

vision of all those who care for patients with trauma (a prime example being more widespread acceptance of and adherence to the teaching of advanced trauma life support) rather than in the pursuit of increasingly dramatic but unproved methods of management.

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- 1 Nicholl JP, Brazier JE, Snooks HA. Effects of London helicopter emergency medical service on survival after trauma. *BMJ* 1995;311:217-22. (22 July.)
- 2 Purkiss SF, Williams M, Cross FW, Graham TR, Wood A. Efficacy of urgent thoracotomy for trauma in patients attended by a helicopter emergency medical service. *J R Coll Surg Edinb* 1994;39:289-91.
- 3 Hamilton J. *The emperor's new clothes*. New Lanark: Tarantula Books, 1993.

### Authors' reply

EDITOR,—As D W Maclean and colleagues point out, we had hoped to isolate the effect of the helicopter and team from the effects of the major developments at the Royal London Hospital as well as assessing the effect of the helicopter emergency medical service as a whole. We were unable to do this with any reasonable power because too few control patients (those attended by an ambulance) who met our inclusion criteria were taken to the hospital during the 21 months of the study ( $n=40$ ), not because too few patients were flown to the hospital by helicopter.

The power of the study is largely unaffected by the sampling strategy we used, and, with 336 patients attended by the helicopter and 466 ambulance patients, this was one of the largest studies of the effectiveness of emergency care provided by helicopter. It is disingenuous to mention that the central estimate for major trauma was 13 lives saved a year without also pointing out that the central estimate for the whole caseload of the helicopter emergency medical service was no lives saved; therefore if the lives of patients with major trauma are being saved there may be lives of patients with comparatively minor trauma being lost.

We agree with John N Wilden that the term helicopter does not accurately convey the meaning that the helicopter emergency medical service does, but that term was chosen by the *BMJ*. Furthermore, recognising the importance of outcomes in survivors, we assessed disability and general health six months after the incident in 116 helicopter patients who survived and 157 ambulance patients who survived. After adjustment for casemix there was some weak evidence that disability was worse in the helicopter patients but no evidence of any difference in general health.

While we agree with Garry J Wilkes's conclusion that there is little evidence to support the use of a medical helicopter in London, the central estimates are not of disbenefit in both major and minor trauma. As the footnote to table IV states, after weighting was applied to the stratified samples of patients flown by helicopter to the Royal London Hospital and the other helicopter patients to give a true representation of the helicopter service's whole caseload, the relative risk of death for the helicopter service's patients compared with the ambulance service's patients with injury severity scores of 16-24 was indeed 0.8, as we reported.

Finally, whether or not the helicopter represents the emperor's new clothes as John Bache suggests, at £1.2m a year to operate it is a very expensive suit and may not be a good buy.

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## Mortality associated with wines, beers, and spirits

### Australian data suggest that choice of beverage relates to lifestyle and personality

EDITOR,—Morten Grønbaek and colleagues suggest that mortality is lower in association with a moderate intake of wine, unchanged in association with a moderate intake of beer, and increased in association with a moderate intake of spirits.<sup>1</sup> In their study they used a different reference group of subjects for each beverage considered—a group comprising teetotallers and beer and wine drinkers for the spirits comparison and a group comprising teetotallers and spirits and beer drinkers for the wine comparison—which makes the findings difficult to interpret. More importantly, they consider that confounders are unlikely to explain their results. In a group of working men in Western Australia, however, we found that their preference of beverage was related to both volume of ethanol consumed and lifestyle factors linked with cardiovascular risk.

In 1986, 343 working men aged between 25 and 51 took part in a health screening programme. They recorded the type and amount of alcohol that they drank over seven days and completed questionnaires related to smoking habits, dietary patterns, occupation, educational level, and personality characteristics. Their preferred beverage was taken as the beverage that contributed the greatest proportion of their weekly alcohol intake. After exclusion of the seven men who preferred spirits, 83 non-drinkers, 166 drinkers who preferred beer, and 87 drinkers who preferred wine were studied.

Total consumption of ethanol was significantly greater among the men who preferred beer (mean 249 (SEM 14) ml/week) than among those who preferred wine (163 (16) ml/week). When ethanol intake was examined in relation to recommended safe drinking levels,<sup>2</sup> with intakes of not more than four standard drinks a day considered to be safe, there were 200 safe and 53 unsafe drinkers; 44 of the unsafe drinkers preferred beer. Consumption of ethanol was lower in men with professional occupations (180 (12) ml/week) than in non-professional workers (259 (17) ml/week). Professional men drank 57% of total ethanol as beer, 38% as wine, and 15% as spirits, while the respective proportions for non-professional men were 81%, 16%, and 3%. Consistent with these findings was the finding that consumption of wine was related to years of education (11.0 (0.2) years in the non-professional group and 12.0 (0.2) years in the professional group).

Forty eight (29%) of the 166 men who preferred beer smoked, compared with 11 (13%) of the 87 who preferred wine. Grønbaek and colleagues also found that smoking was a confounder. A preference for wine was related to healthier dietary choices, including greater consumption of fruit and vegetables and bread and the habit of trimming fat from cooked meat. Adding salt to prepared food and eating meat, fried foods, and eggs more commonly were associated with a preference for beer. A preference for beer was associated with higher scores for extraversion (mean 14.3 (0.3) in those who preferred beer *v* 12.4 (0.4) in those who preferred wine), resentment (2.1 (0.2) *v* 1.5 (0.4)), and verbal hostility (3.1 (0.1) *v* 2.9 (0.2)).

In this group of men the preference of beverage was associated with lifestyle and personality. Men who preferred beer drank larger volumes, had a higher rate of smoking, and chose a less healthy diet than those who preferred wine. The effects of these differences in lifestyle on cardiovascular risk limit the interpretation of any analysis attempting to relate the type of beverage drunk to mortality from cardiovascular disease. People's preference of alcoholic beverage may be associated with demographic, personality, and lifestyle dif-

ferences, which could influence the outcome of cardiovascular disease.

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- 1 Grønbaek M, Deis A, Sorensen TIA, Becker U, Schnohr P, Jensen G. Mortality associated with moderate intake of wine, beer, or spirits. *BMJ* 1995;310:1165-9. (6 May.)
- 2 National Health and Medical Research Council. *Is there a safe level of daily consumption of alcohol for men and women?* Canberra: Australian Government Publishing Service, 1992.

### Inappropriate groups were used to calculate relative risk

EDITOR,—The effect of consumption of alcohol on mortality is an issue with a high profile, and questions about it are often asked in general practice. In their study Morten Grønbaek and colleagues compared the relative risks for wine drinkers by using those who never drank wine as the reference group<sup>1</sup>; this is very different from using teetotallers as the reference group and may lead to misunderstanding—certainly, the presentation in the media implied a comparison of wine drinkers with those who never drank at all.

We are concerned that very heavy drinkers were excluded from the analysis on the basis of too few deaths in some groups, although in total there were 275 deaths, which is considerable. Inclusion of very heavy drinkers might have had an appreciable effect on the trend in mortality among wine drinkers, as very heavy beer drinkers probably do not drink wine. Inclusion of this group might therefore have increased the deaths in those who did not drink wine. Another important factor that may have an effect on mortality is diet, but this is not discussed.

Finally, because the confidence intervals widen with increasing numbers of drinks, the analysis for wine intake does not exclude the possibility of a U shaped curve. This would contradict the main finding of the paper.

Although we appreciate the importance of the results and the need to stimulate more research, we are concerned by the public health message of this paper. Do we advise patients that they can safely consume 35 units of wine a week?

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- 1 Grønbaek M, Deis A, Sorensen TIA, Becker U, Schnohr P, Jensen G. Mortality associated with moderate intake of wine, beer, or spirits. *BMJ* 1995;310:1165-9. (6 May.)

### Binge drinkers should have been identified separately

EDITOR,—In Morten Grønbaek and colleagues' paper on the effects of different alcoholic beverages on mortality it is not clear whether the monthly and weekly drinkers included binge drinkers.<sup>1</sup> It has been suggested that binge drinking may negate the possible attenuating effect of alcohol on coronary artery disease.<sup>2</sup> If these subjects were excluded the relative risk for monthly and weekly drinkers may be even lower than that observed.

More importantly, the authors compared the effects of different levels of drinking with those of not drinking only that particular type of alcoholic beverage. For example, wine drinkers were compared with a heterogeneous reference group