Moderate alcohol consumption lowers the risk of metabolic diseases

November 29 2010

With the emergence of an epidemic of obesity and type 2 diabetes (DM) throughout the world, the association of lifestyle habits that may affect the risk of metabolic diseases is especially important. Most prospective studies have shown that moderate drinkers tend to have about 30% lower risk of developing late onset diabetes than do non-drinkers, and moderate drinkers also tend to be at lower risk of developing metabolic syndrome (MS). A cross-sectional analysis of 6172 subjects age 35 -75 in Switzerland related varying levels of alcohol intake to the presence of DM, MS, and an index of insulin resistance (HOMA-IR).

Alcohol consumption was categorized as non-drinkers (0), low-risk (1-13 drinks a week), medium-to-high-risk (14-34) and very-high-risk (= 35) drinkers. 73% of participants consumed alcohol, 16% were medium-to-high-risk drinkers and 2% very-high risk drinkers

Study findings: In multivariate analysis, the prevalence of the metabolic syndrome, diabetes and mean HOMA-IR decreased with low-risk drinking and increased with high-risk drinking. Adjusted prevalence of the metabolic syndrome was 24% in non-drinkers, 19% in low-risk, 20% in medium-to-high-risk and 29% in very-high-risk drinkers. Adjusted prevalence of diabetes was 6.0% in non-drinkers, 3.6% in low-risk, 3.8% in medium-to-high-risk and 6.7% in very-high-risk drinkers. These relationships did not differ according to beverage types.

Moderate drinkers also had the lowest weight, tryglycerides, and blood pressure. All drinkers had higher HDL-cholesterol values (that is 'good

cholesterol) than did non-drinkers.

Forum comments:

Metabolic syndrome is the name given to a so called 'lifestyle disease', where patients exhibit multiple medical problems including high blood pressure, late on set diabetes, and high cholesterol.

The strengths of this paper include being population-based and having a large number of subjects who reported that they consumed 14 or more drinks/week. Also, there was a good percentage (27%) of subjects reporting no alcohol intake during the one week of assessment used for classifying subjects. Another strength is the careful confirmation of drinking status with state-of-the-art laboratory tests. In multivariate analysis, the prevalence of the metabolic syndrome, diabetes and mean HOMA-IR decreased with low-risk drinking and increased with high-risk drinking. No differences were noted according to the type of beverage consumed.

This is a cross-sectional analysis, so a causative relation between alcohol intake and the metabolic outcomes cannot be assessed. Still, the data supports much that has been shown in prospective studies. Several Forum members commented on potential problems when considering a number of physiologic conditions as the "metabolic syndrome" and focusing therapy on the syndrome; they believed that each metabolic factor should be evaluated and treated singly.

More information: Clerc O, Nanchen D, Cornuz J, Marques-Vidal P, Gmel G, Daeppen J-B, Paccaud F, Mooser V, Waeber G, Vollenweider P, Rodondi N. Alcohol drinking, the metabolic syndrome and diabetes in a population with high mean alcohol consumption. *Diabet Med* 2010;27:1241.

Provided by Boston University Medical Center