

## LETTERS TO THE EDITOR

- The British Heart Journal welcomes letters commenting on papers that it has published within the past six months.
- All letters must be typed with double spacing and signed by all authors.
- No letter should be more than 600 words.
- In general, no letter should contain more than six references (also typed with double spacing).

### Answers to complex questions cannot be derived from "simple" trials

SIR—Much can be learnt from the comparison drawn by Topol and Califf between mega-trials and mini-trials (*British Heart Journal* 1992;68:348-51). The ideal megatrial should have the capacity to address simple questions prospectively and unequivocally, as well as the ability to provide tentative answers to complex problems by retrospective analysis. For instance, the unequivocally beneficial effects on survival emerging from the CONSENSUS trial<sup>1</sup> initially obscured the fact that the dose regimens employed could have adverse effects on diuretic requirements. Almost by default, this led to the belief that co-prescription of angiotensin converting enzyme inhibitors generally resulted in an increase in diuretic requirements,<sup>2</sup> despite evidence to the contrary emerging from at least one "mini" study.<sup>3</sup> It only emerged from retrospective analysis that dose-dependent hypotension was an important factor in determining the renal response (and hence the diuretic response) to co-prescription of enalapril during the maintenance phase of treatment.<sup>4</sup> We now know that in other states of fluid overload, such as cirrhosis with ascites, co-prescription of a mean daily dose of 20.6 mg captopril has a diuretic-sparing effect that is not evident at higher doses.<sup>5</sup> This paradoxical relation between natriuresis and captopril dosage has been demonstrated in chronic heart failure as well.<sup>6</sup> These examples justify the conclusion that, despite the increasing popularity of the mega-trial, the mini-trial (or even the mini-study) remains an "excellent means of establishing drug dosing".<sup>7</sup>

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- 1 The CONSENSUS Trial Study Group. Effects of enalapril on mortality in severe congestive heart failure: Results of the Co-operative North Scandinavian Enalapril Survival Study. *N Engl J Med* 1987;316:1429-35.
- 2 Good J, Frost G, Oakley CM, et al. The renal effects of dopamine and dobutamine in stable chronic heart failure. *Postgrad Med J* 1992;68:(suppl 2) S7-S11.
- 3 Dzau VJ, Colucci WS, Williams GH, et al. Sustained effectiveness of converting-enzyme inhibition in patients with severe congestive heart failure. *N Engl J Med* 1980;302:1373-9.

- 4 Ljungman S, Kjekshus J, Swedberg K, et al. Renal function in severe congestive heart failure during treatment with enalapril. *Am J Cardiol* 1992;70:479-87.
- 5 Van Vliet AA, Hackeng WH, Donker AJM, et al. Efficacy of low-dose captopril in addition to furosemide and spironolactone in patients with decompensated liver disease during blunted diuresis. *J Hepatol* 1992;15:40-7.
- 6 Motivani JG, Fenwick MK, Morton JJ, et al. Furosemide-induced natriuresis in augmented by ultra-low-dose captopril in chronic heart failure. *Circulation* 1992;86:439-45.
- 7 Topol EJ, Califf RM. Answers to complex questions cannot be derived from "simple" trials. *Br Heart J* 1992;68:348-51.

### Cardiac surgery: moving away from intensive care

SIR—The Oxford group have reported their efforts to minimise the costs of cardiac surgery by reducing the need for postoperative intensive care (*British Heart Journal* 1992;68:430-33).

Early extubation and postoperative management of cardiac surgical patients in a general recovery area as opposed to an intensive care unit has been mooted before<sup>1</sup> and there is little doubt that certain patients do not require intensive care facilities. On the basis of 245 patients treated over a four month period the Oxford group conclude that "over 90% of patients undergoing cardiac surgery would recover safely and be treated effectively in a more economical area than intensive care".

This conclusion raises two important questions: (a) can it be extrapolated to all cardiac surgical units in the UK and (b) should it be the basis of future planning of postoperative care facilities for cardiac surgical patients? The answer to both questions lies in the tacit understanding that the demographic features of the Oxford surgical population are representative of those of the UK as a whole and that these features are unlikely to change in the future. Is this valid?

To enable comparison between cardiac surgical populations Parsonnet and colleagues have described a simple method of categorising patients into various risk groups that is highly predictive of operative mortality, postoperative complications, and duration of hospital admission.<sup>2</sup> Of particular importance are emergency surgery, age greater than 70 years, ejection fraction less than 30%, redo operations, pulmonary artery pressure greater than 60 mm Hg for mitral valve surgery, aortic gradient greater than 120 mm Hg for aortic valve surgery, morbid obesity, diabetes, and hypertension. Little of this information is present in the Oxford results, making comparison with other units difficult. The fact that only 55% of the Oxford patients undergoing coronary revascularisation received an internal mammary artery graft, compared with a UK average of almost 70%, suggests that their practice is not identical.

There is an abundance of British<sup>3</sup> and American<sup>4,5</sup> evidence that with the success of cardiac surgery and the growth of invasive cardiological procedures an increasingly elderly population is being investigated and referred for cardiac surgery. Apart from advanced years this population is more likely to require emergency or redo surgery or both, to have poorer left ventricular function and more severe coronary disease, and to have a greater prevalence of other dis-

eases.<sup>4,5</sup> In addition to an increase in mortality and morbidity there is a greater demand for intensive care facilities including prolonged ventilatory support in up to 16% of such patients.<sup>4,6</sup>

Though the Oxford group are to be congratulated on their efforts to reduce the overall costs of cardiac surgery, clinical safety must remain of paramount importance. Without relevant information, however, it is not clear whether the ability of the Oxford group to manage 90% of their postoperative patients without intensive care facilities reflects particularly favourable patient characteristics. To advocate a policy of reduced intensive care facilities in the face of the progressive trend of the surgical treatment of older, sicker patients with more complex disease seems premature.

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- 1 Aps C, Hutter JA, Williams BT. Anaesthetic management and postoperative care of cardiac surgical patients in a general recovery ward. *Anaesthesia* 1986;41:533-7.
- 2 Parsonnet V, Dean D, Bernstein AD. A method of uniform stratification of risk for evaluating the results of surgery in acquired adult heart disease. *Circulation* 1989;79(suppl I):3-12.
- 3 Livesey S, Caine N, Spiegelhalter DJ, English TA, Wallwork J. Cardiac surgery for patients aged 65 years and older: a long term survival analysis. *Br Heart J* 1988;60:480-4.
- 4 Jones EL, Weintraub WS, Craver JM, Guyton RA, Cohen CL. Coronary bypass surgery: Is the operation different today? *J Thorac Cardiovasc Surg* 1991;101:1080-15.
- 5 Acinapura AJ, Rose DM, Cunningham JN, Jacobowitz IL, Kramer MD, Zisbrod Z. Coronary artery bypass in septuagenarians. Analysis of mortality and morbidity. *Circulation* 1988;78(suppl I):179-84.
- 6 Salomon NW, Page S, Bigelow JC, Krause AH, Okies JE, Metzdorff MT. Coronary artery bypass grafting in elderly patients. Comparative results in a consecutive series of 469 patients older than 75 years. *J Thorac Cardiovasc Surg* 1991;101:209-18.

## NOTICE

The 1993 Annual Meeting of the **British Cardiac Society** will take place at the Wembley Conference Centre from 18 to 21 May.

## BRITISH CARDIAC SOCIETY NEWSLETTER

### Cardiological technicians and NVQs

We hope that members of the Society will read this section with care because it has considerable relevance to the organisation of our departments. Cardiologists rely increasingly on the expertise of technicians, as diagnostic methods and treatments in cardiology become ever more complex. The Society of Cardiological Technicians has played a leading part in planning training