Service, with over 17 years' experience of the N.H.S.) because legally I have no standing in this dispute and therefore no opportunity to challenge the Minister's decision in open court—a test which it would not pass. Inside the N.H.S. the Minister has enormous powers, and that these powers should be used within the law is even more important than the details of this case. It is, however, particularly regrettable that the N.H.S. should now be the biggest single obstacle to the greater availability in the dental surgery of the most important safety factor in modern anaesthesia—tracheal intubation.

"Undoubtedly the safest method of operating in the oral cavity is under endotracheal anaesthesia. . . . But the numbers of patients are too great for such a methodical approach" according to your recent leading article on dental anaesthesia (25 February, p. 447). The numbers will not be too great when the Ministry removes the disabilities improperly imposed on the consultant anaesthetist working in the dental surgery.—I am, etc.,

Manchester. ARNOLD M. DANZIGER.

REFERENCE

- ¹ The N.H.S. (General Dentist Services) Regulations, 1964, No. 755, p. 15.

Cardiac Catheter Introducer

SIR,—I was interested in Dr. J. MacKinnon's letter (6 May, p. 377) referring to a shoehorn-type of catheter introducer for small veins or arteries. A very suitable and cheaper version can be readily made by a hospital instrument-maker from an ordinary Luer lok needle. The needle (15 to 18 gauge) is bisected along most of its length, and the short tip is bent at a right angle.

The catheter is passed along the hollowed-out tip, which occupies less of the vessel lumen than the two blades of an angled non-toothed iris forceps which I had previously used. It follows that this simple instrument is suitable for all types of vascular catheterization and need not be restricted to heart catheterization.

I claim no originality for this description, as I recently saw it used in several centres in the U.S.A.—I am, etc.,

W. G. SMITH.

Sir Charles Gairdner Hospital,
Shenton Park,
West Australia.

Amitriptyline and Heart Block

SIR,—That amitriptyline and nortriptyline in therapeutic doses can precipitate complete heart block is suggested by the following clinical history. Complete heart block after overdose of amitriptyline has been reported in children,¹ and has been recorded in experimental animals.² We have been unable to find any other reports of complete heart block

following the administration of amitriptyline or nortriptyline in therapeutic doses.

A 73-year-old woman was readmitted to Wellington Hospital in April 1967 because of transient blackouts of recent onset. It was found that she was having episodes of complete heart block, alternating with sinus rhythm, and that Stokes-Adams attacks accompanied the onset of the bradycardia. Her past history included osteoporosis of the spine, mild iron-deficiency anaemia, and mental depression. In December 1966 she had commenced therapy with ferrous gluconate, calcium gluconogalactogluconate, calciferol 50,000 b.d., and nortriptyline; the dose of the last had been increased gradually to 50 mg. t.d.s., but was reduced to 25 mg. t.d.s. because of postural hypotension. There was no past history of cardiovascular disease, and apart from an apical systolic murmur there were no abnormal cardiovascular signs during periods of sinus rhythm. Serum calcium remained normal on this regimen.

Her arrhythmia and Stokes-Adams attacks were treated with sublingual isoprenaline and oral isoprenaline hydrochloride, and her usual therapy was continued. Because of continuing Stokes-Adams attacks, all therapy was stopped and intravenous isoprenaline given. After two days there were no further Stokes-Adams attacks, nor evidence on E.C.G. monitoring of heart block, and for the next 11 days, while maintained on isoprenaline hydrochloride 15 mg. four-hourly, she remained in normal sinus rhythm. Nortriptyline 25 mg. t.d.s. was recommenced, and she continued on isoprenaline. Four days later mefenamic acid (Ponstan) was commenced for back pain. After seven days on nortriptyline further episodes of heart block with Stokes-Adams attacks were observed. Isoprenaline was increased to 45 mg. three-hourly, but attacks continued. After three days of occasional episodes of heart block it was considered possible that nortriptyline might be responsible, and it was discontinued. Stokes-Adams attacks continued for another day, but there were no episodes over the following three days. Since amitriptyline therapy was helping her depression, and its continued use was therefore desirable, it was decided to observe the response of the patient to an intravenous injection of amitriptyline (nortriptyline injections were not available). Isoprenaline 45 mg. three-hourly was continued during this time.

While resting in bed the patient was given 25 mg. amitriptyline, diluted to 20 ml., at the rate of 2.5 mg. every 2 minutes for 20 minutes. Continuous E.C.G. monitoring revealed no abnormality for the first hour after injection, but at 69 minutes post-injection complete heart block occurred without any subjective awareness. Sublingual isoprenaline rapidly reverted her to sinus rhythm, but for the next few hours there were further episodes of complete heart block, but no true Stokes-Adams attacks. By the following day, and during the next 12 days, she remained free of symptoms, nor did an hourly pulse chart reveal any evidence of bradycardia, despite a reduction in, and final withdrawal of, isoprenaline during that time.

It thus appears likely that the occurrence of complete heart block, with or without Stokes-Adams attacks, during or shortly after the cessation of two oral courses of nortriptyline, and following the intravenous administration of amitriptyline, was precipitated by those drugs.—We are, etc.,

R. B. SMITH.

BARBARA J. RUSBATCH.

Medical Unit,
Wellington Hospital,
Wellington, New Zealand.

REFERENCES

- ¹ Sunshine, P., and Yaffe, S. J., *Amer. J. Dis. Child.*, 1963, 106, 501.
² Lamarche, M., et al., *Nutley Cont. Circ.*, 1966, 53, 143.

Cervical Smears

SIR,—Like Dr. M. B. Carson (15 July, p. 177), I have been carrying out cervical smears on all my female patients between the ages of 25 and 60 years for the past 18 months.

In a relatively small series of 350 smears (out of 2,900 in a single-handed practice) I have had four patients with positive smears, all of whom have had cone-biopsies and the diagnosis of carcinoma-in-situ thus confirmed. (Incidentally, one of these patients is aged 24.)

In one of the other patients, aged 44, the cone-biopsy confirmed the diagnosis, and, there not being signs of any invasion, it was advised that she be followed up by three-monthly routine smears. When I submitted Form E.C.74 duly signed by the patient—who is fully aware of her diagnosis and the importance of having her three-monthly smears—and having indicated on the form that the patient required regular repeat smears, my claim for payment was rejected because "the patient had a smear taken in the previous five years."

This, Sir, strikes me as the most incredible of all incredible anomalies in which the Ministry of Health is so excelling. Having uncovered and treated what the test is designed to do, as soon as the test becomes an important and valuable prognostic tool it no longer attracts a fee. It is insulting enough to have to claim a ridiculous fee and to get the patient to sign—as if we were all crooks—but when the test becomes a follow-up measure then one is obviously no longer providing a service, at least not in the Minister's thinking.

What then, if I may ask, is the purpose of the test?—I am, etc.,

London E.1.

K. E. SCHOPFLIN.

SIR,—In relation to Dr. M. B. Carson's letter (15 July, p. 177), I can report how this regulation is carried to the bureaucratic extreme. I have just had payment refused for a smear because I carried this out precisely 17 days before the patient's 35th birthday. The age limit for smears seems particularly inappropriate in this practice, since the only two deaths from carcinoma of the cervix in the past years have been in patients in whom it was first diagnosed at the age of 33 years.—I am, etc.,

Street,
Somerset.

R. D. LAST.

Experiments on Man

SIR,—Further to my letter (8 July, p. 109) offering qualified support to Dr. M. H. Pappworth's views, as expressed in his book *Human Guinea-pigs*, it has occurred to me that the printing of the name of my hospital might be construed in some quarters as implying that "human experimentation" was, or has been, taking place there.

I would be most grateful if you would allow me to make it absolutely clear that the opinions I expressed (which I maintain) were entirely my own, and that to the very best of my knowledge and belief absolutely nothing that could be thus interpreted takes or has taken place at this hospital. I am proud and pleased to be able to say this in all honesty.—I am, etc.,

Queen Elizabeth Hospital,
Birmingham 15.

B. W. ROPER.