

The Prevalence of Chronic Kidney Disease among Patients with Gout in Primary care

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Introduction

Gout is one of the most common non-communicable disease and chronic kidney disease (CKD) are prevalent in gout patients. We aim to identify the prevalence of CKD in gout patient managed in a local primary care clinic and explore its associated risk factors.

Method

- ✓ This was a retrospective cross-sectional study.
- ✓ Gout patients who had been followed up in Lek Yuen general outpatient clinic from 1/1/23 to 31/12/23 were included. Patient demographics, clinical and biochemical parameters were extracted from Clinical Data Analysis and Reporting System.
- ✓ Data collection included hypertension (HT), diabetes (DM), ischemic heart disease (IHD), stroke, lipid profile, prescription of urate lowering therapy (ULT), urate level and CKD (defined as estimated glomerular filtration rate < 60 mL/min/1.73m² on at least 2 occasions more than 90 days apart within 1 year). Multivariate logistic regression was used to exam the association between CKD and risk factors.

Results

- ✓ Among 1102 gout patients, 425 patients (**38.6%**) were found to have CKD stage 3 or above.
- ✓ Baseline characteristic of gout patients with and without CKD patients were shown in **Table 1**.
- ✓ 490 gout patients (44.5%) were receiving ULT and 477 patients (97.3%) were taking Allopurinol.
- ✓ Among patient with CKD, 142 patients (33.4%) reached a target urate level ≤ 0.036 mmol/L; whereas 239 out of 677 patients without CKD (35.3%) were treat-to-target.
- ✓ In multivariate analysis, **older age** [Odd ratio (OR) =1.10; 95% confidence interval (CI) 1.09-1.12], **DM** (OR=1.39; 95% CI 1.03-1.89) and **stroke** (OR=2.63; 95% CI 1.28-5.41) were independent risk factors for CKD, whereas **urate to target** and **male sex** were protective factors with OR of 0.68 (95% CI 0.51-0.92) and 0.67 (95% CI 0.48-0.92), respectively.

Table 1. Baseline characteristics of gout patients with and without CKD

	CKD (n=425)	Non-CKD (n=677)	P value
Age, mean ± SD	76.4±9.2	66.5±11.0	0.002
Female, N(%)	133 (31.3)	115 (17.0)	0.001
Male, N(%)	292 (68.7)	562 (83.0)	
HT, N(%)	383 (90.1)	532 (76.8)	0.001
DM, N(%)	170(40.0)	211 (31.2)	0.003
IHD, N(%)	35 (8.2)	54 (8.0)	0.910
Stroke, N(%)	30 (7.1)	15 (2.2)	0.001
LDL, mean ± SD (mmol/L)	2.3±0.8	2.4 ±0.8	0.298
Urate ≤ 0.036 mmol/L, N(%)	142 (33.4)	239 (35.3)	0.558
ULT, N(%)	202 (47.5)	288 (42.5)	0.106

Conclusion

- ✓ Family physicians should raise their awareness of the high prevalence of CKD in gout patients.
- ✓ Older age, DM and stroke were independent risk factors for CKD, whereas urate to target and male patients were less likely to develop CKD.