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Prospective study of alcohol drinking patterns and coronary heart disease in women and men

The mechanism of the protective effect of alcohol consumption in men and women appears to depend on gender in the 50 – 65 age group. Risk modelling that fails to recognise this effect could be significantly inaccurate; leading to false, gender specific, associations between hazard and heart disease.

This was a prospective study of 28,448 women and 25,052 men aged 50-65 years, who were free of cardiovascular disease at entry. The outcome of interest was coronary heart disease. The study continued for 6 years. Alcohol consumption was assessed by questionnaire.

Approximately 2.6% of women had a heart disease event on this timescale compared with 5% of men. For women, the median consumption rate was 5.5 drinks per week, for men 11.3 (a drink was defined as 12g of alcohol content).

Alcohol consumption had a protective effect for both genders. However, drinking frequency and overall weekly intake had different patterns of protective effect. There was no consumption pattern that lead to increased risk. In women, the strongest effect was of regular drinking; quantity was not a clear predictor.

Comment

The majority of heart disease is associated with atherosclerosis; a process which starts at a very early age and whose rate seems to depend on alcohol consumption, diet, genetics and other factors. Overall, the protective effect of drinking several days per week and more than 14 drinks per week is large and statistically significant for coronary heart disease. However, the mechanism of this effect could be different between women and men in this age group. In terms of risk modelling, this paper shows that there are no simple ways of characterising the balance between adverse and beneficial effects of alcohol consumption.

Heart disease is an outcome of concern for a number of hazard exposures. Studies often include correction for alcohol consumption but it would appear that different corrections are required for different genders. This degree of sophistication is not often applied and could lead to spurious, gender specific results.

