

Prevalence and Outcomes Associated with NSAID Use in Patients with CKD

Session Information

- [Pharmacology](#)
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Background

Nonsteroidal anti-inflammatory drugs (NSAIDs) have been associated with an increased risk of incident acute kidney injury and chronic kidney disease (CKD). The effect of NSAIDs on the rate of CKD progression is still uncertain. The purpose of this study is to measure the prevalence of NSAID use in CKD patients under the care of a nephrologist compared to a primary care physician (PCP) and evaluate the impact of NSAID use on CKD progression.

Methods

This is a single center, retrospective study of patients with CKD stage 3 to 5 over a 1 year period. Patients 18 years or older with GFR < 60 mL/min (2 occasions), an office visit with nephrologist or PCP and an active NSAID prescription were included. We excluded hospitalized patients, transplant recipients, AKI episodes or dialysis dependency. We evaluated the change in GFR pre and post NSAID prescription over 1 year compared to non-NSAID users and compared nephrology to PCP care. Multivariate logistic regression identified potential co-variables of GFR change.

Results

Of the 2,157 patients included in the study, 12.2% had an NSAID prescription; 9.6% vs. 15% for patients receiving care from a nephrologist or PCP ($p < 0.001$). Table 1 describes baseline demographics. GFR change was -3.9 vs. -3.7 mL/min/1.73 m² ($p = \text{NS}$) for NSAID users and non-users, respectively. In patients managed by a nephrologist, GFR change was -4.94 vs. -4.21 mL/min/1.73m² ($p = \text{NS}$) in users and non-users, while GFR change for patients managed by a PCP was -3.18 vs. -3.05 mL/min/1.73m² ($p = \text{NS}$) in users and non-users, respectively. Age ($p < 0.001$), diabetes ($p = 0.02$) and hepatitis C ($p = 0.001$) were significantly associated with GFR change.

Conclusion

NSAIDs are prescribed to more than one out of every ten patients with CKD; more often by PCPs than nephrologists. Over 1 year, there was no statistically significant GFR change for NSAID users compared to non-users. Further long term studies are warranted to confirm safety of this medication class.

Baseline Demographics

Variable	Nephrology (n = 1,123)	Primary Care (n = 1,034)
Age, mean (IQR)	64 (56-75)	73 (65-82)
Male gender, n(%)	619 (55.1)	539 (52.1)
Race, n(%)		
African American	113 (10.1)	50 (4.8)
American Indian or Alaskan	4 (0.4)	4 (0.4)
Asian	154 (13.7)	115 (11.1)
Other	207 (18.4)	116 (11.2)
Unknown	19 (1.7)	8 (0.8)
White	626 (55.7)	741 (71.7)
Comorbidities, n(%)		
HIV	77 (6.9)	11 (1.1)
Hypertension	825 (73.5)	752 (72.7)
Chronic lung disease	20 (1.8)	13 (1.3)
Peripheral artery disease	57 (5.1)	54 (5.2)
Diabetes	335 (29.8)	269 (26)
Dementia	23 (2)	19 (1.8)
Hepatitis C	49 (4.4)	18 (1.7)
Cerebrovascular disease	3 (0.3)	9 (0.9)
eGFR (mL/min/1.73m ²), n(%)		
30-59	631 (63)	918 (88.8)
15-29	239 (21.3)	75 (7.3)
<>	176 (15.7)	41 (4)

Baseline eGFR (mL/min/1.73 m ²), mean (IQR)	34 (23-47)	45 (40-54)
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