

## 신결석이 동반된 만성 신질환 환자에서 신기능 악화의 위험인자

연세대학교 의과대학 내과학교실 신장내과

유동은, 김승준, 오형중, 신동호, 이미정, 도화미  
구항모, 김은진, 박정탁, 한승혁, 유태현, 강신욱, 최규현

### Risk Factors Associated with Kidney Function Decline in Chronic Kidney Disease Patients with Nephrolithiasis

Dong Eun Yoo, Seung Jun Kim, Hyung Jung Oh, Dong Ho Shin, Mi Jung Lee  
Fa Mee Doh, Hyang Mo Koo, Eun Jin Kim, Jung Tak Park  
Seung Hyeok Han, Tae-Hyun Yoo, Shin-Wook Kang, Kyu Hun Choi

Yonsei University College of Medicine, Department of Internal Medicine, Division of Nephrology

**Purpose:** This study aimed to identify factors associated with worsening kidney function in chronic kidney disease (CKD) patients with nephrolithiasis and to elucidate whether intervention for stone removal could retard CKD progression.

**Patients and Methods:** We conducted a retrospective analysis of 69 nephrolithiasis patients with stage 3 and 4 CKD. According to annual change of estimated glomerular filtration rate (eGFR), patients were divided into a decline group and a stable group (defined as eGFR change of  $<0$ , and  $\geq 0$  ml/min/1.73m<sup>2</sup>/year respectively). We also collected baseline demographic data, kidney stone characteristics, baseline laboratory values, and types of intervention.

**Results:** The mean age of the patients was 62 years and 72.5% were male. The mean observation period was 2.9 years, and the mean annual eGFR change was  $-0.9 \pm 6.3$  ml/min/1.73m<sup>2</sup>/year. Multivariate logistic regression analysis adjusted for baseline demographic data and significant factors identified in univariate analyses found that diabetes (odds ratio [OR] 4.74; 95% confidence interval [CI], 1.23–18.19;  $p < 0.05$ ), lower hemoglobin (OR 4.89; 95% CI, 1.13–21.10;  $p < 0.05$ ), and proteinuria (OR 13.33; 95% CI, 1.08–165.05;  $p < 0.05$ ) were independent predictors of rapid eGFR decline, whereas intervention significantly lowered risk of worsening kidney function. (OR 0.08; 95% CI, 0.01–0.50;  $p < 0.01$ ).

**Conclusion:** Our results show that both non-modifiable and modifiable factors are associated with worsening kidney function in CKD patients with kidney stones, and also suggest that interventions for stone removal should be encouraged to prevent further worsening kidney function in these patients.

**Key Words:** 신결석, 만성 신질환, 사구체 여과율  
Nephrolithiasis, Chronic Kidney Disease, GFR