Alcohol consumption and presence of coronary artery disease

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Aims: Several observational studies suggested that light alcohol consumption decreases cardiovascular risk. However, the data regarding regular alcohol consumption and its association with coronary artery disease (CAD) still remain controversial.

Objectives: The aim of this prospective clinical study was to investigate the association between alcohol-consumption and the presence of CAD as detected by coronary computed tomography angiography (CTA).

Methods and materials: Consecutive patients who were referred for coronary CTA due to suspected CAD were enrolled in our study. We excluded patients under the age of 18 years and patients with history of stroke, acute myocardial infarction or coronary revascularization. The weekly alcohol consumption was registered using a questionnaire. Alcohol units were calculated as follows: 1 unit equals 2 dl beer or 1 dl wine or 4 cl spirit. Based on the presence or absence of any plaque on coronary CTA we classified the patients into CAD and no CAD groups.

Results: In total, 1925 patients were enrolled (mean age 57.3±16.1 years, females 43.1%). 61.3% participants had hypertension (HT), 13.7% had diabetes mellitus (DM), 40.7% had dyslipidemia (DLP) and 40.1% of the patients were current smokers. Atherosclerotic plaque was present in at least one coronary segment in 74.3% of the patients. Alcohol consumption was reported by 37.3% of the patients with a median of 6.7 (IQR: 3.3;10.8, range: 0.2–66.7) units weekly. Using univariate analysis to compare CAD positive patients and CAD negative patients we found significant difference regarding cardiovascular risk factors ($p<0.001$) but no difference in alcohol consumption ($p=0.35$). After adjusting for age, gender, HT, DM, DLP and smoking with logistic regression we found no association between alcohol consumption and the presence of CAD (OR:1.00; CI:0.98–1.02; $p=0.76$). We performed a secondary analysis to assess the relationship between alcohol consumption and CAD among no drinkers and light drinkers (maximum 14 units per week; 82.7% of alcohol drinkers) and found no association (OR: 1.02; CI:0.98–1.06; $p=0.33$). Furthermore, we have analyzed the effect of different alcohol types (wine, beer, spirit) on the presence of CAD, but no relationship was

found between any of the alcohol types and CAD (all $p>0.05$).

Conclusion: Our study suggests that the amount of weekly alcohol consumption does not show association with the presence of CAD. We could not detect any association between alcohol consumption and CAD among light drinkers either. In addition, we did not find any association between the different alcohol types and the presence of coronary atherosclerosis.