

differing natural courses,⁵ and their inclusion could require intolerable variations in management.

The hospice environment may seem more distressing for patients with diseases other than cancer; moreover, if such patients were treated in hospices, patients with cancer might have greater difficulties with body image and in accepting the inconsistency of more active management being given for non-malignant diseases.⁵ Hospices are deliberately not generally equipped to deliver such management so that overmedicalisation of terminal care is avoided.

Presently hospices see only about half of patients with cancer, which leaves little scope for the needs of a wider population (estimated at 150% extra bed days required for patients with diseases other than cancer⁶).

Hospice-style input for non-malignant diseases remains equally important but requires appropriate provision in addition to traditional hospices. Adequate community services could also meet much of this need. Hospices offer quality rather than quantity and should not be seen as an easy and cheaper option for providing care for patients with terminal disease as if they were a homogeneous group.

CRAIG GANNON

Staff grade doctor in palliative medicine

Myton Hamlet Hospice,
Warwick

- 1 Jones S. Palliative care in terminal cardiac failure. *BMJ* 1995; 310:805. (25 March.)
- 2 McMurray J, Dargie HJ. Coronary heart disease. *BMJ* 1991;303: 1546.
- 3 Eve A, Smith A. Palliative care services in Britain and Ireland—update 1991. *Palliat Med* 1994;8:19-27.
- 4 Davis CL, Hardy JR. Palliative care. *BMJ* 1994;308:1359-62.
- 5 Shee CD. Palliation in chronic respiratory disease. *Palliat Med* 1995;9:3-12.
- 6 Wilson IM, Bunting JS, Curnow RN, Knock J. The need for inpatient palliative care facilities for non-cancer patients in the Thames Valley. *Palliat Med* 1995;9:13-8.

Small numbers of patients with terminal cardiac failure may make considerable demands on services

EDITOR,—We agree with Sarah Jones that palliative care seems rarely to be offered to patients with congestive heart failure and that referral of such patients for community based hospice care is exceptional.¹ It is uncertain, however, whether the small uptake of such services that Jones reports reflects clinical need,² the referral practice of local doctors, or the conceptual approach of the small group of hospices surveyed. Similarly, alternative, hospital based symptomatic support may be available for these patients.

Such a palliative care programme was established in this hospital in July 1989, closely linked to a busy regional adult cardiology service. From the inception of this department, staffed by clinical nurse specialists, we have actively collaborated in the care of inpatients with a primary diagnosis of congestive heart failure whose symptoms have proved refractory to aggressive medical treatment (New York Heart Association grade III or IV). The number of such patients referred for palliative care was four in July to December 1989, seven in 1990, 10 in 1991, six in 1992, five in 1993, and five in 1994. The number requiring palliative care thus seemed to be relatively small, with a mean annual referral rate of 7 (SD 2) patients. This constituted only 1% of all referrals to the service over the above period. The patients, however, made a considerable demand on services, with a range of 1 to 25 contacts between individual patients and staff (mean 6(4)).

Most of this population had progressive heart failure due to coronary heart disease. The 37 patients were aged 28-81 (mean 68(9)), and 29 were male. As expected, they had a poor prognosis, with an average period between referral and death of 16

weeks. Only seven of this group remain alive, three have been treated in the latter half of 1994; they include our youngest patient, who made a full recovery after presenting in cardiogenic shock due to viral myocarditis.

Palliative care in the community remains largely devoted to oncology patients, which perhaps reflects the historical development and funding base of such activity. The needs of other diagnostic groups, however, seem to be increasingly recognised, albeit with some reluctance. Six of our early patients were followed up at home because a lack of provision for patients with heart failure was perceived at that time. This activity was deemed impractical 18 months after the initiation of our hospital based continuing care service because of the high inpatient workload. In contrast, over the past year three of our patients with heart failure have been supported by local hospice care or the Macmillan nurse service.

J M BEATTIE
Consultant cardiologist
R G MURRAY
Consultant cardiologist
JAN BRITTLE
Continuing care sister
TRISH CATANHEIRA
Continuing care sister

Department of Cardiology,
Birmingham Heartlands Hospital,
Birmingham B9 5SS

- 1 Jones S. Palliative care in terminal cardiac failure. *BMJ* 1995; 310:805. (25 March.)
- 2 Rideout E, Montemuro M. Hope, morale and adaptation in patients with chronic heart failure. *J Adv Nurs* 1986;11: 429-38.

Reperfusion injury after myocardial infarction

EDITOR,—Ever D Grech and colleagues omit to mention the role of the complement system in their discussion of the mechanism of reperfusion injury after myocardial infarction.¹ It has long been recognised that complement activation, which occurs on reperfusion of ischaemic myocardium (and, indeed, on reperfusion of other ischaemic tissues) is an important effector in the tissue damage that often occurs.^{2,3} This has been graphically illustrated in studies in animal models of myocardial reperfusion injury, in which administration of the powerful systemic inhibitor of complement activation, soluble complement receptor type 1, dramatically reduces myocardial damage.^{4,5}

It is important to emphasise the role of complement in reperfusion injury of myocardium and other tissues because the new generation of complement inhibitors now being developed for treatment offers the prospect of reducing tissue injury if given at the appropriate time. Indeed, soluble complement receptor type 1, the first of this new generation of inhibitors to reach the clinical stage, is already being assessed for its therapeutic role in myocardial infarction.

B PAUL MORGAN
Wellcome senior clinical fellow

Department of Medical Biochemistry,
University of Wales College of Medicine

- 1 Grech ED, Jackson MJ, Ramsdale DR. Reperfusion injury after myocardial infarction. *BMJ* 1995;310:477-8. (25 February.)
- 2 Rossen RD, Michael LH, Kagiama A, Savage HE, Hanson G, Reisberg MA, et al. Mechanism of complement fixation after coronary artery occlusion: evidence that myocardial ischaemia in dogs causes release of constituents of myocardial subcellular origin that complex with human C1q in vivo. *Circ Res* 1988;62:572-84.
- 3 Rubin B, Smith A, Romaschin A, Walker P. Participation of the complement system in ischaemia/reperfusion injury. *Microcirc Endothelium Lymphatics* 1989;5:207-21.
- 4 Weisman HF, Bartow T, Leppo MK, Marsh HC Jr, Carson GR, Concino MF, et al. Soluble human complement receptor type 1: in vivo inhibitor of complement suppressing post-ischaemic myocardial inflammation and necrosis. *Science* 1990;249: 146-51.
- 5 Homeister JW, Lucchesia BR. Complement activation and inhibition in myocardial ischaemia and reperfusion injury. *Ann Rev Pharmacol Toxicol* 1994;34:17-40.

Sleep related vehicle accidents

EDITOR,—J A Horne and L A Reyner provide useful data on sleep related vehicle accidents, which were defined according to criteria that they rightly consider more likely to have resulted in underreporting than overreporting of such accidents.¹ The criteria that they used, however, although including "breathalyser/blood alcohol levels below the legal driving limit," do not eliminate the possibility that alcohol was a considerable contributory factor in the accidents studied.

Blood alcohol concentrations increase the risk of road traffic accidents at values well below the legal limit.² Inexperienced drivers who drink infrequently seem to be particularly vulnerable.³ Furthermore, alcohol increases drowsiness by acting as a cerebral depressant. The times at which sleep related accidents occurred most frequently in this study, in addition to being times at which drivers may be most sleepy, are those when drivers might be predicted to be affected by consumption of alcohol. In the early hours of the morning (0100-0300) some drivers may have been returning from social functions at which alcohol was served. During 0500-0700 drivers may be travelling to work unaware that their previous night's intake of alcohol has still not been completely metabolised. In the mid-afternoon, when drivers are presumably suffering postprandial somnolence, they may also still be under the influence of alcohol consumed at lunchtime.

Horne and Reyner have made a useful contribution to the literature on road traffic accidents. But an accident should not be assumed not to be related to alcohol simply because the driver was below the legal driving limit. While sleepiness may be an important contributor to road traffic accidents, it may in turn be due to consumption of alcohol.

C C H COOK
Senior lecturer in the addictions
I P ALBERY
Research psychologist

National Addiction Centre,
Institute of Psychiatry,
London SE5 8AF

- 1 Horne JA, Reyner LA. Sleep related vehicle accidents. *BMJ* 1995;310:565-7. (4 March.)
- 2 Edwards G, Anderson P, Baber TF, Casswell S, Serrence R, Giesbrecht N, et al. *Alcohol policy and the public good*. Oxford: Oxford University Press, 1994.
- 3 Irvine J. Managing the driver who drinks. *Practitioner* 1994;238: 737-41.

Screening overseas students for tuberculosis

EDITOR,—As part of our programme to control a recurrence of tuberculosis we examined the implementation of the national policy of screening, at port of entry to the United Kingdom, of students and their dependants from countries where tuberculosis is prevalent. We did this by interviewing students who complied with the local requirement to attend the chest clinic for screening, sending postal questionnaires to non-attenders, and comparing our experience with that of 22 other universities and associated health authorities.

Questionnaires were completed by the interviewer for 170 students who attended the clinic. In addition, 103/213 (48%) questionnaires sent by post were returned. Of 383 students arriving in Bristol with families, 376 (98%) came from regions where tuberculosis was prevalent. Only 23 (8%) had been medically examined and 10 had had chest radiography at the airport of entry (Heathrow 83%, Gatwick 12%). A total of 170 (44%) attended our chest clinic as requested. In 149 (88%), chest radiographs were normal. In 36 (21%) Heaf tests were negative. In 20 (12%) Heaf tests were strongly