Abstract: P6234

The relationship of alcohol consumption with risk factors of coronary heart disease and the intake of macro- and micro-nutrients in Japanese: The INTERLIPID Study

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Background: Many studies have reported the J-shaped relationship between alcohol consumption and coronary heart disease (CHD) risk; therefore, light-drinkers is generally recognized to be associated with the lower risk of CHD. However, the mechanisms of lower risk for CHD in light-drinkers are still unclear. Alcohol drinking status is likely to be associated with not only CHD risk factors but also dietary intake. Nevertheless, few studies report these relationships in detail.

Purpose: The purpose of this study is to evaluate the relationships of alcohol drinking status with CHD classical risk factors and the intake of macro- and micro- nutrients in Japanese.

Methods: Study participants were 1,090 Japanese men and women aged 40-59 years from The INTERLIPID study excepted for 55 individuals who had missing data (n=26) and were past-drinkers (n=29). Alcohol consumption was assessed with two 7-day alcohol records, and average ethanol intake (per week) was calculated. Participants were classified into following 4 groups: non-drinkers (0g/week), light-drinkers (<100 g/week), moderate-drinkers (100-299 g/week), and heavy-drinkers (>=300 g/week). Serum LDL and HDL cholesterol, blood pressure (BP), the prevalence of hypertension and dyslipidemia, and smoking status were assessed as CHD risk factors. The intake of energy and macro- and micro-nutrients were evaluated from the four-timed in-depth 24-hr dietary recalls. Nutrient intake densities were calculated per total energy intake without alcohol. The analysis of variance and chi-squared test were used to evaluate the relations of alcohol status with CHD risk factors and nutrient intake.

Results: Serum HDL cholesterol levels increased and LDL cholesterol levels decreased with increasing alcohol consumption. Systolic and diastolic BP increased with increasing alcohol consumption. J-shaped relationships with alcohol consumption were observed for the proportion of current smoker, number of cigarettes, and the
prevalence of hypertension; that is, light-drinkers was lowest among all groups. The prevalence of dyslipidemia was the highest in non-drinkers, and decreased with increasing alcohol consumption. In heavy-drinkers, total energy (kcal/day) was the highest, but energy intake without alcohol (kcal/day) was the lowest. For macronutrients, the intake of carbohydrate (%kcal) decreased, and the intakes of total and animal protein (%kcal) increased with increasing alcohol consumption. The intakes of total cholesterol (mg/1000kcal) and sodium (mg/1000kcal) increased, and total fiber (g/1000kcal) decreased with increasing alcohol consumption. These associations were similar in men and women.

Conclusions: Alcohol consumption was related with not only CHD classical risk factors but also the intake of macro- and micro-nutrients. Non-drinkers had a higher proportion of some CHD risk factors than light-drinkers. These results might influence on J-shaped relationship between alcohol consumption and CHD risk.