which ECT has been used to treat a manic episode attributable to ECT.

Case report: A 65-year-old woman with a 40-year history of bipolar illness, refractory to several combinations of lithium, anticonvulsants, neuroleptics and verapamil, presented in a characteristic manic and psychotic state. She responded dramatically to a course of ECT (five treatments), and was discharged in complete remission on chlorpromazine and verapamil. Within two days after the first of her scheduled series of monthly maintenance ECT treatments, she began to deteriorate, and quickly became severely manic. She again responded dramatically to ECT (beginning 12 days after her maintenance treatment), with markedly reduced symptoms after the first of four additional treatments. All treatments were non-dominant unilateral, and there was no post-ictal agitation or delirium noted.

Although ECT is an effective treatment for mania (Small *et al*, 1988), there are no specific reports of its use in the management of the frankly manic state that rarely complicates ECT. In this case, the patient's historical resistance to medical antimanic measures overwhelmed the natural tendency to remove the presumed responsible factor. The fact that ECT did not induce a secondary mania, but rather altered the course of an idiopathic bipolar illness, distinguishes this case from those involving less clearly manic presentations and from manic syndromes occurring in persons without such a history. The utility of ECT in these other instances has yet to be tested.

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Alprazolam withdrawal symptoms

SIR: Alprazolam is extensively used as an anxiolytic, antipanic and antidepressant, but like other benzodiazepines, a major problem with it is withdrawal symptoms (Browne & Hauge, 1986). As a withdrawal symptom of benzodiazepines, psychosis is very rare (Owen & Tyrer, 1983). Here we report a case of visual hallucination and paranoid ideation without amnesia, following the tapering off of a low dosage of alprazolam.

Case report: A 69-year-old married woman, weighing 43 kg, visited our hospital with symptoms of depressive mood, loss of interest in her surroundings, concentration difficulties, insomnia, anorexia, and fatigue, and was diagnosed as having major depression (DSM–III). She had been taking alprazolam (1.2 mg/day) because of these symptoms for the previous four months, but had had no psychiatric problems before this episode. Mianserin (10 mg/day) was started while alprazolam was gradually tapered off. The alprazolam dose was 0.8 mg/day for the first two days, 0.4 mg/day for the next three days, and from the sixth day, it was completely discontinued. On the morning of the third day after alprazolam was withdrawn, she saw newspaper writing on the stool every time she went to the lavatory. In addition, she felt as if someone was standing in front of her house. These symptoms were also observed on the next day, but to a lesser degree. There were no other withdrawal symptoms. On the fifth day of alprazolam withdrawal, these symptoms disappeared. She could recall them clearly and no amnesia was observed. Three weeks after the start of mianserin treatment, the patient completely recovered from her depression.

In this case, visual hallucination and paranoid ideation, which had never been observed before, occurred about 60 hours after the last dose, and disappeared by the fifth day of alprazolam withdrawal. Therefore, it is considered that these symptoms were associated with alprazolam withdrawal. As a withdrawal symptom of alprazoram, paranoid ideation without consciousness disturbance is very rare (Noyes *et al*, 1985; Bleich *et al*, 1987), and regarding hallucination, this is the first case to our knowledge. In general, a high dosage and abrupt discontinuation have been considered as risk factors of benzodiazepine withdrawal symptoms (Owen & Tyrer, 1983). However, in this case, the dose was 1.2 mg/day, which is lower than in the reported cases with alprazolam withdrawal symptoms (Browne & Hauge, 1986; Noyes *et al*, 1985; Bleich *et al*, 1987). Furthermore, the drug was gradually tapered off. Zipursky *et al* (1985) also reported that a 68-year-old man became delirious after his low dosage (1.5 mg/day) of alprazolam was tapered off. In addition, Greenblatt *et al* (1982) suggested that elderly patients have a high incidence of drug side-effects, including those from benzodiazepines. Therefore, it is possible that in elderly patients, alprazolam withdrawal symptoms occur, even when the dosage is low and is gradually reduced. We suggest that alprazolam should be withdrawn from elderly patients at an

extremely slow rate, or pharmacological interventions (e.g. coadministration of carbamazepine (Klein *et al*, 1986), should be considered.

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Corrigendum

Journal, February 1990, **156**, 256 (Malasi *et al*). S. R. El-Hilu should read S. M. El-Hilu.

A HUNDRED YEARS AGO

Cycling for the insane

Rushing through the air at 12 miles an hour, will lift the gloomiest thoughts from the mind, be it only for a short period, and what torpidity of soul is not surmounted by the continuous, delicate interaction of nerve and muscle! Physiology teaches the general fact that mental actions repose upon a nervous power, sustained, like every other power, by nutrition, and having its alternations of exercise and rest. It also informs us that, like every other function, the plasticity may be stunted by inaction, and impaired by over-exertion. The human body is a great aggregate of organs or interests – digestion, respiration, muscles, senses, brain. When fatigue overtakes it the organs generally suffer, when renovation has set in the organs generally are invigorated. To increase the plastic property of the mind you must nourish the brain, and you naturally expect that this result will ensue when the body generally is nourished, and so it will if there be no exorbitant demands on the part of other organs, giving them such a preference as to leave very little for the organ of mind.

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