



**Service Priorities and Programmes  
Electronic Presentations**

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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 (T2DM) is one of the most common chronic conditions encountered in primary care, and affects up to 10% of Hong Kong (HK) population. Gout is now considered as a metabolic condition associated with higher cardiovascular risks but its associations with diabetes remains to be defined.

**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. Methods: Chinese Type 2 diabetes (T2DM) patients who had been regularly followed up at Yau Ma Tei GOPC from 01/01/2013 to 31/12/2013 and had annual blood and urine check-up done at least once during this period were recruited. Their serum creatinine (Cr), estimated glomerular filtration rate (eGFR, calculated by MDRD method), 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 was used for analysing continuous variables, Chi-square test for categorical data and multivariate logistic regression for determining the association between eGFR and the different variables. All statistical tests are two-sided, and a p-value of <0.05 was considered significant.

**Result**

Among 3966 Chinese type 2 diabetes patients fulfilling the inclusion criteria, 162 (4.1%) patients were found to have gout. Diabetes patients with gout were mostly male, of older age and with higher body mass index (BMI). Compared with age- and sex-matched diabetes patients without gout, diabetes patients with gout had a higher co-morbidity rate of hypertension (HT), hyperlipidaemia and chronic kidney disease

(CKD) but with a comparable co-morbidity rate of stroke or ischaemic heart disease (IHD). Their blood pressure control were similar, but the glycaemic control was better among diabetic gout group compared those without. Their total cholesterol level was similar but diabetic gout groups had a much lower HDL level and higher TG level. The eGFR level was much lower and urine ACR level much higher in gouty DM group compared those gout-free DM group. Multivariate analysis showed that male gender, old age, elevated urine ACR, hyperuricaemia and co-morbidity with stroke, IHD and gout were all associated with greater odds for the presence of CKD among diabetes patients. Conclusion: Gout is commonly present among Chinese T2DM patients, particularly in those with impaired renal function or with HT and hyperlipidaemia. 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.