

Effect of Febuxostat on Renal Function in Chronic Kidney Disease

SM Han, D-Y Lee, HW Kim, HS Park, B Kim
Division of Nephrology, Veterans Health Service Medical Center, Seoul, Korea

Intraduction and Objectives

Febuxostat, a novel, non-purine, selective xanthine oxidase inhibitor, has been used in patients with gout and/or hyperuricemia. In CKD (chronic kidney disease) patients, however, there are only few reports about the effect of febuxostat on renal function.

Methods

We measured the values of estimated glomerular filtration rate (eGFR using CKD-EPI equation), serum creatinine (sCr), and uric acid (UA) just before and 12 months (12M) after febuxostat administration in CKD outpatients (eGFR < 60 mL/min/1.73m2).

Results

We collected data from 157 patients (male: 154, gout: 130, asymptomatic hyperuricemia: 27) and median age was 69 (range: 32-89). Fifty-six (35.7%) patients were diabetic and 145(92.4%) were hypertensive. Nonsteroidal anti-inflammatory drugs (NSAID) were prescribed to 20(12.7%) patients. In 52 (33.1%) patients, eGFR was less than 30 mL/min/1.73m2.

Paired t-test showed that there was no change in eGFR (basal: 37.9 ± 12.8 mL/min/1.73m2 vs 12M: 38.6±15.2 mL/min/1.73m2, p = 0.33, 95% confidence interval of the difference (CI): -2.0 – 0.7), and sCr (basal: 1.97 ± 0.68 mg/dL vs 12M: 2.02 ± 0.88 mg/dL, p = 0.21, 95% CI: -0.11 – 0.03). Basal UA (7.0 ± 2.0 mg/dL) was decreased to 4.4 ± 1.7 mg/dL in 12M (p < 0.0001, 95% CI: 2.1 – 2.8). In 13 (8.3%) patients, eGFR was decreased by 25% or more (1 case of hemodialysis) and increased by 25% or more in 18 (11.5%) patients. Stage of CKD, proportion of NSAID administration and underlying diseases such as diabetes and hypertension did not show any difference between improved renal function group and aggravated one.

Conclusions

In 12-months observational study, febuxostat showed no effect on renal function in CKD patients. The randomized prospective study is needed for further confirmative results.

Topic: Chronic Kidney Disease