answer his question because we did not feel justified in studying arterial gas tension and pH in healthy surgical patients.

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Bromocriptine as sole treatment for acromegaly

SIR,—There have been numerous reports of the use of bromocriptine in the treatment of acromegaly,¹⁻⁴ including a recent paper in the *BMJ* (22 September, p 700). Some of the patients have been treated with bromocriptine alone, and a reduction in size of the pituitary tumour has been demonstrated in one such patient by computed tomography⁴ and presumed in others following improvement in visual field defects.^{3,4} Changes in the size of the pituitary fossa on plain skull radiography have been reported only in patients who have received radiotherapy in addition to bromocriptine. We should therefore like to report a case of acromegaly treated with bromocriptine alone in which there has been evidence of a reduction in the size of the pituitary fossa on plain skull radiography.

The patient is a 58-year-old woman who initially presented in 1963 with symptoms of bilateral carpal tunnel compression. At this time she was noted to have features of acromegaly and gave a history of enlargement of her hands and feet over the previous seven years. On examination there was no evidence of optic nerve compression. Her skull radiographs showed unilateral expansion of the floor of the sella turcica on the left but carotid angiography and air encephalography were normal. The disease was thought to be inactive and she received no treatment but was seen regularly in the outpatient clinic until 1967, when she was lost to follow-up. During this time there was no progression in her symptoms or signs.

In September 1975, at the age of 53, she was referred back because of a history of headaches and excessive sweating for some months and a further increase in the size of her hands and feet. Again there was no clinical evidence of suprasella extension of the tumour. Her glucose tolerance test gave a normal result, but her fasting growth hormone concentration was raised at 53 µg/l. Skull radiographs showed enlargement of the pituitary fossa with thinning of the dorsum sella. Treatment was started with bromocriptine in a dosage of 10 mg a day; within a month her headaches and hyperhidrosis had improved and her serum growth hormone level had fallen to 13 µg/l. Bromocriptine treatment has been maintained ever since but no other treatment has been used.

Her skull radiograph was repeated in August 1976 and showed a reduction in the size of the pituitary fossa together with increased bone density and reossification of the dorsum sella (Dr B Worthington). Since starting treatment with bromocriptine there has been no further progression of her symptoms, although the dosage has been increased in stages to 20 mg a day because of occasional raised fasting growth hormone levels (8-43 µg/l). During a recent reassessment as an inpatient her visual fields were normal, her fasting growth hormone level was 5 µg/l, and skull radiographs confirmed reduction in size of the pituitary fossa and a normal dorsum sella. There was no evidence of suprasella extension on metrizamide cisternography.

Although a previous study⁴ has reported evidence of a reduction in the size of the pituitary fossa on plain skull radiography in acromegalic patients treated with bromocriptine, all these patients had been treated with radiotherapy in addition. Our patient

has received bromocriptine alone over a period of more than four years. The assessment of change in the size of the pituitary fossa on plain skull radiography is difficult because the views may not exactly coincide; however, in our patient there was both reduction in the size of the pituitary fossa and an increase in bone density with reossification of the dorsum sella.

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¹ Thorner MO, Chait A, Aitken M, et al. *Br Med J* 1975;i:299-303.

² Sachdev Y, Gomez-Pan A, Tunbridge WMG, Duns A, Weightman DR, Hall R. *Lancet* 1975;ii:1164-8.

³ Wass JAH, Thorner MO, Morris DV, et al. *Br Med J* 1977;i:875-8.

⁴ Wass JAH, Moutl PJA, Thorner MO, et al. *Lancet* 1979;ii:66-9.

Opiates in acute abdominal pain and head injury

SIR,—We fully agree with Mr D B Caro (6 October, p 863) that the provision of analgesia for patients with minor head injuries who have severe pain from other injuries is highly unsatisfactory. None the less, the dangers of the opiates in terms of changes in level of response, depression of pupillary reaction, and respiratory depression are real. It may be that small doses can be given intravenously by an experienced doctor, but only with highly intensive patient monitoring. Like Mr Caro, we wondered whether Entonox could be used as an analgesic in head injury, but found that it produced increases in intracranial pressure due, presumably, to the cerebral vasodilatory action of the drug which might be detrimental.¹ We would therefore caution against the use of Entonox in any patient who has suffered a head injury.

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¹ Moss E, McDowall DG. *Br J Anaesth* 1979;51:757-60.

Haemodialysis and transplantation in Wegener's granulomatosis

SIR,—We have read with interest the paper by Professor Charles van Ypersele De Strihou and others (14 July, p 93), in which two patients with Wegener's granulomatosis were reported as cured by the institution of dialysis followed by transplantation. They state that the complete remission of Wegener's disease in both cases clearly shows the value of dialysis and transplantation in such patients. Our experience with a patient with Wegener's granulomatosis is not in agreement with this.

A 31-year-old man presented at hospital in 1973 with deteriorating renal function. Chest radiography showed a small opacity in the right mid-zone and a renal biopsy was reported as showing acute glomerulonephritis. He was treated with a combination of cyclophosphamide, dipyrindimole, anticoagulants, which soon had to be abandoned because of side effects. Renal function did not improve, although the lung lesion disappeared. He was started on peritoneal dialysis and was soon afterwards established on home haemodialysis. Two years later he was readmitted to hospital with a cough and haemoptysis. Chest radiography revealed a large, rounded lesion containing a gas

fluid level in the right lung at the same site as the previous shadow. Tests for tuberculosis were negative and in August 1975 a right upper and middle lobectomy was performed. Histology confirmed the presence of Wegener's granulomatosis.

The patient was recommended on cyclophosphamide 100 mg/day and prednisone 10 mg/day. These drugs were continued until the following year, when he received a cadaveric renal transplant. He was then treated with azathioprine, prednisolone, and nifedipine. No rejection episodes were experienced and he was discharged home in August of that year taking azathioprine 100 mg/day and prednisolone 40 mg/day. For three years he remained in good health taking azathioprine 125 mg/day and prednisolone 15 mg/day. However, in November 1979 he developed a severe cough and breathlessness and was readmitted to hospital. Chest radiology demonstrated a very large lesion in the right lung with a cavity within it. This lesion has regressed once again following the reintroduction of cyclophosphamide and an increase in the steroid dosage.

The Wegener's granulomatosis which affected this man's lung recurred while he was on haemodialysis (but off treatment) and also after he had received a cadaveric renal transplant and was receiving routine immunosuppressive drugs. It cannot be said therefore that dialysis or transplantation were effective in preventing recurrent disease; rather it would appear that long-term cyclophosphamide therapy is required if disease recurrence is to be avoided. Certainly azathioprine was not an effective substitute in this case.

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Pathogenesis of acute renal failure

SIR,—Your leading article on acute renal failure (5 January, p 2) after major surgery may be factual but it surely conveys the impression that little can be done to prevent renal failure or to reduce the high mortality apart from care in prescribing nephrotoxic antibiotics. I differ from you in the emphasis that I would place on endotoxaemia as a causative factor.¹ My own observations suggest that it is common.² Indeed, I am surprised that so far no other group has published results on the incidence of endotoxaemia in a series of patients with acute renal failure. Endotoxaemia is logical because its experimental counterpart, the Schwartzman reaction, has been well studied and validated, and moreover we now know that many persons in the general population have only low anti-lipid-A (antitoxin) antibodies.³ The way should thus be open to new approaches to this refractory complication of surgery.

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¹ Wardle EN. *Scot Med J* 1976;21:83-91.

² Wardle EN. *Q J Med* 1975;44:389-98.

³ Wardle EN. *Br J Hosp Med* 1979;22:104.

Treatment of liposclerosis

SIR,—Mr K Burnand and colleagues (5 January, p 7) may be misinterpreting their data in attributing an increased rate of healing of liposclerosis to an effect of stanozolol. In comparing mean areas that were healed by the two forms of treatment, they assume that the rate of healing is in-

dependent of the area of liposclerosis at the beginning of treatment.

With leg ulcers there is some evidence¹ that healing follows a logarithmic curve, large ulcers healing faster than small ones. This biological phenomenon may well apply to the healing of liposclerosis; if so transformation of the data is essential before paired comparisons are made. In the discussion the authors mention that other methods of assessing healing, such as percentage change, appeared to offer no advantages, but in what respect?

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¹ Perdrup A. *Acta Derm Venereol (Stockh)* 1972;52:136-140.

Misericordiae medicinae

SIR,—Following Dr James Dunlop's interesting paper on misericords (22-29 December, p 1673), your readers may like to know of another "medical" misericord. This is to be found in Malvern Priory Church.¹ It depicts a patient in bed flanked by a worried looking female (wife?) and a physician holding a wine flask in the left hand; with the right hand he is taking another such flask offered him by the patient. He seems to be comparing the two specimens, which are likely to be from the previous and the present day respectively.

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¹ Kraus B, Kraus H. *The hidden world of misericords*. London, Michael Joseph, 1976.

Prognosis after myocardial infarction

SIR,—I was puzzled by your leading article (24 November, p 1311) "Prognosis after myocardial infarction." After noting that ventricular premature beats are associated with increased mortality, you state that "such observations are of epidemiological rather than individual importance." No one could fault your epidemiology, since it is clear that the majority of deaths in persons with coronary disease are sudden, and almost always due to ventricular fibrillation, usually without new thrombosis or infarction (in those who are promptly resuscitated).^{1,2} Lown has put forward the thesis that ventricular fibrillation is an "electrical accident" which is predictable and preventable—by suppression of high-grade "warning" arrhythmias.³ Others have considered these arrhythmias,⁴ as you put it, "probably an indication of heart disease rather than a direct cause of death," since there is a good correlation between ventricular impairment and arrhythmia. However, there are at least six prospective multi-variate studies which have demonstrated that ventricular premature beats, especially very early beats and couplets, predict mortality independently of both clinical and ventriculographic indices of heart failure.^{3,5} Furthermore, even very poor left ventricular function does not prevent suppression of ventricular tachycardia and consequent prolongation of survival.^{2,6}

Admittedly it is not yet proved to everyone's satisfaction that suppression of malignant

arrhythmias reduces mortality, though there are recent data which suggest this. Circumstantial evidence includes the secondary prevention trials with beta-blockers¹⁰ and with sulpinpyrazone,¹¹ both of which are effective antiarrhythmic agents in addition to having other salutary properties.¹² More direct evidence is found in studies by Green *et al*,⁷ Spielman *et al*,⁹ and Lown,² though large-scale randomised trials have yet to be conducted.

Exactly how much evidence is enough is a matter each physician resolves individually, but it is worth noting, in comparison, how little evidence we have that digitalis, diuretics, or afterload reduction prolongs survival. In fact, very few of the things we do have been proved in prospective, double-blind trials. The rest we do because they make sense and because experienced clinicians have found them to work. Thus, until there is evidence to the contrary, it seems reasonable to continue to treat high-grade arrhythmias in the post-infarction patient as a matter of individual, and not merely epidemiological, importance.

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- ¹ Schaffer WA, *et al*. *N Engl J Med* 1975;293:259-62.
- ² Lown B. *Am J Cardiol* 1979;43:313-28.
- ³ Coronary Drug Project Research Group. *JAMA* 1973;223:1116-24.
- ⁴ Schulze R. *Am J Med* 1977;62:192-9.
- ⁵ Ruberman W, *et al*. *N Engl J Med* 1977;297:750-7.
- ⁶ Hammermeister KE, *et al*. *Circulation* 1979;59:421-30.
- ⁷ Greene HL, *et al*. *N Engl J Med* 1978;299:729-34.
- ⁸ Moss AJ, *et al*. *Circulation* 1979;60:998-1003.
- ⁹ Spielman SR, *et al*. *Clin Res* 1979;27:569A.
- ¹⁰ Wilhelmsen L. *Cardiovasc Med* 1978;3:557.
- ¹¹ Anturan Reinfection Trial Research Group. *N Engl J Med* 1978;298:289-95.
- ¹² Moschos C, *et al*. *Am J Cardiol* 1979;43:372.

Tardive dyskinesia

SIR,—In your leading article (24 November, p 1313) under this heading you end with the sentence "The ghost of Voltaire is there to remind us that, even if further trials confirm the safety of clozapine in respect of tardive dyskinesia, it may turn out to produce other, as yet unknown, side effects in long-term use."

Long-term? Clozapine had to be withdrawn from the market after only six months' use in Finland in 1975 because, of the 3160 patients already treated, 17 developed severe bone marrow depression. Eight died of agranulocytosis and one of leukaemia.¹

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¹ Idanpaan-Heikkilä J. In: *Studies in drug utilisation*. WHO Regional Publications, European Series, No 8. Copenhagen, WHO, 1979.

* * * Decisions on drugs vary from country to country. Clozapine was undergoing clinical trial in several countries when our leading article was published.—ED, *BMJ*.

Iron treatment in the elderly

SIR,—Dr Peter Reizenstein and others (20 October, p 962) reported on the overprescribing of iron tablets to elderly people in Sweden. They concluded that in Sweden one in 10 women over 65 were prescribed iron tablets. When investigating the situation at a rural

health centre, they commented on the numbers who did not, in fact, have iron deficiency anaemia and concluded that iron should not be prescribed until the possibility of a bleeding gastrointestinal tumour has been excluded.

We have obtained data on iron prescribing in England and Wales on the basis of one in 10 sample of prescribing general practitioners. From this it appears that in 1977 2.8% of elderly people (men over 65, women over 60) were prescribed iron therapy. This is considerably less than the Swedish figure of 10%. There is, however, a wide variation between different prescribers. It is not known how many of these have been investigated for the exclusion of a bleeding gastrointestinal tumour.

It is difficult to make valid comparisons between the United Kingdom data and those from Sweden, and indeed the methods used to study the question are different. Dr Reizenstein and his colleagues compare the use of iron between different countries on the basis of Swedish crowns expended per person. This method is a complex one which would be influenced by marketing and economic conditions as well as by the prescribing methods used in the different countries. Our findings suggest that up to 400 000 people of retirement age in England and Wales could have been treated for iron-deficiency anaemia in 1977.

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The practice nurse

SIR,—Dr W H R Waters and others (12 January, p 87) in their excellent paper on the work of the practice nurse make in their summary the statement "... this would not have been possible if the staff concerned had been attached nurses requiring area health authority authorisation for procedures carried out..."

It is unfortunate that this summary, probably unintentionally, conveys the impression that all NHS area health authorities would inhibit in this way. Our practice for one has carried out the procedures listed with attached staff and a treatment room fully staffed by attached nurses for over 10 years, allowing direct access to nurses by patients.^{1,2} But one does know that there are many others.

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¹ McGregor SW, Heaseman MA, Kuenssberg EV. *The evaluation of a direct nursing attachment in a North Edinburgh practice*. Scottish Health Service Studies No 18. Edinburgh: Scottish Home and Health Department, 1971.

² Kuenssberg EV. *Practitioner* 1971;206:129-45.

In defence of clinical freedom

SIR,—At a time when the concept of clinical freedom is under attack on economic and other grounds, I would like the opportunity to point out to your readers a distinct advantage to the provision of services arising from this freedom. I refer to the modern hospital geriatric service with its active and energetic approach to rehabilitation resulting in a rapid turnover of patients, many being discharged home after only a short time in hospital. Such a policy has enabled the hospital services to