Re: Moderate Alcohol Intake and Cancer Incidence in Women

Allen et al. describe an increased risk of cancer of the upper aerodigestive tract, rectum, liver, and breast and reduced risk for a few other cancers in middle-aged women with low to moderate alcohol consumption on the basis of an average follow-up of 7.2 years (1). In the case of breast cancer, there was no dependence of risk on whether alcohol was consumed in the form of wine (red or white) or other types of alcohol. Unfortunately, they could not distinguish between lifelong abstainers and ex-drinkers as was done in the prospective studies of women and men published by Bygren’s group in 1999–2001 (2–4). In those studies, mean follow-up was for 26 years and the authors used a detailed questionnaire and validated it with duplicate psychiatric interviews by two psychiatrists skilled in identifying alcohol problems. They also raised the intriguing possibility that drinking a limited amount of alcohol (approximately half a bottle of wine once a week) might be optimal.

Bygren’s group used a sample of more than 32 185 individuals aged 18–65 years randomly selected from the 450 000 inhabitants of Stockholm County in Sweden, about half of whom were women. They reported a protective effect from drinking wine, but not beer or spirits, on overall mortality, mainly cardiovascular mortality. Indications of increased risk for mortality among nondrinkers compared with low consumers were not seen when the ex-drinkers were separated from other nondrinkers, substantiating Shaper’s proposal (5) that nondrinkers should not be used as the reference group, an idea that Allen et al. (1) make reference to in their report. It is unfortunate that the Million Women Study did not use such a thorough questionnaire, but perhaps their questionnaire can be independently validated.

Bygren et al. also showed that the protective effect was maximal if the wine was consumed in one sitting per week. This finding has lifestyle implications. Unfortunately, they categorized the drinking amounts of their subjects differently than did Allen et al., so a direct comparison is not possible.

Because of the relatively small numbers of cancers, the results from men and women were combined (except for breast cancer) in the study of Bygren et al. There was an increased risk in high consumers of alcohol for cancers of the esophagus and stomach (relative risk [RR] = 1.95, 95% confidence interval [CI] = 1.16 to 3.28), pancreas (RR = 1.91, 95% CI = 1.05 to 3.47), and lung (RR = 1.62, 95% CI = 1.19 to 2.22). Differences were not statistically significant for leukemia (RRs were 0.93 for low consumers and 0.82 for high consumers compared with moderate consumers) and colon or rectal cancer (RRs were 0.78 and 0.96, respectively). The relative risk for breast cancer was 0.87 for low consumers and 1.05 for high consumers, but again the differences were not statistically significant. Small numbers precluded conclusions as to whether there was any benefit if the alcohol was consumed at one sitting.

Increased alcohol usage may be exerting its effect through subtle changes in steroid hormones (particularly estrogen). This might lead to an increased risk for estrogen-sensitive breast cancer and would also explain the reduced fertility in women with high alcohol consumption in the Stockholm study (6). Further updates of the Stockholm study are expected to have the statistical power to clarify the relationship between alcohol consumption and the risk of breast and colorectal cancers. Such updates might also show whether the intriguing possible protective effect of moderate alcohol consumption observed by Allen et al. for thyroid cancer, non-Hodgkin lymphoma, and renal cell cancer can be confirmed. The current differences between the two studies could originate in different populations, length of follow-up, and/or categorization of amounts of alcohol consumed. Nevertheless, it is unfortunate that the Million Women Study cannot address the difference between lifelong abstention and cessation of drinking and whether drinking a limited amount of alcohol once a week would be of benefit compared with other schedules of consumption.

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References

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