antidepressants (and in four cases also to electroconvulsive therapy). They came from a series of 59 consecutive referrals to a catchment psychiatric service meeting and met the International Classification of Diseases (revision 9) criteria for manic depressive illness (37) or depressive neurosis (22). Systematic comparisons between lithium treated subjects, those who responded to tricyclic antidepressants (18), and others who failed to respond to tricyclic drugs (9) showed no significant demographic differences, although delusions were more common in the lithium treated group (5/9) than the other group of non-responders (1/9; $p < 0.01$). Lithium augmentation was successful in six of the nine patients. In two cases lithium had to be discontinued because it was poorly tolerated, and one patient failed to respond despite an adequate trial of lithium. At follow up (median 6 months, range 3 to 20 months) seven of the nine subjects in the lithium treated group were well. This was similar to the outcome in those who responded to tricyclic antidepressants (14/18) and significantly better than that in the other non-responders (0/9; $p < 0.01$).

We conclude that lithium augmentation is a relatively well tolerated treatment manoeuvre in refractory depression in old age and may be of particular use in delusional depression and when electroconvulsive therapy has failed. We are planning a prospective trial of lithium augmentation in the elderly.

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SIR,—Dr Bob Baldwin has made a good case for an aggressive approach to the treatment of late life depression (20 February, p 519). He suggests that the cardiotoxic effects of tricyclic antidepressants have been exaggerated. This may perhaps be so in patients who are depressed without associated cognitive dysfunction, but dementia and depression often overlap and many patients will be prescribed antidepressants. Our observations from a recent study¹ suggest that, at least in this group, care must be exercised in prescribing tricyclics, not because of their cardiotoxic potential but because of their potent anticholinergic activity.

Thirty seven patients with dementia or depression, or both (mean age 79 years; 16 women), were diagnosed on *Diagnostic and Statistical Manual-III* criteria and assessed using the Hamilton rating scale for depression and Sandoz clinical assessment-geriatric rating scale. All patients with clinically important depression and those with positive results with a dexamethasone suppression test were treated with full therapeutic doses (150 mg/day) of amitriptyline for up to three months, after which the clinical assessments were repeated. All adverse reactions were recorded throughout the study.

The response to antidepressant treatment was variable: only four of 23 patients prescribed amitriptyline showed an improvement of their depressive symptoms. Among the remaining 19 the treatment had to be stopped within two weeks in five and by the end of four weeks in three more because of adverse reactions. The reason for termination of treatment was a deterioration of mental state in seven patients (five developed confusion and agitation, two increasing agitation,

and all showed a global deterioration of dementia score). Five others developed the usual anticholinergic side effects such as dryness of mouth and problems with micturition, and two became incontinent. Six showed minor electrocardiographic changes but these were clinically unimportant. In five the symptoms of confusion and agitation improved within two weeks of stopping medication.

These findings suggest that patients with dementia, with or without depression, show poor tolerance for tricyclic antidepressants. The mechanism of this deterioration of cognitive functions is not clear. Cholinergic mechanisms have been implicated in the aetiopathogenesis of dementia, and several reports have shown a deficiency of acetylcholine in the brains of elderly dementing patients.^{2,3} Anticholinergic activity also appears to relate to clouding of consciousness.⁴ All tricyclic antidepressants have an intrinsic anticholinergic activity and this action may worsen the precarious balance of cholinergic mechanisms in the brains of dementing patients, causing an aggravation of acetylcholine deficiency. The contribution made by the hypotensive effects to the clinical deterioration seen in these patients is not clear, but it is unlikely to be a major factor since serious falls in blood pressure were not detected.

These observations have important implications for the management of patients with dementia who may also have an affective disorder. Since tricyclic antidepressants are less likely to be tolerated by these patients their use in clinical psychiatry needs to be tempered with caution.

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Hypnotic drug use for the elderly

SIR,—Benzodiazepines share the same pharmacological effects and create the same problems whether described as hypnotics or anxiolytics. It is often convenient, therefore, to ignore these two therapeutic categories and refer generically to "tranquillisers" or "sedatives." While usefully emphasising similarities, however, these terms can also obscure some important differences.

In both Dr P Tyrer's leading article (27 February, p 588) and the paper by Dr E K Rodrigo and others (27 February, p 603) there is, for example, an implicit assumption that the use of benzodiazepines should necessarily be mediated by psychiatric disturbance. Thus while the symptom of anxiety is given prominence in both articles the topic of sleep is mentioned in neither. This assumption may be valid for younger people but is unlikely to be valid for the elderly. Long term hypnotic drug use in old age is directly related to the sleep problems experienced by that age group, and these problems are often somatic in origin.¹ One of the clear implications of our own paper (27 February, p 601), and that of Rodrigo and others, therefore, is the need for a broader, more flexible clinical response to complaints of poor sleep in later life—a response which includes assessment, education, counselling, and the involvement of other agencies, particularly clinical

psychology. Unfortunately, this implication is easily overlooked if the problems of long term "tranquilliser" use are discussed only in terms of daytime anxiety management and presumed psychiatric disturbance.

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SIR,—Dr Kevin Morgan and colleagues (27 February, p 601) report a significant increase in the prevalence of hypnotic drug use with age. However, they include antidepressants as hypnotic drugs and I note that 9% of users were taking antidepressants.

The Liverpool longitudinal community survey of health among the elderly used standard interviews to gather a wide range of information, including data on drug use in the month before interview.¹ Data are now available from both the initial survey (1982-3) and the three year follow up. When the use of benzodiazepine hypnotic agents was analysed 8.8% (94) of the 1070 people surveyed in year 0 and 11.9% (83) of the 695 surveyed in year 3 were found to be users and, like Dr Morgan and colleagues, we found a significant excess of women. There was, however, no significant increase in use with age within the two study years, although there was a higher proportion of very elderly users in year 3 than in year 0 (table).

Age distribution of hypnotic users

Age range	% Of sample	
	Year 0 (n=1070)	Year 3 (n=695)
65-74	8.4	10.8
75-84	10.5	13.6
≥85	5.4	10.6

Using a log linear model: χ^2 year $\times$ age $\chi^2 = 8.15$, $df = 2$, $p = 0.017$; χ^2 age $\chi^2 = 4.53$, $df = 2$, $p = 0.104$.

The prevalence of both depressive psychosis and neurosis increase sharply in those aged 79 and over,¹ and, although general practitioners recognise depression in the elderly, they do not always treat it effectively.² By including antidepressants among hypnotic drugs (and respondents may perceive sedative antidepressants prescribed primarily for depression as drugs prescribed to promote sleep) Dr Morgan and colleagues may be reporting an increase in hypnotic use with age. This may be partly due to an increasing prevalence of depression with age which is being recognised and treated.

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Providing donor organs for transplantation

SIR,—Transplant surgeons and, more especially, our patients are indeed most grateful for the efforts made by Mr P Richards (27 February, p 642) and other neurosurgeons, anaesthetists, and intensivists in approaching relatives at the time of bereavement to allow provision of organs for transplantation.