Pentazocine in Thyroid Failure

SIR,—Mr. W. M. Gould (29 January, p. 313) described a case in which there was C.N.S. disturbance due to pentazocine administration. It is important to emphasize that in certain circumstances even a single dose of pentazocine may be harmful.

We recently admitted a 50-year-old married woman who was complaining of right-sided chest pain. She had a right-sided effusion and was clinically hypothyroid, with pale, fine skin, absent body hair, and B.P. 160/90. She had had a difficult pregnancy 24 years before, followed by a severe post-partum haemorrhage. She did not breast feed and her menses never resumed. For two years previous to this admission, her relatives noticed slowing of activity and mentation. Relevant investigations showed Hb. 9.9 g/100 ml, E.S.R. 78 mm in 1 hr, moderate hypochromia and anisocytosis, P.B.I. 1.5 µg/100 ml, T4 2.1 µg/100 ml, and free thyroxine index 1.5—these last three being all low values. Random plasma cortisol was 9.4 µg/100 ml and B₁₂ folate, electrolytes, and glucose tolerance were normal. Cholesterol was 264 mg/100 ml, lactic dehydrogenase 425 I.U./l. Skull x-ray was normal. The chest x-ray showed right-sided consolidation and effusion compatible with either pneumonia or pulmonary embolism.

She was treated with ampicillin 500 mg six-hourly, but because of severe right-sided chest pain was given 60 mg of pentazocine orally. Forty-five minutes after the pentazocine her temperature had fallen from 38°C (oral) to 36°C (rectal). She was drowsy, disorientated, and cyanosed with a respiratory rate of 3/min and irregular, with poor expansion and air entry. B.P. was 90/60. Peripheral pulses were not palpable, apex rate was 80/min, with normal heart sounds and no signs of congestive heart failure. An E.C.G. showed low voltage QRS, depressed ST segment, and T wave inversion over the left ventricle, together with U waves. At that time P_{O₂} was 49 mm Hg with P_{CO₂} of 52 mm Hg, pH 7.27, and standard bicarbonate 22 mEq/l. Blood sugar was within normal limits.

Clinically she showed a picture of respiratory depression and severe myxoedema. She was given 20 µg of tri-iodothyronine and 100 mg of hydrocortisone intravenously, followed by 1 g of hydrocortisone and 80 µg of tri-iodothyronine intravenously over the following 24 hours. Two hours after the episode, her respiratory rate was 9/min with a minute volume of 4,100 ml/min, and blood gases had returned to normal on a 35% oxygen supplement. Her temperature remained at 34°C (rectal) for 36 hours. Her level of consciousness improved over this period, but she then became over-excited. She was maintained on intravenous therapy for 48 hours, then weaned slowly on to oral thyroxine and steroids. Her remaining stay in hospital was uneventful.

While it is well known that infection can precipitate myxoedema precoma in susceptible people, we consider that this patient's episode of respiratory failure and hypothermia can be directly related to the administration of pentazocine. Previously reported side effects of pentazocine¹ have included respiratory depression, drowsiness, or excitement, with tachycardia and a rise in blood

pressure, preceded sometimes by a transient fall in systolic pressure.^{2,3} However, in this patient there was a marked fall in blood pressure, both systolic and diastolic. We consider that in pituitary or thyroid disease pentazocine and related products should be used with extreme caution.

We wish to thank Dr. D. A. Williams for allowing us to report this case.

—We are, etc.,

BETHAN M. EVANS
JAMES DUNNE
IVOR SURVEYOR

University Hospital of Wales,
Llandough Hospital,
Penarth, Glam

¹ *British Medical Journal*, 1970, 2, 409.

² Lal, S., Savidge, R. S., and Chhabra, G. P., *Lancet*, 1969, 1, 379.

³ Scott, M. E., and Orr, R., *Lancet*, 1969, 1, 1065.

Verapamil in Cardiac Arrhythmias

SIR,—The recent article by Dr. L. Schamroth and others (11 March, p. 660) on the use of verapamil in supraventricular arrhythmias confirmed our very favourable impressions of its great value which we have learned over the past year since he introduced us to its use during a visit to Cape Town. Dr. C. B. Boothby and others (6 May, p. 349), however, remind us of similar experiences of its potential danger in digitalized patients.

The first, a 45-year-old man with terminal ischaemic cardiac failure had a heart transplant performed on 10 May, 1971. Twenty-two days later he developed atrial flutter with 2:1 A-V block. 1.75 mg digoxin was given over 24 hours without effect. A test dose of quinidine (200 mg) was given with the intention of quinidine conversion. Two hours later it was elected to try intravenous verapamil and 2.5 mg were given over approximately half a minute. He was observed for two minutes before increasing A-V block developed. Within the next few minutes his 2:1 A-V block increased to 10:1 block with a ventricular rate of 30 per minute. Over the next fifteen minutes the A-V block diminished to its former state. Other drugs being given at the time of this treatment included prednisolone, azathioprine, antilymphocyte globulin, Lugol's iodine, clofibrate, and heparin. Serum electrolytes were normal at the time. Later the same day the patient was uneventfully converted to sinus rhythm under diazepam sedation with a single shock of 50 watt secs. The patient has had no subsequent arrhythmias and has since returned to full employment in good health.

The second patient, a 63-year-old man, was admitted in cardiogenic shock and pulmonary oedema with rapid atrial fibrillation, following an extensive myocardial infarction. Because of bifascicular block a temporary transvenous pacemaker was inserted. Treatment with oxygen, morphine, aminophylline, diuretics, and digoxin resulted in considerable clinical improvement with associated slowing of his ventricular rate to approximately 100 per minute within 24 hours. By 36 hours he had developed atrial flutter with a ventricular rate of approximately 130 per minute. 10 mg verapamil were given intravenous over two to three minutes following which he developed ventricular standstill within a minute with loss of consciousness. His pacemaker, which had

been switched off at the time, was activated with immediate ventricular capture and recovery. He remained in complete heart block over the next 24 hours and was subsequently successfully cardioverted to sinus rhythm with a normal P-R interval. His hypotension then worsened and he died the following day.

At the time we attributed the dramatic increase in A-V block in the first patient after only 2.5 mg verapamil to an unusual situation in which cardiac denervation following transplantation may have been implicated. Our second patient had bifascicular block and was known to be a candidate for complete heart block, although there was a close temporal relationship with the administration of verapamil.

In retrospect, however, both patients were digitalized and the second man was possibly over-digitalized as evidenced by the recent conversion of atrial fibrillation to flutter. While we have given verapamil to numerous other patients who have been digitalized, as have Dr. Schamroth and his colleagues, our experiences in conjunction with those quoted by Dr. Boothby and others should lead to preparedness for resuscitation in patients receiving verapamil when such patients are on digitalis or beta blockers or where A-V conduction disturbances already exist.—We are, etc.,

H. SACKS
B. M. KENNELLY

Cardiac Clinic,
Groote Schuur Hospital,
Cape Town, South Africa

Vasectomy

SIR,—Unlike Dr. P. Konstam (27 May, p. 531) I have not been impressed by a tendency of wound complications to follow vasectomy performed through a scrotal incision, and see no need for using an inguinal approach.

I undertake vasectomy under local anaesthesia through bilateral scrotal incisions approximately 0.75 cm in length. The incidence of haemorrhage and sepsis in 600 cases has been minimal. The minor nature of the procedure has advantages for use in a clinic of this type where twelve operations are performed in three hours.

However, I feel the type of suture material used to appose the skin edges in this situation may be relevant, for minor skin sepsis initially experienced when catgut was used has no longer been a problem following the use of fine non-absorbable sutures, which are removed after four days.—I am, etc.,

IAN CRAFT

Kingston Contraceptive Clinic,
Chessington, Surrey

New Consultant Contract

SIR,—Dr. P. N. Coleman's letter (27 May, p. 532) concerning a new contract for consultants which the Central Committee for Hospital Medical Services hope to negotiate deserves the closest attention. The implications of the proposals to whole-time consultants are considerably disquieting.

The C.C.H.M.S. propose that the basic commitment should be limited to ten sessions, certain work, including emergency

work outside this, should be separately remunerated, and private practice should be available to all consultants.

Thus the option to be whole time would be abolished and with it the present differential in remuneration. If the new contract is to be fair to whole-time consultants then two assumptions on which it is based must be shown to be generally true.

The first is that all existing whole-time consultants will in fact engage in private practice and will, moreover, do sufficient to compensate them for their loss of differential. This must be far from true. In some specialties the nature of the patient or of his illness makes private practice, for the most part, inappropriate, and among these may be some of the more exacting clinical specialties such as intensive care anaesthesia, neurosurgery, and paediatrics, particularly in regional hospitals. A worthwhile amount of private practice may not be available, depending on the area or the specialty. Moreover, many whole-time consultants may not necessarily wish to engage in private practice, preferring to devote their extra energies to developing the service, to teaching, research, or other work. As private practice may not be appropriate, available, or desired by many whole-time consultants it would be far better if the option to be whole time were to remain and with it the appropriate differential remuneration, whether or not the basic week were based on ten sessions.

In the absence of any contractual provision for an 11th session, the second assumption which ought to be demonstrable is that eleven existing sessions of work can be compressed into ten without detriment to the service. There must be many whole-time consultants for whom this would be a practical impossibility, particularly those in specialties with only one or two consultants providing a regional or subregional service. If, therefore, the basic commitment of ten sessions were introduced it would scarcely be workable unless there were also provision in the new contract for an additional remunerated session for existing whole-time consultants.

In the past the Review Body has assumed that earnings from private practice are "significant and in some cases considerable" in making their assessment of what the consultant salary ought to be. This has in turn depressed remuneration for all consultants. The abolition of the whole-time contract altogether would serve to strengthen this view and inevitably lead to a downward adjustment of consultant salary in the future.—I am, etc.,

M. KEITH STRELLING

Plymouth General Hospital,
Plymouth, Devon

Evidence to the Lane Committee

SIR,—Mr. P. L. C. Diggory wishes publicly to be *disassociated* (my italics) from a certain paragraph, quoted by him (27 May, p. 531), in the evidence submitted by the Royal College of Obstetricians and Gynaecologists to the Lane Committee. I would like publicly to be *associated* with the opening sentence of that paragraph.

An able former house surgeon of mine, who had intended to specialize in obstetrics and gynaecology, told me recently that he had abandoned his intention to do so on

account of the difficulties he would inevitably encounter because of the Abortion Act.—I am, etc.,

ANTHONY W. PURDIE

North Middlesex Hospital,
London N.18

Scientific Basis of Clinical Practice

SIR,—The people who conceived the series "Scientific Basis of Clinical Practice," those who have contributed material to the series, and the editorial staff of the journal who decided to publish it are to be congratulated.

I am an Australian graduate working in a remote area of West Irian, Republic of Indonesia. These excellent articles and the discussion which they generate in the correspondence section, help me to keep my feet on scientific ground.—I am, etc.,

CYRIL D. SWAINE

Timika,
Irian Barat, Indonesia

Hospital Staffing

SIR,—Dr. I. G. Wickes (27 May, p. 533) accurately summarizes the registrar problem and regrets the inevitable consequences of present policies upon staffing structure in the near future. He also cites and (rightly as I think) rejects five possible solutions, preferring to continue the anomalies of today. That these anomalies have caused frustration and have resulted in excessive emigration cannot, however, be ignored. Nor should the fact be ignored that the number of consultant emigrants is almost exactly matched by the number of, predominantly general practitioner, immigrants. Most observers think that the number involved in this exchange, around 400 each way, is too high. Three conclusions may be drawn from these facts:

(1) Too high a proportion of medical graduates become "aspiring consultants" (Dr. Wickes's phrase) in general medicine and general surgery and that too few opt for general practice; (2) the supposed shortage of British doctors is more apparent than real, the problem being one of distribution; and (3) the output of our medical schools needs to be geared to the needs of the N.H.S.

Freedom of choice being sacrosanct (although the achievement of status based on choice may be impossible) the rationalizing of the output of our medical schools has never been tackled. Until it is tackled our irrational problems will remain with us. The facile "remedy" of reducing the number of registrar posts will, as Dr. Wickes says, soon damage our staffing structure, while it is doubtful whether it will discourage aspiring consultants from entering the over-subscribed specialties.

The man who will suffer from a restricted registrar establishment is the overseas trainee, who will be squeezed out. This is deplorable educationally. It is also deplorable in respect of staffing structure because the transient graduate student is just the man to support the registrar strength without upsetting the consultant/aspiring consultant ratio. In order that the student from overseas should be seen to be transient, and indeed for other good reasons,^{1,2} he should probably be registered as a student and that for a limited period of time.

These two measures—namely, contrived output from medical schools and overseas "student" registration—are complementary, and neither is likely to be wholly successful without the other.—I am, etc.,

CHARLES WELLS

Hoylake, Cheshire

- ¹ Wells, C. A., *Annals of the Royal College of Surgeons*, 1966, **39**, 267.
- ² Wells, C. A., *Proceedings of the Royal Society of Medicine*, 1971, **64**, 761.

Points from Letters

Influenza Immunization

Dr. JOHN D. AVISON (London S.W.15) writes: The expected influenza epidemic does not appear to have materialized, and I understand that perhaps about 4½ million doses of vaccine were given to counteract the threat at a cost of what must be in the region of £2,000,000. A World Health Organization paper¹ examined the effects of giving influenza vaccine intradermally in a much smaller dose, and reported that the antibody response to the first inoculation (they were given boosters also) was highest when given intradermally. Most people now give T.A.B./Cholera injections intradermally, and there is also no reason why other vaccines should not be given in a similar way, provided that they are not aluminium absorbed vaccines. . . .

¹ Tauraso, N. M., et al., *Bulletin of the World Health Organization*, 1969, **41**, 507.

Hysterotomy and Sterilization

Dr. R. F. HEYS (Halifax General Hospital, Halifax, Yorks) writes: While agreeing that in the majority of cases insistence on sterilization as a prerequisite of termination of pregnancy is not justifiable, I believe that there are circumstances in which it is an entirely reasonable proviso. I refer to the case

of the multipara beyond the 12th week of pregnancy being considered for abortion by abdominal hysterotomy. In this situation I maintain that the risk of rupture of the uterine scar and other complications in a possible subsequent pregnancy if the patient is not sterilized may well make the overall danger of termination to the life and health of the woman greater than that of allowing the pregnancy to continue. To terminate pregnancy without sterilization in such a case would in fact constitute a violation of the terms of the Abortion Act.

Cleopatra's Cunning

Dr. A. P. RADFORD (Brentley, Bristol) writes: Dr. John Apley in his "Personal View" (27 May, p. 525) referred to Cleopatra who, apparently, drank turpentine to make her urine smell of violets. On reading of this behaviour of Cleopatra one is hardly surprised that Shakespeare's Mark Antony should remark: "She is cunning past man's thought." How she maintained her cunning, however, seems remarkable if, in fact, she drank turpentine at all frequently. Considering Cleopatra's numerous political and amorous encounters it is amazing that they occurred at all if she suffered often from the nausea, vomiting, and haematuria of turpentine poisoning. . . .