Author's response to reviews

Title: Moderate Alcohol Consumption is Associated with Better Endothelial Function: a cross-sectional study.

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Author's response to reviews:

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Dear Editor-in-Chief

Dr. Melissa Norton

Enclosed please find our revised manuscript entitled “Moderate alcohol consumption is associated with better endothelial function.” for possible publication in BMC cardiovascular disorder as a research article.

This includes a text of the manuscript and 2 tables in one file.

The name, address, telephone number, and FAX number of the corresponding author are as follows:

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In this study, we evaluated the association between alcohol consumption and flow-mediated dilation of the brachial artery assessed by high-resolution ultrasonography. We found moderate alcohol consumption was independently associated with better flow-mediated dilation. I declare that neither the paper
submitted nor any similar paper has been or will be submitted to or published in any other primary journal. All of the authors are aware of and agree to the content of the paper and to being listed as an author on the paper.

Author reply to the comments from the reviewer

Comment 1. Since many factors impact endothelial function, the author should also control their findings to concomitant medication which can influence endothelial function, such as statins, ACE-I and ASA.

Reply 1. We added the information about the participant’s medication use of aspirin, cholesterol lowering agents, insulin, oral hypoglycemic, ACE-inhibitor, beta-blocker, calcium channel blocker and diuretic in Table 1, characteristics of study participants. In multivariate analysis, the relationship between moderate lifetime alcohol consumption and FMD remained significant after adjusting for sex, race-ethnicity, body mass index, diabetes mellitus, CAD (coronary artery disease), Framingham risk score and medication use (cholesterol lowering agents, aspirin, Insulin, oral hypoglycemic, ACE inhibitor, beta-blocker, calcium channel blocker and diuretics) (adjusted OR 1.8, 95%CI 1.1-3.0 p=0.03). We corrected this result in the Results section and in Table 2.

Comment 2. The author should provide the data on the % of subjects with coronary artery disease (CAD) versus normal subjects and if the data on alcohol consumption true for these two population.

Reply 2. Coronary artery disease (CAD) was defined by self-report of history of heart attack, bypass surgery or angioplasty. In 884 study participants, 74 (8.4%) subjects had CAD. Among 74 subjects who had CAD, 18 (24.3%) had less than 1 drink/month, 44 (59.5%) had 1 drink/month to 2 drinks/day, and 12 (16.2%) had more than 2 drinks/day. Among the 810 subjects who did not have CAD, 129 (15.9%) had less than 1 drink/month, 574 (70.9%) had 1 drink/month to 2 drinks/day, and 107 (13.2%) had more than 2 drinks/day. No association was found between CAD and alcohol consumption (Chi-square test=4.6 with 2 degrees of freedom, p=N.S). We added these results in the Results section.

Comment 3. This is not a typical US population. The % of males is very low, high percent of subjects with hypertension and lower than expected smokers. The authors should discuss this in the Discussion section.

Reply 3. Distinctive features of our cohort are the elderly, mostly Hispanic population, high proportion of women, high prevalence of hypertension, high body mass index, and lower than expected proportion of smokers. We added these in Discussion section.

Comment 4. Another limitation is the lack of nitroglycerin mediated vasodilation, which can assist in those with smooth muscle cell dysfunction. Authors should add this to the study limitation.

Reply 4. We did not examine endothelial-independent vasodilation with nitroglycerin in our cohort. We added this among the study limitations.

Comment 5. How many subjects had hyperlipidemia? How many were on lipid
lowering medication?

Reply 5. 435 (49.3%) subjects had hyperlipidemia and 162 (18.4%) were on cholesterol lowering medications. We added these data in Table 1, characteristics of study participants.

Comment 6. Since the number of participants is relatively high do the authors can comment on the impact of alcohol consumption, endothelial function and clinical events?

Reply 6. We previously reported the association between endothelial dysfunction and cardiovascular outcomes. It appeared to predict incident cardiovascular events, but its predictive value was not independent of other cardiovascular risk factors.


Comment 7. The authors can better describe the study cohort by providing the Framingham 10-year risk score and control the 10-year Framingham risk score in the multivariate analysis.

Reply 7. Framingham risk score was computed from baseline risk factor data. This score takes into account data on age (per each 5 years), total cholesterol, high density lipoprotein (HDL) cholesterol, systolic blood pressure, and cigarette smoking and estimate the 10-year risk for coronary artery disease (CAD) in each gender. The mean Framingham risk score of the study participants were 16.9 +/- 3.7. We added this data in table 1, characteristics of study participants. We also adjusted for this Framingham risk score in multivariate analysis, and the relationship between moderate lifetime alcohol consumption and FMD remained significant. We added this result to the Results section and to Table 2.

I sincerely hope that you will give favorable consideration to our article and find this manuscript acceptable for publication in BMC cardiovascular disorders.

Sincerely yours,

Shunichi Homma, MD
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Columbia University College of Physicians and Surgeons