to the pump-head, for only in this way can air embolism be prevented. It is not enough to use one clamp only, between the oxygenator and the leak, for air may still enter the tube through the defect due to a Venturi effect as the roller passes over it, and then pass into the patient's arterial system.—We are, etc.,

Sully Hospital,
Penarth, Glam.

E. H. HORTON.
D. ENGLISH.

REFERENCE

¹ *Lancet*, 1966, 2, 348.

Hypothermia Due to Diazepam

SIR,—The British Medical Association report on Accidental Hypothermia in the Elderly¹ mentioned phenothiazine tranquilizers, barbiturates, and alcohol as drugs which might predispose to accidental hypothermia in individuals. I have recently had a patient under my care who became hypothermic while taking diazepam. He was a man of 84 years, and was admitted to the Hastings Geriatric Unit for the treatment of contractures due to cerebrovascular disease. He had a previous history of doubtful myxoedema, and had at one time been treated with thyroid.

On admission to the ward, where the temperature is normally around 65° F. (18.3° C), he had no signs of hypothyroidism and the clinical picture was dominated by mental impairment, generalized spasticity, and contractures of the knees. He was given a series of intravenous injections of diazepam (Valium), 10 mg. daily for a week. Each injection temporarily overcame his spasticity and allowed him to receive intensive physiotherapy, and his knees became straight enough for him to walk with assistance, which he had not done for the previous 18 months.

After a week intravenous diazepam was withdrawn and treatment was continued with a small oral dose of 2 mg. t.d.s. After 10 days on the oral treatment the patient's routine evening temperature recording showed a reading of 85° F. (29.4° C.). In spite of intensive treatment the patient's temperature never rose above 91° F. (32.8° C.), and he died in coma a week later.

This patient was undoubtedly predisposed to accidental hypothermia by immobility and severe cerebrovascular disease, but it may be that diazepam was a contributory factor. The manufacturers of diazepam tell me that there is no previous record of any association between diazepam and hypothermia. However, as this drug is now widely used in the elderly for the treatment of anxiety, and for conditions characterized by muscular spasticity, it would perhaps be useful to keep an eye open for any evidence of this association during the coming winter.—I am, etc.,

St. Helen's Hospital,
Hastings.

R. E. IRVINE.

REFERENCE

¹ *Brit. med. J.*, 1964, 2, 1255.

Hypoglycaemic Effect of Oxytetracycline

SIR,—I have recently had under my care a boy of 17 years of age who has diabetes, and who was on soluble insulin 24 units in the morning and 24 units of semi-lente insulin at night. He developed glandular fever, and as his illness progressed I found great difficulty controlling his blood sugar. His insulin requirements rose until he was on 52 units of NUSO insulin (neutral insulin) three times daily and 52 units of

semi-lente insulin at night. In spite of this he remained very hyperglycaemic. Indeed, he became pre-comatose, with thirst, polyuria, rapid loss of weight, and a tendency to sleep all day.

Quite empirically I put him on oral Terramycin (oxytetracycline), 250 mg. four times daily. The effect was immediate and dramatic. He began to develop hypoglycaemic symptoms within an hour of taking his first dose of 250 mg., and his insulin dosage had to be reduced to 32 units neutral insulin in the morning and 32 units semi-lente insulin at night. During the first day on oxytetracycline he began to feel very much better, the polyuria ceased, he began to put on weight, and he ceased to be drowsy.

The oxytetracycline was stopped after four days' treatment, and over the course of the next week he became hyperglycaemic again. A further course of oxytetracycline was given, with the same dramatic effect. This time the course had to be stopped after three days because of diarrhoea. When he became hyperglycaemic again he was given oxytetracycline 250 mg. twice daily, and he was able to take this dose over a period of some weeks. During this time he continued to feel well and his diabetes was reasonably stable.

This raised the question as to whether or not oxytetracycline exerted a hypoglycaemic effect by antagonizing the anti-insulin factor, or acted by controlling the infection. The latter is doubtful. I had the opportunity to test the effect of oxytetracycline on another patient, a long-standing diabetic, aged 45 years. This patient is controlled by a morning dose of 60 units of lente insulin. Any time he has an intercurrent infection he tries to maintain control of his condition by reducing his carbohydrate intake, and if this is not enough he increases his dose of insulin. On this occasion he developed an upper respiratory infection. He was given oxytetracycline 250 mg. twice daily, and, contrary to his previous experience, he had to increase his daily intake of carbohydrates very substantially. Repeated estimations by the Dextrostix method showed his blood sugar to vary between 120 and 140 mg. per 100 ml.

These two cases suggest a possible hypoglycaemic action by oxytetracycline, an action of which I was unaware at the time. However, a search of the literature reveals that a similar observation in man was made by de Lollis and Privitera in 1954.¹ A further reference was made by Hiatt *et al.* in 1966.²

As oxytetracycline is such a commonly used drug, I wonder if other practitioners have had similar experiences. If so, I should be interested to hear of them, as further studies are now in progress to establish the observation in a greater number of patients, and to ascertain the possible mode of action. Confirmation of this may well open a new field in the treatment of diabetes.—I am, etc.,

Forfar, Angus.

J. B. MILLER.

REFERENCES

- ¹ De Lollis, C., and Privitera, F., *Athena (Roma)*, 1954, 20, 26.
- ² Hiatt, N., Bonorris, G., and Coverdale, M. G., *Proc. Soc. exp. Biol. Med.*, 1966, 122, 489.

Methadone Hydrochloride (Physeptone) —A Case of Idiosyncrasy

SIR,—A 63-year-old man was seen in evening surgery with a history highly suggestive of renal colic. He was given a supply of Physseptone (methadone hydrochloride) tablets

5 mg. to take 1 to 2 q.d.s. He felt very sleepy after taking the first dose that night, but continued taking the tablets during the next two days in spite of increasing drowsiness. By 5 a.m. the following morning (by which time he had taken nine tablets over a period of about 52 hours) his wife found that he was breathing deeply and was unrousable.

On examination he was in coma, was deeply cyanosed, and had very depressed respiration. His temperature was 103° F., pulse 100/min., pupils contracted and not reacting to light. There were no physical signs in the central nervous system or other systems. He was given 20 mg. nalorphine intravenously, with immediate improvement in his colour and respiratory rate. Two and a half hours later he was drowsy but rousable and breathing normally. Over the next two days he slowly became less drowsy, but it was a full two days before his pupillary reactions were normal. Subsequent liver and renal function tests were all normal, and he has no evidence of hypothyroidism. A check revealed that he had not taken an overdose.

The only conclusion appears to be that he must have a personal idiosyncrasy to Physseptone, but the manufacturers inform us that they have no record of any similar case.—We are, etc.,

K. A. TOMLINSON.
P. G. KAY.

Nuffield Health Centre,
Witney, Oxon.

Idiopathic Pulmonary Haemosiderosis and Rheumatoid Arthritis

SIR,—I would like to comment on Dr. B. S. Smith's medical memorandum (4 June, p. 1403) dealing with idiopathic pulmonary haemosiderosis and rheumatoid arthritis. As the author stated, I have suggested¹ that the idiopathic pulmonary haemosiderosis has an immunoallergic basis, and for that reason I² call it immunoallergic lung purpura. The subsequent development of rheumatoid arthritis is of considerable interest, since its association with idiopathic pulmonary haemosiderosis has been observed only on two previous occasions.^{3,4}

Some interesting points arise from this: The first is whether the idiopathic pulmonary haemosiderosis was quiescent or burnt out when clinical appearance suggested rheumatoid arthritis in Smith's case. At that time—two years before rheumatoid arthritis appeared—the only abnormality was some accentuation of bronchovascular markings in the right middle lobe. But five years later, when the respiratory symptoms were mild, she had a small amount of mucoid sputum most days, and occasionally developed "acute bronchitis." Chest x-ray was normal. It is not unusual for chest x-ray to be normal, and this is a diagnostic pitfall.¹ This year the x-ray department of my institute was reluctant to accept the diagnosis of immunoallergic lung purpura in a boy aged 14 who underwent splenectomy nine years ago, and in whom siderophages were present in the sputum, because his chest x-ray was normal. Lung biopsy clinched our diagnosis.

In Smith's case serum iron 31 µg. could be a sign of the activity of idiopathic pulmonary haemosiderosis. There is no mention of demonstration of occult blood in the faeces,