Service Priorities and Programmes

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When gout meets type 2 diabetes: implications from a case series study in the primary care

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Introduction

Type 2 Diabetes Mellitus (DM) is one of the most common chronic diseases encountered in the primary care locally, affecting up to 10% of HK population. DM and gout are closely linked conditions, having one condition elevates the risk of developing the other.

Objectives

To identify the prevalence of gout in Chinese type 2 diabetic patients managed in the primary care setting and to explore its associations with kidney disease and cardiovascular complications.

Methodology

Setting: General Outpatient Clinic (GOPC) of Hospital Authority, Hong Kong. Design: Retrospective case series study. Subjects: Chinese Type 2 diabetes patients who had been regularly followed up at Yau Ma Tei Jockey Club Clinic from 01/07/2013 to 30/06/2014 and had annual blood and urine check-up done at least once during this period were recruited. Their serum creatinine (Cr), urate, Haemoglobin A1c (HbA1c), lipid profile, urine albumin-creatinine ratio (ACR) and concomitant chronic disease were retrieved and compared in the absence or presence of gout. Student's t-test and analysis of variance (ANOVA) were used for analysing continuous variables, Chi-square test for categorical data and multivariate logistic regression for determining the correlation between eGFR and the different variables. All statistical tests are two-sided, and a p-value of <0.05 was considered significant.

Result

Among 5665 Chinese type 2 diabetes patients fulfilling the inclusion criteria, 385

(6.8%) patients were found to have gout. Diabetes patients with gout were more to be male, of older age and with higher BMI. Compared with diabetes patients without gout and matched with age and sex, diabetes patients with gout had a higher co-morbidity rate of hypertension, hyperlipidaemia and chronic kidney disease but a lower co-morbidity of stroke. The blood pressure control were similar, but the glycaemic control was better among diabetic gout group compared those without. The total cholesterol level was similar but diabetic gout groups had a much lower HDL level and higher LDL and TG level. Multivariate analysis showed that male gender, old age, elevated urine ACR and co-morbidity with stroke, IHD and gout were associated with greater odds for the presence of CKD. Conclusions: Gout is commonly present among Chinese type 2 diabetes patients, particularly in those with impaired renal function or with established cardiovascular diseases. Early detection of gout and prompt referral to specialist care for optimal treatment if associated with severe renal impairment or high risk proteinuria at the primary care settings would be highly recommended.