In a series of 451 lumbar myelograms, however, Selby *et al*[4] reported clonic muscle spasms of the legs in four patients. A fracture of the femoral neck caused by muscle spasm after meglumine iocarmate lumbar myelography has also been reported.[2] The occurrence of any such fracture raises the possibility of metabolic bone disease. In our patient the suspicion proved unfounded, and we can attribute these disastrous fractures only to severe clonic spasm after the use of meglumine iocarmate.

The side effects of meglumine iocarmate myelography are probably more common when the contrast medium is allowed to remain in contact with the cord. Thus after the investigation the patient must be kept in the sitting position for at least six hours, by which time most of the medium should have been absorbed. Nursing staff should be cautioned not to lay the patient flat should hypotension, a recognised side effect of meglumine iocarmate myelography,[3] occur. If muscle spasms develop diazepam must be given immediately and in sufficient dosage.

We regard the fractures described here, albeit rare, as such a serious complication that we have now abandoned the use of meglumine iocarmate for lumbar myelography and use metrizamide (Amipaque).[5] We have been unable to trace any reports of fracture after myelography with metrizamide.

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SHORT REPORTS

Fatal chlormethiazole poisoning in chronic alcoholics

(This paper is a revised version of a short report previously published (3 September 1977, p 614) which contained certain errors (see correspondence (p 716) and leading article (p 668)). It replaces and augments the previous version.—ED, *BMJ*.)

Chlormethiazole edisylate (Heminevrin) is a sedative, hypnotic, and anticonvulsant drug.[1] It is widely used in the treatment of acute withdrawal symptoms in alcoholics. However, it is seldom recommended in alcoholic withdrawal to administer the drug for more than six to seven days because of the danger of psychological or, rarely, physical dependence.[2] It is stated to be of low toxicity, but its effects are additive with alcohol and barbiturates. I describe five fatal cases of self-poisoning in chronic alcoholics, all of whom were being treated with chlormethiazole edisylate in tablet form.

Case reports

Case 1—The patient was a single man aged 45 years who was a known chronic alcoholic. He was depressed and had made two previous suicide attempts. He had been implicated in a minor traffic accident and charged with driving under the influence of drugs. Analysis of a blood sample at the time showed it to contain 2·6 mg/100 ml of chlormethiazole base. No alcohol was detected. Four days later he was found dead in his flat. Post-mortem examination showed adherent pinkish-white powder in the upper third of the oesophagus and 10 whole white tablets in the stomach. The lungs were oedematous. No appreciable natural disease was found.

Case 2—The patient, a 60-year-old single man, was a known chronic alcoholic who had had psychiatric treatment for depression. He was found dead in a wood with a bottle nearby that contained chlormethiazole tablets. Post-mortem examination showed adherent white powder in the lower third of the oesophagus and 20 whole white tablets with a sickly sweet smell in the stomach. Recent thrombus had occluded the right coronary artery and a large area of fibrosis was present in the interventricular septum.

Case 3—The patient was a man of 47 years. He had been an alcoholic for 20 years with fits of depression and attempts at suicide. He was found dead at home with a bottle of chlormethiazole tablets nearby. Necropsy showed 65 whole white tablets and much white granular material with a sickly sweet smell in the stomach. There was no appreciable natural disease.

Case 4—This patient, a known alcoholic, was a single man aged 52 years. Shortly before his death he had become depressed and had been admitted to a psychiatric unit. The day after his discharge he was found dead on a river embankment. White sludge and 18 whole white tablets with a sickly sweet smell were found in the stomach at necropsy. There was adherent white powder in the lower oesophagus and severe coronary atherosclerosis.

Case 5—The patient, a woman of 48 years, was a known alcoholic and depressive. At the time of her death she was on bail for shoplifting. She was found dead in her hostel room with an empty bottle that had contained chlormethiazole tablets nearby. Post-mortem examination showed two whole white tablets, white sludge, and mucoid brown fluid in the stomach. No appreciable natural disease was found.

A toxicological examination was performed in each of the five cases (see table).

Chlormethiazole (measured as base) and alcohol concentrations in blood and urine (mg/100 ml) and liver (mg/100 g) from five alcoholic patients who died after self-poisoning with chlormethiazole edisylate tablets

Patient No	Blood		Urine		Liver	
	Chlormethiazole	Alcohol	Chlormethiazole	Alcohol	Chlormethiazole	Alcohol
1	4·0	Nil	6·5	Nil	6·2	NE
2	6·0	Nil	8·0	Nil	19·0	NE
3	1·8	224	1·0	225	6·2	NE
4	1·0	88	2·8	133	10·0	NE
5	2·0	Nil	2·0	100	6·0	NE

NE = Not estimated.

Comment

In a series of nine cases of death from chlormethiazole poisoning alone Jakobsson and Möller reported the lowest recorded fatal plasma concentration of the drug—2·5 mg/100 ml (range 2·5-8·0 mg/100 ml).[3] Nevertheless, the patient described in case 1 was driving a car, albeit unsuccessfully, with a plasma concentration of 2·6 mg/100 ml. Clearly there must be individual variation in reaction to the drug or the development of tolerance. Fatal concentrations of the drug when taken with alcohol are very much lower. Similar concentrations to those in cases 3 and 4 were found in a series in which the mean plasma concentration of chlormethiazole base was 2·1 mg/100 ml (range 0·5-4·7 mg/100 ml).[3] The presence of alcohol in the urine but its absence in the blood in case 5 suggests that the alcohol was consumed several hours before death.

From the amount of unabsorbed drug in the stomach in each case it is clear that the therapeutic dose had been exceeded. The tablets are dispensed in bottles of 100 and this was the usual quantity prescribed for patients under the care of general practitioners at the time these deaths occurred.[4] Prescribing smaller quantities does not, however, prevent hoarding. Chlormethiazole is a useful drug for the treatment of acute withdrawal symptoms in alcoholics under strict supervision in hospital. Nevertheless, a potentially dangerous situation arises when the drug is prescribed for an alcoholic when under the care of a general practitioner or as an outpatient. In these circum-

stances, when the alcoholic is also depressed and has suicidal tendencies, it would seem wise to avoid the drug altogether.

I should like to thank HM Coroner for Bedfordshire for permission to publish details of these cases; the scientific officers at the Home Office Forensic Science Laboratory, Aldermaston, Reading, who performed the analyses; and Dr J C Valentine, consultant pathologist, who performed the post-mortem examination in cases 1 and 5.

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Meningitis due to chloramphenicol-resistant Haemophilus influenzae type b

Two strains of *Haemophilus influenzae* resistant to chloramphenicol have been reported from the USA,[1] and a resistant non-typable strain has been isolated in Holland.[2] We report here a case of meningitis due to chloramphenicol-resistant *Haemophilus influenzae* type b that occurred in Oxfordshire in July 1977.

Case report

A 19-month-old girl presented after two days' illness with drowsiness, irritability, stiff neck, and vomiting. Cerebrospinal fluid (CSF) showed $8{\cdot}5 \times 10^9$/l white cells, mainly polymorphs, and numerous pleomorphic Gram-negative rods on microscopy. The peripheral blood showed a neutrophil leucocytosis of $17{\cdot}8 \times 10^9$/l. Both CSF and blood grew *Haemophilus influenzae* type b.

Immediate treatment was begun with chloramphenicol 150 mg intravenously every 4 hours (90 mg/kg/24 h). After 72 hours the level of consciousness, tachycardia, and fever had not improved and a further CSF specimen showed $2{\cdot}0 \times 10^9$ white cells/l, with organisms still present on microscopy. This CSF specimen and a further blood culture also grew *Haemophilus influenzae.*

The original sensitivity plate was then reappraised and the zone of inhibition around the 25-μg chloramphenicol disc was shown to be slightly smaller than that given by a control strain. A test for penicillinase production by the organism gave a negative result. Chloramphenicol was therefore stopped and treatment changed to ampicillin 10 mg intrathecally once, and 400 mg intravenously every 4 hours (250 mg/kg/24 h).

Steady clinical improvement followed. The CSF was sterile after three days and pyrexia and tachycardia resolved after 10 days. Oral amoxycillin was substituted after seven days in doses up to 2 g/24 h and stopped after 14 days, since when the child has remained well.

The minimum inhibitory concentration of chloramphenicol for this organism was 8 mg/l (control strain 0·5 mg/l) and that of tetracycline 32 mg/l (control strain 1·0 mg/l), using the agar plate incorporation method.

A strain of *Haemophilus influenzae* type b resistant to chloramphenicol and tetracycline was isolated from the throat of the 4-year-old brother, but non-typable strains from the mother, father, and babysitter were sensitive to both antibiotics.

The patient had been previously well, apart from otitis media four months earlier, which had been treated with penicillin. The rest of her family had also been well and had used neither chloramphenicol nor tetracycline in the previous five years.

Comment

The only other strain of chloramphenicol-resistant *Haemophilus influenzae* type b so far reported caused meningitis in a 9-month-old infant from Philadelphia; it was also tetracycline resistant. This resistance was probably plasmid-mediated, as in the non-typable strain isolated in Holland.[2] This has grave implications for future treatment. Ampicillin has been considered to be a safe and effective antibiotic for treating infections caused by *Haemophilus influenzae* but increasing numbers of treatment failures have been reported; these are explained by inadequate doses, relatively poor penetration of meninges, or bacterial resistance due to the production of β-lactamase.[3] Intravenous chloramphenicol penetrates readily into the CSF and has previously been considered to be active against all strains of *Haemophilus influenzae.* The possibility of resistance to either or both these antibiotics emphasises the importance of performing sensitivity tests whenever invasive strains are isolated and of reculturing CSF and blood when early clinical response is unsatisfactory. A less potent chloramphenicol disc—for example, 5 μg—might facilitate recognition of resistant strains. As advocated by the American Academy of Pediatrics,[4] combination of chloramphenicol and ampicillin as initial treatment for *Haemophilus influenzae* meningitis may be considered. Antibiotic antagonism is, however, a theoretical objection and combination therapy may actually increase the risk of long-term complications.[5]

We are grateful to Dr J D Baum for permission to report details of this case.

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Psittacosis masquerading as rheumatic fever

It is now generally accepted that the diagnosis of rheumatic fever is based on the modified Jones's criteria,[1] in which evidence of a preceding streptococcal infection is paramount. We record a case in which an initial clinical diagnosis of rheumatic fever was made but in which subsequent serological evidence indicated infection by *Chlamydia psittaci* rather than streptococci.

Case report

A 39-year-old salesman was admitted with a two-week history of general malaise, sweating, and shivering associated with a sore throat and an unproductive cough. Three days before admission he had developed acute pain and swelling and redness of the wrist, metacarpophalangeal, and proximal interphalangeal joints. This developed into a flitting arthritis, which affected the elbow, knee, ankle, shoulder, and temporomandibular joints. Two days before admission he had developed a red, patchy rash proximally on all limbs, which subsequently spread on to the trunk. Four days before admission his GP had prescribed oxytetracycline and soluble aspirin. He had no relevant medical history apart from longstanding, recurrent low back pain.

On admission the abnormal findings were that he was clammy, febrile (38·5°), and peripherally cyanosed, with signs of acute arthritis affecting carpal and metacarpophalangeal joints. He had a rash with the typical appearance of erythema marginatum affecting his trunk and proximal aspects of limbs. His pulse was 108/min and regular; the respiratory rate was 20/min; and there was a soft systolic ejection murmur over the aortic area. An electrocardiogram showed sinus tachycardia with right bundle-branch block. A chest *x*-ray film showed minor patchy shadowing at the right lung base. The results of routine biochemical tests were all normal, but he had a mild normochromic normocytic anaemia of 12·6 g/dl, with a WBC 13×10^9/l (neutrophilia) and ESR 116 mm in first hour (Westergren). Treatment with penicillin V 500 mg six-hourly and soluble aspirin 600 mg four-hourly with bed