KSN 2020
FULLY VIRTUAL MEETING

Abstract Type : Poster
Abstract Submission No. : PO-1807

The Effect of Alcohol Consumption on Kidney Function among General Population: Population-based Cohort Study

Woong-pyo Hong[1], Seong Cho[2], Sung Rok Kim[2], Yu-Ji Lee[2]
[1]Department of Internal Medicine-Nephrology, CHANGWON JEIL GENERAL HOSPITAL, Korea, Republic of
[2]Department of Internal Medicine-Nephrology, Samsung Changwon Hospital, Korea, Republic of

Objectives:

The association between alcohol consumption and kidney function is quite intriguing, but the results are still controversial. Therefore, we examined the association of alcohol consumption with the change in kidney function and a rapid decline in kidney function.

Methods:

We examined data from a population-based cohort based on the Korean Genome and Epidemiology Study (KoGES). Overall 10,030 participants for the KoGES were recruited in 2001–2002 (baseline) and followed up biannually through 2014. We included participants with data on alcohol consumption and serum creatinine. Our primary exposure was total alcohol intake (non-drinkers, 0 to <10 g/day, 10 to <30 g/day, and ≥30 g/day). Main outcomes were decline in kidney function over 12 years assessed using the change of estimated glomerular filtration rate (eGFR) and rapid decline in kidney function defined as a decrease in eGFR ≥20 mL/min/1.73 m^2 over 12 years.

Results: We included 5,729 participants (mean [SD] age 51 [8] years; men 46%). Total alcohol intake was inversely associated with decline in kidney function. Compared to non-drinkers, higher alcohol intake groups had lesser reduction in eGFR over 12 years; fully adjusted beta coefficients and 95% confidence intervals were 0.47 (-0.25, 1.20), 1.97 (0.97, 2.96), and 3.25 (2.11, 4.40) at baseline alcohol intake of <10, 10 to <30, and ≥30 g/day, respectively. However, this inverse association was attenuated in women ($P_{interaction}$ <0.001). More frequent alcohol consumption and binge drinking were also associated with lesser reduction in eGFR compared to nondrinking. The highest alcohol intake group (≥30 g/day) was associated with 37% lower odds of rapid decline in kidney function compared to non-drinkers.

Conclusions:

Our findings suggest that alcohol consumption has a favorable effect on kidney function among general population, especially men. Considering both the beneficial and detrimental effects of alcohol consumption, additional studies are needed to find an appropriate amount of alcohol consumption.