Alcohol drinking and cardiovascular risk in a population with high mean alcohol consumption.

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Moderate alcohol consumption has been associated with lower coronary artery disease (CAD) risk. However, data on the CAD risk associated with high alcohol consumption are conflicting. The aim of this study was to examine the impact of heavier drinking on 10-year CAD risk in a population with high mean alcohol consumption. In a population-based study of 5,769 adults (aged 35 to 75 years) without cardiovascular disease in Switzerland, 1-week alcohol consumption was categorized as 0, 1 to 6, 7 to 13, 14 to 20, 21 to 27, 28 to 34, and > or =35 drinks/week or as nondrinkers (0 drinks/week), moderate (1 to 13 drinks/week), high (14 to 34 drinks/week), and very high (> or =35 drinks/week). Blood pressure and lipids were measured, and 10-year CAD risk was calculated according to the Framingham risk score. Seventy-three percent (n = 4,214) of the participants consumed alcohol; 16% (n = 909) were high drinkers and 2% (n = 119) very high drinkers. In multivariate analysis, increasing alcohol consumption was associated with higher high-density lipoprotein cholesterol (from a mean +/- SE of 1.57 +/- 0.01 mmol/L in nondrinkers to 1.88 +/- 0.03 mmol/L in very high drinkers); triglycerides (1.17 +/- 1.01 to 1.32 +/- 1.05 mmol/L), and systolic and diastolic blood pressure (127.4 +/- 0.4 to 132.2 +/- 1.4 mm Hg and 78.7 +/- 0.3 to 81.7 +/- 0.9 mm Hg, respectively) (all p values for trend <0.001). Ten-year CAD risk increased from 4.31 +/- 0.10% to 4.90 +/- 0.37% (p = 0.03) with alcohol use, with a J-shaped relation. Increasing wine consumption was more related to high-density lipoprotein cholesterol levels, whereas beer and spirits were related to increased triglyceride levels. In conclusion, as measured by 10-year CAD risk, the protective effect of alcohol consumption disappears in very high drinkers, because the beneficial increase in high-density lipoprotein cholesterol is offset by the increases in blood pressure levels.