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Association of alcohol consumption and renal dysfunction apparently healthy individual

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Abstract
Background: Alcohol consumption has been associated with negative health effects. Association between alcohol consumption and renal dysfunction is still not clear.
Methods: We conducted a prospective study of 200 individual with 10 years of history alcohol consumption at MGM Medical College and Hospital, Jamshedpur, Jharkhand, India. We categorized alcohol consumption into mild, moderate and severe/chronic drinker. Result measures in elevated creatinine levels >1.5 mg/dl and reduced estimated glomerular filtration rates <55 mL/ min).
Results: 20 person (10%) had elevated creatinine levels and 30 (15%) having decreased glomerular filtration rates. Compared with men who consumed mild and moderate, men who consumed severe/chronic alcohol had association with decreased glomerular filtration rates.
Conclusions: Alcohol consumption was not associated with an increased risk of renal dysfunction. Many studies are still incomplete and association between alcohol consumption and renal dysfunction is still not clear.

Keywords: Alcohol consumption, renal dysfunction apparently healthy

Introduction
Many studies have found that moderate alcohol consumption is associated with health benefits. The effect of alcohol consumption has also been investigated for renal compromise. Moderate alcohol consumption has been shown to be protective in the formation of kidney stones. In females alcohol intake protect against renal cell carcinoma. Retrospective analyses found an increased risk of renal dysfunction or end stage renal disease. Methods

Methods
We conducted a prospective study of 200 individual with 10 years of history alcohol consumption at MGM Medical College and Hospital, Jamshedpur, Jharkhand, India. We categorized alcohol consumption into mild **(**one drink twice a week for women and up to two drinks twice a week for men), moderate (one drink per day for women and up to two drinks per day for men) and severe/chronic (for women four or more drinks and for men, five or more drinks) drinker. A drink is generally defined as:

- 12 ounces of beer
- 8 ounces of malt liquor
- 5 ounces of wine containing 1.5 ounces of 80-proof distilled liquor or spirits, such as whiskey, gin, rum, or vodka

Blood sample were taken in plan vial for Creatinine estimation. GFR was calculated by Revised Schwartz Equation i.e: 41.3 x (height in meters/S. Creatinine)

Results
We found increased Serum Creatinine level and reduced glomerular filtration rate in chronic alcoholics. Out Of the 200 study participants, After a mean of 10 years of chronic alcohol consumption, 20 individual (10%) had elevated creatinine levels >1.5 mg/dl. A total of 30 individual (15%) had decreased GFRs <55 mL/min based on Revised Schwartz Equation. There was a significant inverse trend across alcohol consumption categories with respect to decreased GFR. The results of this study do not indicate that alcohol consumption is

associated with an increased risk of renal dysfunction in apparently healthy individuals. Men who consumed chronic alcohol had an approximately 30% lower risk of increased creatinine levels >1.5 mg/dl in a 10-year period. Similar results were observed for decreased GFRs < 55 mL/min.

A recent prospective cohort study found no statistically significant association between alcohol consumption and risk of decline in renal function among 1658 apparently healthy women. This study, however, suggested beneficial effects of moderate alcohol consumption on renal function, with an approximately 20% risk reduction. A population-based case control Study reported an approximately 4-fold increase in the risk of end-stage renal disease among individuals who consumed more than 2 alcoholic drinks per day after adjustment for potential confounders. Another case-control study also concluded that individuals who consumed 2 or fewer drinks per day had higher serum creatinine concentrations than matched controls that did not drink alcohol. This study, however, provided evidence that drinkers in higher alcohol intake categories had reduced creatinine levels compared with their nondrinking controls. It has been argued that alcohol consumption may result in renal disease because of alcohol-induced hypertension. The potential beneficial effect of alcohol intake on renal function observed in our study could also be mediated by the positive effect of moderate drinking on the incidence of diabetes mellitus and the protective effect on atherosclerosis among patients with type 2 diabetes mellitus. Furthermore, we evaluated the association between alcohol consumption and risk of renal dysfunction using several different outcomes, including change in creatinine levels.

This study has several limitations that should be considered. Regarding the specifics of our study, there is currently little biological basis to postulate that the mechanism by which alcohol may affect renal function would be materially different between PHS participants and other populations.

Another consideration in evaluating studies of alcohol and disease is that drinking habits can change with time. However, in a sensitivity analysis using information on alcohol consumption from the 84-month follow- up questionnaire, the results were similar. As in most other alcohol-oriented epidemiologic studies, we relied on self-reported levels of alcohol consumption. Other studies of health professionals have demonstrated that this population provides reliable reports of alcohol use. In addition, the prospective method of exposure collection would lead to random misclassification and thus to a potential underestimation of the association between alcohol consumption and renal dysfunction. Finally, confounding remains a possible alternative explanation for our finding; however, multiple covariate adjustments did not materially alter the results.

In summary, this study shows that moderate alcohol consumption is not associated with an increased risk of renal dysfunction in men.

References

1. Gaziano JM, Gaziano TA, Glynn RJ, *et al.* Light-to-moderate alcohol consumption and mortality in the Physicians' Health Study enrollment cohort. J Am Coll Cardiol. 2000; 35:96-105.
2. Curhan GC, Willett WC, Speizer FE, Stampfer MJ. Beverage use and risk for kidney stones in women. Ann Intern Med. 1998; 128:534-540.
3. Knight EL, Stampfer MJ, Rimm EB, Hankinson SE, Curhan GC. Moderate alcohol intake and renal function decline in women: a prospective study. Nephrol Dial Transplant. 2003; 18:1549-1554.
4. Savdie E, Grosslight GM, Adena MA. Relation of alcohol and cigarette consumption to blood pressure and serum creatinine levels. J Chronic Dis. 1984; 37:617-623.
5. Perneger TV, Whelton PK, Puddey IB, Klag MJ. Risk of end-stage renal disease associated with alcohol consumption. Am J Epidemiol. 1999; 150:1275-1281.
6. Rexrode KM, Buring JE, Glynn RJ, Stampfer MJ, Youngman LD, Gaziano JM. Analgesic use and renal function in men. JAMA. 2001; 286:315-321.
7. Hsu CY, Chertow GM, Curhan GC. Methodological issues in studying the epidemiology of mild to moderate chronic renal insufficiency. Kidney Int. 2002; 61:1567-1576.
8. Parekh RS, Klag MJ. Alcohol: role in the development of hypertension and endstage renal disease. Curr Opin Nephrol Hypertens. 2001; 10:385-390.
9. Muthukumar T, Jha V, Sud A, Wanchoo A, Bambery P, Sakhuja V. Acute renal failure due to nontraumatic rhabdomyolysis following binge drinking. Ren Fail. 1999; 21:545-549.
10. Garcia-Tsao G, Parikh CR, Viola A: Acute Kidney Injury in cirrhosis. Hepatology. 2008, 48:2064-2077. 10.1002/hep.22605.