Abstract: PO2379

Association of Long-Term Aspirin Use with Progression of Kidney Disease

Session Information

- CKD: Insights from Recent Clinical Trials and Large Real-World Effectiveness Studies
  November 04, 2021 | Location: On-Demand, Virtual Only
  Abstract Time: 10:00 AM - 12:00 PM

Category: CKD (Non-Dialysis)

- 2102 CKD (Non-Dialysis): Clinical, Outcomes, and Trials

Authors

- Lu, Jun Ling, The University of Tennessee Health Science Center, Memphis, Tennessee, United States
- Thomas, Fridtjof, The University of Tennessee Health Science Center, Memphis, Tennessee, United States
- Sumida, Keiichi, The University of Tennessee Health Science Center, Memphis, Tennessee, United States
- Hassan, Waleed, The University of Tennessee Health Science Center, Memphis, Tennessee, United States
- Kovesdy, Csaba P., The University of Tennessee Health Science Center, Memphis, Tennessee, United States

Background

Aspirin (ASA) has been used to control inflammation for over a century. Recently, chronic microinflammation was detected to be a major contributor to the progression of chronic diseases such as cancer and chronic kidney disease (CKD). However, it is unclear if long-term use of ASA could lower mortality and slow renal deterioration in patients with CKD.

Methods

We identified 860 US Veterans with non-dialysis dependent CKD followed at a single medical center between October 2014 to September 2015. Associations between long-term ASA use (at least 90 days) with mortality, and with a combined renal outcome (dialysis or eGFR dropping 40% from baseline) were examined in multivariable adjusted Cox proportional hazards models. Besides the crude model (model 1), we adjusted for demographics, BMI, smoking status, blood pressure (model 2), for comorbidities (Model3), and for antihypertensive medications, NSAIDs, steroids, baseline eGFR, medication adherence rate, and proteinuria (Model 4).

Results

The mean age (SD) of ASA users vs. non-users was 68.1 (9.9) vs. 64.2 (13.1) years, and the mean eGFR (SD) was 36.9 (0.7) ml/min/1.73m^2 vs. 43.7 (2.0). Over a 4.6-year median follow-up period, 37% of patients reached the combined renal endpoint (event rate: 102.8/1000 patient-years) and 372 (43%) patients died. ASA users demonstrated a lower risk of the renal outcome (Hazard Ratio [HR] 0.55[95%CI: 0.41, 0.74], $p<0.001$) and a lower mortality rate (HR 0.40[95%CI: 0.26, 0.64], $p<0.001$) in the fully adjusted model [Figure].

Conclusion

CKD patients receiving ASA for 90 days or longer had slower deterioration of kidney function and lower mortality. Further clinical trials are required to investigate the benefits of ASA in this population.