against those who demand all the amenities that flow from applied science and yet denigrate their source. For now nuclear fission seems the only long term source of energy on the required scale; but should we not be pressing ahead more actively with the peaceful development of nuclear fusion, which does not release radioactivity into the environment?

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DOUGLAS BLACK


Chlorothiazide and alcohol: a lethal cocktail

“Prescription for death” and “Deadly potion” ran the banner headlines in a recent edition of a south coast newspaper. 1 2 The articles claimed that local general practitioners were unwittingly driving a black market in chlorothiazide (Heminevirin) among alcoholics and that the practice had resulted in several deaths. This is not the first time that the risks of chlorothiazide abuse have gained prominence in the media. 3

The hypnotic, anxiolytic, and anticonvulsant properties of chlorothiazide make it an attractive choice for treating the excitatory state that characterises withdrawal from alcohol. 4 In a rapidly reducing dosage regimen over six days chlorothiazide is highly effective and is now the most popular drug for alcohol withdrawal in Britain. 5 If the drug is used long term, however, alcoholics readily transfer dependency to it 6-10 and may visit several general practitioners 6 or hospitals 7 in a short time to obtain supplies. Often alcohol abuse continues, 11 12 provoking an adaptation of the central nervous system that increases the dose of chlorothiazide needed to produce the desired effect. 12 13 Such cross tolerance may explain why some alcoholics take more than 25 g daily. 4

Even if drinking continues, the outcome of chlorothiazide abuse is often serious self poisoning with deep coma and centrally mediated respiratory depression that may kill. 12 13 Alcohol increases the bioavailability of chlorothiazide, 14 16 probably by impairing its normally extensive first pass hepatic metabolism. 14 16 In patients with alcoholic cirrhosis systemic bioavailability may be increased tenfold, 17 mainly because of extrahepatic and intrahepatic venous shunting. 18 Nevertheless, direct additive pharmacological effects and enhanced cerebral sensitivity to chlorothiazide are probably much more important than kinetic interactions. 21

All sedatives and hypnotics effective in treating alcohol withdrawal, including the benzodiazepines, share the dangers of tolerance, dependency, and potentially lethal interactions with alcohol. 17 18 The particular association of chlorothiazide with these problems may reflect its popularity. A recent survey suggested that half the alcoholics requiring detoxification in Britain are managed at home by general practitioners who favour chlorothiazide and are prepared to continue its prescription long term. 18 Such an approach is in sharp conflict with the warnings of the hazards of prolonged chlorothiazide treatment for ambulant alcoholics in published reports 9 12 13 and from the manufacturers. 24

General practitioners who start outpatient detoxification must be prepared to provide close supervision. Issuing prescriptions for only one day’s supply at a time should ensure daily contact and minimise but not abolish the potential for abuse. 12 22 If the patient shows any evidence of tolerance to or dependency on chlorothiazide or of continuing to drink alcohol the only safe policy is rapid admission for inpatient care.

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2 Bailey J. Deadly potion. Southern Evening Echo 1986 Nov 12:3. 4

Stopping bleeding by embolisation

Bleeding can usually be managed conservatively, but sometimes an operation may be necessary. Often those patients who do need an operation are old or ill; sometimes they have already had one operation. These sorts of patients may be candidates for transcatheter embolisation of their bleeding point, particularly as angiography will often be necessary to localise that point. 1

Few parts of the body are inaccessible to modern catheter techniques, which are all performed under local anaesthesia. Once a bleeding site has been located (and it is usually surprisingly small) a catheter is manipulated as near as possible to it so that embolisation can be carried out. Many different materials are used as the embolus and many occlusion techniques are available, but the materials most...