

Effects of alcohol on lymphoma, leukemia, and other types of hematological cancers

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Many observational epidemiologic studies have found an inverse association between alcohol consumption and hematological cancers (such as lymphoma and leukemia). This study, based on the Million Women's Study in the UK, is large enough to permit an evaluation of associations with various types of such cancers. Further, it takes into account newer coding systems for morphology so that diseases associated with the lymphatic system can be separated from those of the myeloid system.

The key findings are that alcohol consumption appears to lower the risk of several types of lymphoma and plasma cell neoplasms, but has little effect on the risk of myeloid tumours such as acute [myeloid leukaemia](#). Smoking is associated with an increase in risk for most such cancers. Approximately 1.3 million middle-aged women were recruited in the United Kingdom during 1996 and followed for death, emigration and cancer registration until 2009 (mean 10.3 years per woman); potential risk factors were assessed by questionnaire. Adjusted relative risks were estimated by Cox regression.

During follow-up, 9,162 incident cases of haematological malignancy were recorded, including 7,047 lymphoid and 2,072 myeloid cancers. Among predominantly moderate alcohol drinkers, higher intake was associated with lower risk of lymphoid malignancies, in particular diffuse large B-cell lymphoma [relative risk 0.85 per 10 g alcohol per day (95% confidence interval 0.75.96)], [follicular lymphoma](#) [0.86 (0.76.98)] and plasma cell neoplasms [0.86 (0.77.96)]. Among never-

and current smokers, higher cigarette consumption was associated with increased risk of [Hodgkin lymphoma](#) [1.45 per 10 cigarettes per day (1.22.72)], mature T-cell malignancies [1.38 (1.10.73)] and myeloproliferative/myelodysplastic disease [1.42 (1.31.55)].

Forum reviewers considered this to be a very well-done analysis, and the ability of the authors to separate the effects on lymphoid and myeloid cancers is important. Forum members emphasize the strong differences in effect of smoking (an increase) and alcohol consumption (a decrease) on the risk of these cancers. They support future research to discover the mechanisms by which moderate drinking may lower such risk.

More information: Kroll ME, Murphy F, Pirie K, Reeves GK, Green J, Beral V, for the Million Women Study Collaborators. Alcohol drinking, tobacco smoking and subtypes of haematological malignancy in the UK Million Women Study. *British Journal of Cancer*, 2012;107:879.

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