021

THE IMMUNOLOGIC AND METABOLIC FEATURES OF CHINESE PATIENTS WITH ATYPICAL DIABETES MELLITUS

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We have identified a small group of adult Chinese patients (n=11) who presented initially with diabetic ketoacidosis and were diagnosed to have insulin-dependent diabetes mellitus (IDDM) but their subsequent clinical course were more typical of non-insulin-dependent diabetes mellitus (NIDDM). All these patients were able to discontinue insulin completely for more than one year after diagnosis without the development of ketonuria or severe symptoms of hyperglycaemia. This atypical form of diabetes mellitus has so far only been described in black Americans. We have performed immunologic and metabolic studies to further characterise this group of Chinese patients with atypical diabetes mellitus (ADM).

HLA typing showed that none of the patients with ADM had the phenotype DR3 which is known to be associated with IDDM in Hong Kong Chinese. One out of the eleven patients was positive for glutamic acid decarboxylase antibodies. Patients with ADM were obese (BMI 28.6 $\pm$ 2.3 kg/m^2) and seven patients underwent further metabolic studies. Insulin secretion, as measured by the peak C-peptide response to a standard meal, was intermediate between secretion in non-diabetic controls matched for age, sex and BMI and that in patients with IDDM matched for duration of disease (ADM: 0.94 $\pm$ 0.44 ng/ml, controls: 1.32 $\pm$ 0.74, IDDM: 0.42 $\pm$ 0.36, ANOVA p=0.02). Insulin resistance estimated by measuring the glucose disappearance rate (K_{itt}) during a short insulin tolerance test was similar between the patients with ADM and the controls. Our findings suggest that ADM may have a different aetiology from that of IDDM.

022

PREVENTION THERAPY ON BONE LOSS IN ASTHMATIC PATIENTS ON HIGH DOSE INHALED STEROIDS

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Inhaled steroid therapy is an effective and well tolerated therapy for asthma but may disrupt bone metabolism. The effects of oral calcium supplementation and cyclical etidronate on this are unknown. We therefore performed this open, randomized longitudinal study to evaluate the bone mineral density (BMD) in asthmatics who were on long term high dose inhaled steroid therapy and determine the effects of oral calcium lactate-gluconate (CL) supplementation with or without cyclical etidronate (E). Twenty four patients (12M, 40±2.4 yr.; 12F pre-menopausal, 37±2.3 yr.) and 24 matched normal subjects (12M, 40±2.5 yr.; 12F, 36±2.2 yr.) were recruited and had their BMD (of lumbar spines and hip) measured by X-ray densitometer at baseline, 6 and 12 months. At baseline visit, the BMD of male patients (lumbar spine and hip), but not females, was significantly lower than normal subjects ($P<0.05$). Forty subjects attended follow up (10, 12, 8, 10 were on controls, no supplement, CL 1000 mg/d, and cyclic E 400 mg/d for 2 weeks every 3 months plus CL 1000 mg/d respectively).The mean dosage of beclomethasone and budesonide for the CL only and CL+E groups was 2.0±0.2 mg/d while that for the no supplement group was 2.2±0.3 mg/d. In the no supplement group, the lumbar spine and hip BMD decreased insignificantly in 6 and 12 month after baseline but was significantly lower than normal subjects at baseline and 12 month follow up ($P<0.05$). In the CL group, the femoral ward's triangle BMD increased significantly from 0.60±0.04 to 0.62±0.04 after 6 months ($P<0.001$); lumbar spine(L_3, L_4, L_{2-4}), femoral trochanter and ward's triangle increased significantly after 12 month. In CL+E group, the BMD of lumbar spine (L_2 , L_3, L_4, L_{2-4}) increased significantly after 12 months ($P<0.05$) but not 6 months; no significant change was observed in hip. Our results suggest that long-term administration of high dose inhaled steroid (>1.5 mg/d) induces bone loss which is preventable by treatment with oral calcium and/or etidronate therapy.