

mended by the Centers for Disease Control might be expensive but should be considered carefully.

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## Relation between alcohol and nose bleeds

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Nose bleeds in adults are the commonest reason for emergency admission to an otolaryngology ward, but the cause of the condition remains unknown. Case reports and clinical experience suggest an association between nose bleeds and regular, high alcohol consumption.<sup>1</sup>

The possibility that alcohol is a causal factor in nose bleeds is supported by evidence of profound cardiovascular and haemostatic effects produced by even moderate alcohol consumption. We conducted a prospective case-control study to compare the alcohol habits of adults with nose bleeds with those of controls being treated for other otorhinolaryngological conditions.

### Subjects, methods, and results

The alcohol habits of 140 consecutive patients admitted with nose bleeds (79 men; mean age 54.5 years, range 23-93) were compared with those of 113 age and sex matched controls selected from patients being treated for otorhinolaryngological conditions other than nose bleeds (65 men; 56.4, 21-92). Patients whose nose bleeds were secondary to a known cause such as trauma, anticoagulant treatment, or blood dyscrasia were excluded.

All patients were interviewed by an admitting doctor within 24 hours of admission, and a questionnaire was used to record a history of alcohol consumption for each patient.

We defined them as non-drinkers if they never drank alcohol; occasional drinkers if they drank alcohol less than once a week; and regular drinkers if they drank alcohol more than once a week. We estimated units of alcohol drunk each week for occasional and regular drinkers by using their self reports of an average week in which they drank alcohol; one unit was regarded as one measure of spirits, one glass of wine, or one half pint (284 ml) of beer.<sup>2</sup> Also we recorded whether the patients had drunk alcohol within 24 hours of admission.

The table shows results of the questionnaire. The proportion of non-drinkers in the patients with nose bleeds was similar to that in the controls (34% (47/140) *v* 35% (39/113)), but the proportion of regular drinkers was significantly higher (45% (63/140) *v* 30 (34/113);  $P < 0.025$ ,  $\chi^2$  test of proportions). The patients with nose bleeds drank more alcohol than the controls (33 (mean) units a week *v* 7).

Because of the skewed distribution of alcohol consumption, we compared the patients and controls with the Mann-Whitney U test, which showed a significant

difference ( $P < 0.01$ ). This difference remained when the non-drinkers were excluded and was apparent also both for men and for women, although men drank more units of alcohol than women both in the patients with nose bleeds and in the controls. These differences in frequency and amount of alcohol consumption were supported by the finding that the patients with nose bleeds were significantly more likely than the controls to have drunk alcohol within 24 hours of admission ( $P < 0.01$ ,  $\chi^2$  test of proportions).

Comparison of 140 patients with nose bleeds and 113 controls by amount and frequency of alcohol consumption. Values are numbers (percentages) of patients and controls unless stated otherwise

| Alcohol consumption                        | Patients (n=140) | Controls (n=113) | Significance |
|--|------------------|------------------|--------------|
| Non-drinkers                               | 47 (34)          | 39 (35)          |              |
| Occasional drinkers                        | 30 (21)          | 40 (35)          |              |
| Regular drinkers                           | 63 (45)          | 34 (30)          | $P < 0.025$  |
| Alcohol drunk within 24 hours of admission | 63 (45)          | 31 (27)          | $P < 0.01$   |
| No of units of alcohol per week:           |                  |                  |              |
| Median                                     | 10.0             | 2.0              | $P < 0.01$   |
| Interquartile range                        | 0-50             | 0-10             |              |

### Comment

This study confirms an association in adults between regular, high alcohol consumption and nose bleeds. The method for recording alcohol history was similar to that used in a survey of Scottish drinking habits.<sup>2</sup> Although self report of drinking habits may under-report alcohol consumption, any inaccuracy is likely to be found both in the patients with nose bleeds and in the controls.

Arterial nose bleeds in adults are serious and potentially life threatening whose cause is undetermined in 85% of cases.<sup>3</sup> Our finding that alcohol is an important causal factor in nose bleeds is supported by the growing evidence of the cardiovascular and cardio-respiratory effects of alcohol. Regular alcohol consumption reduces platelet aggregation and prolongs the bleeding time; these effects, coupled with haemodynamic changes such as vasodilatation and changes in blood pressure, may be important in causing some cases of arterial nose bleeds in adults.<sup>4,5</sup> While the cause of nose bleeds in adults is likely to be multifactorial, the importance of high alcohol consumption should not be overlooked, and a detailed alcohol history should always be obtained.

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