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Alcohol and tobacco use and risk of multiple myeloma: a case-control study

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Background: Although responsible for significant mortality and morbidity, our knowledge of modifiable causes of multiple myeloma (MM) remains limited. This analysis of an Australian population-based case-control family study investigated associations between smoking and alcohol consumption and MM risk.

Methods: Incident cases (n = 789) of MM were recruited mainly via cancer registries in Victoria and NSW. The controls included in the analysis (n = 1,113) were either family members of cases (n = 696) or recruited as part of a similarly designed case-control family study of renal cancer (n = 417). Unconditional multivariable logistic regression was used to estimate ORs, 95% CIs and p-values for associations between alcohol- and tobacco-related exposures and risk of MM.

Results: Heavy drinkers of alcohol had lower MM risk compared with non-drinkers (OR = 0.68, 95% CI = 0.50 – 0.93), and there was an inverse dose-response relationship for alcohol intake (OR per 10g ethanol per day = 0.92, 95% CI: 0.86 – 0.99); there was no evidence of interaction with sex (p = 0.27). There was no evidence of association between smoking-related exposures and MM risk.

Conclusions: These findings extend the knowledge of MM risk factor epidemiology. Further research into the causality of the association of alcohol with MM risk and potential underlying mechanisms is recommended.

Key messages: We found alcohol consumption to be inversely associated with risk of multiple myeloma.