxin toxicity can be effectively managed by supportive treatment and, if indicated, the appropriate use of digoxin-specific antibody fragments. Predisposing factors to digoxin toxicity, which are often avoidable, should be identified. Careful dosing and monitoring of digoxin therapy is important in the prevention of digoxin toxicity.

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A STUDY ON SEROPREVALENCE AND EPIDEMIOLOGY OF HERPES SIMPLEX VIRUS TYPE 2 INFECTION IN SEXUALLY TRANSMITTED DISEASE CLINIC ATTENDEES IN HONG KONG

Dr Ip Fong Cheng, Social Hygiene Service, Department of Health (December 2008 Dermatology & Venereology Exit Assessment Exercise)

Background and objectives The seroprevalence and epidemiology of herpes simplex virus type 2 (HSV-2) infection in Hong Kong is not well understood. This study aimed at determining the seroprevalence and epidemiology of HSV-2 infection in sexually transmitted infections (STI) clinic attendees in Hong Kong using commercially available HSV-2 type-specific serology test kits.

Methods Attendees from public STI clinics in Hong Kong were recruited to determine the HSV-2 type-specific IgG antibody against glycoprotein G-2 using the Euroimmun ELISA and Euroline Western blot kit. The sociodemographic, clinical and behavioral factors of the attendees were recorded.

Results A total of 881 serum samples were suitable for analysis. The overall seroprevalence of HSV-2 in STI clinic attendees in Hong Kong was 24.2%, male and female prevalence was 13.5% and 36.7% respectively. The seroprevalence in commercial sex workers (CSW) was 60.8%. The risk of HSV-2 seropositivity was independently associated with older age (OR 2.0 [40-49 years] and 3.0 [≥ 50 years], 95%CI=1.1-3.9 and 1.5-5.9), female gender (OR 3.9, 95%CI=2.1-7.1), married status (OR 2.0, 95%CI=1.0-4.0), occupation as CSW (OR 8.5, 95%CI=2.6-27.9), presentation of genital ulcer (OR 3.3, 95%CI=1.8-6.2), past history of STI (OR 1.9, 95%CI=1.2-3.0) and multiple lifetime sex partners (OR 2.3, 95%CI=1.3-4.2).

Conclusions The seroprevalence and risk factors of HSV-2 infection in STI clinic attendees in Hong Kong were found to be comparable with other countries. The seroprevalence of HSV-2 in STI clinic attendees and CSW in Hong Kong seemed to be decreasing compared to 1995.

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ROLE OF TWO NOVEL ADIPOKINES IN THE PREDICTION OF CORONARY ATHEROSCLEROSIS

Dr Ong Ho Yun Liza, Department of Medicine, Queen Mary Hospital (November 2008 Endocrinology, Diabetes and Metabolism Exit Assessment Exercise)

Backgrounds and aims The adipose tissue was traditionally thought to be merely an energy store. However, it is now increasingly recognized that the adipose tissue is metabolically active and can be considered as an endocrine organ with the production of adipokines. Animal studies suggest that these adipokines such as adipocyte fatty-acid binding protein (A-FABP) and epidermal-fatty acid binding protein (E-FABP) may play vital roles in the regulation of body weight and energy metabolism. It is well established that obesity increases cardiovascular risks and therefore, there is growing interest in exploring the role of these adipokines in the prediction of obesity-related cardiovascular risk. This study aimed to investigate the association of A-FABP/E-FABP with cardio-metabolic risk factors and coronary atherosclerosis in humans.

Subjects and methods Subjects were recruited from the Hong Kong Cardiovascular Risk Factor Prevalence Study. 644 non-diabetic individuals had since been invited for prospective follow-up at 2, 5 and 10 years from baseline to assess for the development of various cardiovascular risk factors. At 10 years, multi-detector computed tomography (MDCT) was also performed for the assessment of coronary atherosclerosis, as estimated by coronary artery calcium score. Baseline serum A-FABP and E-FABP levels were measured with enzyme-linked immunosorbant assay (ELISA).

Results and conclusion A total of 407 subjects were included in this study. Serum A-FABP was positively correlated with the adverse cardio-metabolic risk factors. In multinomial regression analysis which included sex, age, smoking status, metabolic syndrome and LDL-cholesterol, A-FABP was found to be a significant independent baseline parameter predictive of coronary atherosclerosis, together with sex and age

($p = 0.015$). In contrast, E-FABP was not found to be a significant predictive factor when it replaced A-FABP in the same model ($p = 0.720$). This study has shown that A-FABP is a novel biomarker associated with adverse cardio-metabolic risk profile and coronary atherosclerosis.

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RETROSPECTIVE STUDY ON THE IMPACT OF HEPATITIS B INFECTION IN RENAL ALLOGRAFT RECIPIENTS

Dr Chan Suk Fan, Department of Medicine & Geriatrics, Kwong Wah Hospital (December 2008 Nephrology Exit Assessment Exercise)

Introduction Hepatitis B infection is highly prevalent in Asian Countries including Hong Kong and is recognized as an important cause of liver complications and death among renal allograft recipients. However, local data among Chinese is lacking.

Objective This retrospective cohort study aims to collect some local data among the renal allograft recipients with or without hepatitis B infection in order to provide valuable information to aid the further management in this important issue.

Patients and method Renal allograft recipients followed up in 2 local hospitals on Hong Kong (Kwong Wah Hospital and Princess Margaret Hospital) who had their renal transplantations performed from 01/01/1998 to 31/12/2004 were included in this study. Data about their age, sex, primary renal disease, transplantation type, hepatitis status, co-morbidities, type of treatment and clinical outcomes after transplantation are analyzed.

Results There were total 475 renal allograft recipients and 73 of them had hepatitis B infection during the study period, with the incidence being 15%. The HBsAg-positive patients (group A) were younger than the HBsAg-negative patients (group B), with more patients transplanted at age less than 60 years old (92.8% vs 83.7% respectively) ($P=0.05$). Primary outcome analysis showed that the renal graft survival was similar between 2 groups. There was a significant difference in the 1-year patient survival, being 89.9% in group A and 96.2% in group B ($P=0.02$). However, the 5-year and 10-year patient survival were not significantly different in the 2 groups. For the patient survival within 1 year of renal transplantation, HBsAg-positivity (relative risk 3.85; 95% confidence interval 1.48-10.01; $P=0.01$) and age (relative risk 1.07, 95% confidence interval 1.03-1.11; $P<0.001$) were identified as the significant risk factors, while on the other hand, diabetes mellitus was associated with survival benefit (relative risk 0.17, 95% confident interval 0.04-0.75; $P=0.02$). After 1 year post-renal transplantation, the age of transplantation (relative risk 1.03; 95% confident interval 1.01-1.07; $P<0.05$), ischaemic heart disease and cerebral vascular accident were independent risks factors affecting the patient survival. Secondary outcome analysis reviewed that the drug resistance rate was 22% and acute hepatitis occurrence was 27.5% in group A during the follow-up period. There was a trend in increased numbers of patients developed drug resistance with late initiation of lamivudine therapy after 3 months post-transplantation (38.5%) when compared with those with early initiation (17.9%), but it did not reach statistical significance ($P=0.16$).

Conclusion Hepatitis B infection can cause significant risk in mortality in renal allograft recipients especially in the early transplant period. Anti-viral therapy including lamivudine has shown its efficacy and safety in these patients, but the optimal

time for initiation of the drugs remains unanswered and the emergent problem of drug resistance is still challenging.

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CLINICAL OUTCOME OF PARATHYROIDECTOMY FOR REFRACTORY HYPERPARATHYROIDISM IN PATIENTS ON RENAL REPLACEMENT THERAPY BETWEEN 1993 & 2007

Dr Lau Siu Ngai, Department of Medicine & Geriatrics, United Christian Hospital (December 2008 Nephrology Exit Assessment Exercise)

Objectives To review the therapeutic outcome of parathyroidectomy (PTX) in terms of haemoglobin and biochemical indices in patients receiving renal replacement therapy (RRT) in a regional hospital.

Methods This is a retrospective study of all patients on Renal Replacement Therapy (RRT) who underwent PTX in a regional hospital in Hong Kong between 1993 & 2007. The patients were identified by the Clinical Data Analysis & Reporting System (CDARS) and Organ Registry and Transplant System (ORTS) and both medical and surgical clinical records were retrieved for data collection and analysis.

Results Thirty nine patients were recruited in this study. During the median 3-year follow up period, there were significant reductions in PTH, ALP, corrected calcium and phosphate blood levels. Twenty-one dialysis patients required EPO usage showed significant increase in the haemoglobin from 8.7 g/dL (pre-PTX) to 10.2 g/dL (12 month post-PTX) ($p = 0.009$). For the 34 patients on dialysis, there was a positive correlation between pre-operative PO₄ levels ($r = 0.477$, $p = 0.005$) and the total dose of intravenous calcium replacement after operation. None of patient had serious surgical complication related to PTX. The probability of cumulative recurrence of HPT increased with duration after PTX, which approached 20% at 48-month after PTX, and two recurrent patients required re-operation.

Conclusions For the dialysis patients on EPO, there was significant improvement in anaemia after PTX. All the major biochemical indices improved after PTX. PTX with autotransplantation is a safe option for the treatment of refractory HPT, which had low morbidity and mortality and a good outcome.

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