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Alcohol and atrial fibrillation: dose matters, not so much the type

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This commentary refers to the article 'Alcohol consumption, cardiac biomarkers, and risk of atrial fibrillation and adverse outcomes', by D. Csengeri *et al.*, doi: 10.1093/eurheartj/ehaa953 and the discussion piece 'Alcohol and atrial fibrillation: not all drinks are created equal', by F.H. Messerli and S. Dobner, doi:10.1093/eurheartj/ehab179.

We thank Drs Messerli and Dobner[1] for highlighting an important controversy around alcohol and whether its dose-dependent relationship to atrial fibrillation (AF) risk is mitigated by the type alcoholic beverage consumed or the sociocultural context of consumption. Although light alcohol consumption may reduce the risk of other cardiovascular diseases,[2,3] we observed an increase in AF incidence starting at very low levels of alcohol consumption across common types of alcoholic beverages (*Figure 1A*). Alcohol intake by self-report as in our study[4] is prone to systematic error due to recall bias and underreporting. Although participants provided the proportion of alcohol consumed for each type of alcoholic beverages, the current analyses are not suited to fully disentangle the overlap of consumption of different types of alcohol. In addition, confounding by lifestyle and socioeconomic status are likely. Adjustment for education level and employment status in our study, however, revealed similar associations (*Figure 1B*).

In line with previous observations, our data showed that hazard ratios tended to be higher in beer and spirit drinkers than in wine drinkers, but the difference was not statistically significant despite the comparatively large number of outcomes. Our findings suggest that reducing alcohol consumption may be important for both prevention and management of AF independent of type of alcohol consumed. The causal pathways underlying this observation are probably manifold and need to be elucidated.

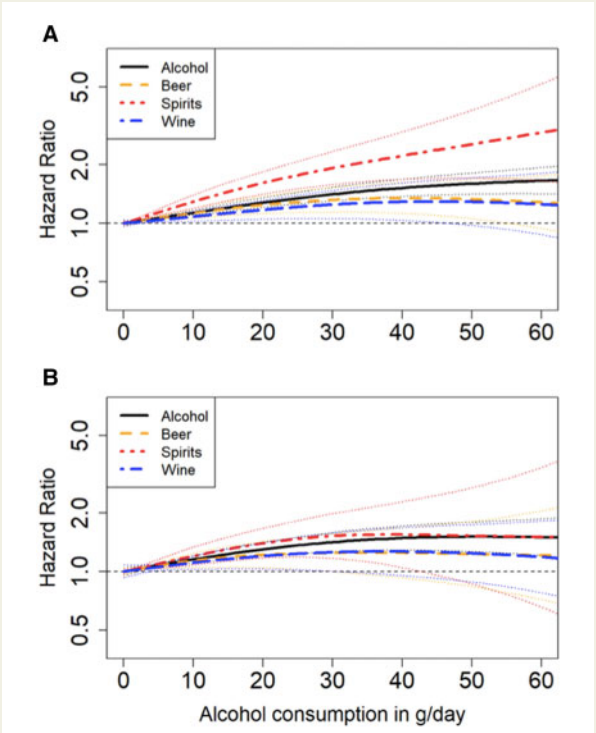

Figure 1 (*A*) Hazard ratio for incident atrial fibrillation for alcohol consumption in g/day by non-linear Cox regression plotted on the log-scale. The model (*A*) uses age as time scale and is sex- and cohort-stratified (data available for alcohol consumption in $N = 92\,452$, for beer consumption in $N = 61\,296$, for spirits consumption in $N = 61\,190$ and for wine consumption in $N = 61\,233$). The model (*B*) is sex- and cohort-stratified, using age as time scale, and adjusted for clinical risk factors, employment status, and education level (data available for alcohol consumption in $N = 48\,355$, for beer, spirits, and wine consumption in $N = 30\,533$). The reference value is 0 g/day.

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