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Alcohol Use Lowers RA Risk in Women

Long-term moderate alcohol drinking was associated with a reduced risk of rheumatoid arthritis (RA), researchers found.

The association appeared to be stronger in seropositive RA cases.

Women who consumed alcohol moderately over the long term had a decreased risk of developing rheumatoid arthritis (RA), analysis of data from two prospective cohorts found.

In the Nurses' Health Study (NHS) and the Nurses' Health Study II (NHSII), women whose average daily alcohol intake was between 5 and 10 g (about 1 drink a day as defined in the study) had a 22% reduced likelihood for RA (adjusted HR 0.78, 95% CI 0.61-1), according to Bing Lu, MD, and colleagues from Harvard Medical School. Moreover, the risk reduction was greater, at 31%, for seropositive RA (adjusted HR 0.69, 95% CI 0.50-0.95), the researchers reported online in Arthritis & Rheumatology.

Unlike cigarette smoking, which has consistently been linked with increased risk for RA, small and short-term studies have suggested that risk may be deceased with alcohol use.

To examine this further, the researchers analyzed data from 82,472 women followed in the NHS between 1980 and 2008, and from 110,737 women followed in NHSII between 1989 and 2009.

Participating women were questioned every 2 years about lifestyle, health, and diagnoses. Alcohol use was measured on a food frequency questionnaire as amount of alcohol per day and as number of drinks per week.

Moderate consumption was classified as an average of less than 10 g/day, and women were stratified by consumption levels of none, 0.1 to 4.9 g/day, 5 to 9.9 g/day, and 10 g/day or more. The authors noted that for American women, drinking in moderation is defined as having up to one standard drink a day.

Covariates included physical activity, reproductive factors, use of hormones, and menopausal status. Adjustment also was made for cigarette smoking, which is "highly correlated" with alcohol use.

During 1.90 million years of person-time in NHS, there were 580 new cases of RA, while during 1.78 million years of person-time in NHSII, there were 323 cases.

Women with higher alcohol intake more often were cigarette smokers and used oral contraceptives, had more physical activity and lower body mass index, and were less likely to have had children.

In addition to the overall pooled risk reductions of 22% and 31%, there also was a 25% decrease for women in the NHS whose intake was 5 to 9.9 g/day (HR 0.75, 95% CI 0.54-1.03), although this was not statistically significant.

The only other significant reduction was for women in NHSII whose daily intake was 10 g or more (HR 0.48, 95% CI 0.29-0.82).

The researchers also analyzed risks according to type of alcohol consumed, and found that risk was reduced by 31% among women who drank beer two to four times per week (HR 0.69, 95% CI 0.50-0.95).

No significant differences in risk were seen for the consumption of either wine or liquor, however.

Several possible factors may help explain the influence of alcohol on RA development, including effects on immunity and hormones, the authors noted. Specifically, it may increase estradiol concentrations, which in turn could influence B-cells and immune tolerance.

In addition, "alcohol has been shown to diminish the response to immunogens in animals as well as in humans, and to suppress significantly the synthesis of proinflammatory cytokines and chemokines, such as tumor necrosis factor alpha, interleukin 6, and interleukin 8," the researchers explained.

They also noted that they previously demonstrated that markers of inflammation were decreased

among women who later developed RA before symptoms arose.

"Therefore, moderate alcohol drinking may reduce inflammation in both non-RA populations and preclinical RA cases," they wrote.

"Our findings have implications for RA prevention and could have large potential public health implications," they concluded.

Strengths of the study included its large size, long duration, and detailed information on alcohol use, while a limitation was its observational design.

Source: Nancy Walsh, Senior Staff Writer, MedPage Today