results) must be increased before they are substituted for a reliable biological test (see Table).

Test	Tests (No.)	Correct (%)	False Positive (%)	False Negative (%)	Reference
Hogben Immunological Preparation A	1,436	99.4	0	0.6	Hobson (unpublished)
		97.0	2.4	0.6	
Hogben Immunological Preparation B	1,691	99.2	0	0.8	Barr, A. (in press)
		97.4	2.3	0.3	
Total	3,127				

The objection to the immunological tests at the moment is that the incorrect results are nearly all falsely positive. False-positive results are not obtained with the Hogben biological pregnancy test. At the moment our choice seems to be between an immunological test that will tell nearly 600 women each year that they are pregnant when they are not, and the biological test that will fail to detect the pregnancy of some 170 women.—I am, etc.,

B. M. HOBSON.

Pregnancy Diagnosis Laboratory,
Department of Obstetrics and Gynaecology,
University of Edinburgh.

REFERENCE

- ¹ Wide, L., and Gemzell, C. A., *Acta endocr. (Kbh.)*, 1960, **35**, 261.

Tests for Occult Blood

SIR,—As Dr. R. G. Simpson pointed out in his letter (April 27, p. 1162) one of the most useful clinical side-room procedures is stool-testing for occult blood. It is especially useful as a screening test in general practice.¹ As Dr. Simpson indicated, the most popular and efficient test for occult blood is the Gregersen test. This modified benzidine test fell into disuse when benzidine was taken off the market because of the incidence of malignant bladder papilloma among those engaged in its manufacture. With the introduction of new methods of manufacture benzidine is now again available.

In addition to the many advantages described by Dr. Simpson, perhaps the greatest advantage of the Gregersen test over the "haematest" now most commonly used is that it is possible to detect with the Gregersen test, especially if the white-tile method is used,² whether the blood is coming from higher up the bowel or from low down, as happens so often, for example, in haemorrhoids. With the Gregersen white-tile method blood coming from higher up the bowel produces a blue colour reaction, evenly and homogeneously distributed throughout the specimen; with local blood contamination the colour reaction is at once seen to be distributed streakily. For screening purposes it is extremely important to be able to make this distinction. With the haematest this distinction is not always possible, even if the usual precaution is taken of testing an inside portion of the stool.—I am, etc.,

Edinburgh 9.

S. LIPETZ.

REFERENCES

- ¹ Lipetz, S., Sklaroff, S. A., and Stein, L., *Brit. med. J.*, 1955, **2**, 172.
² — *Practitioner*, 1951, **166**, 591.

Pregnancy in a Cornu of a Bicornuate Uterus

SIR,—Full-term pregnancy in a malformed uterus is uncommon. On March 29, 1962, a case was referred to us that from all clinical appearances and investiga-

tions looked like an extrauterine pregnancy, and accurate diagnosis of pregnancy in a cornu of a bicornuate uterus was only made at laparotomy.

The patient, a Nigerian, aged about 22 years, and whose first pregnancy ended at 20 weeks, was now 32 weeks pregnant.

The clinical findings were as follows:

(1) A marked ridging of the uterus. The smaller part lay to the right and the larger part seemed fused with the left subcostal margin.

(2) What seemed to be two foetal heart-sounds were present—one was around the umbilicus and the second was more lateral, almost along the left inguinal ligament.

(3) The foetus was lying obliquely and was difficult to palpate.

(4) The cervix was long and firm. On bimanual examination one got the impression that one was feeling two distinct masses, a smaller rather fixed firm mass to the right and a softer more mobile mass to the left.

(5) Radiologist's (Dr. M. A. Ogakwu's) report was as follows: "The attitude of the foetus is bizarre. No definite uterine wall can be discerned surrounding the foetus. There may be some abnormality of dorsal spine."

Except for the fact that Weiberg's and Shermin's sign were not present on x-ray, therefore, everything pointed to the case being one of extrauterine pregnancy.

The patient was detained and kept under constant observation. Her main complaint was a dull ache on the left flank. It was decided that if nothing unusual happened laparotomy would be performed at the 38th week.

At laparotomy in the 38th week it was discovered that instead of a small uterus and a large extrauterine gestational sac a stocking-like shaped mass was felt. The larger and longer overstretched part lay to the left and contained the foetus, while the smaller and shorter firm part to the right looked like a 22-weeks pregnant uterus.

The baby was quickly removed through what looked like a poorly formed lower segment. It cried well and weighed 6 lb. 2 oz.

The uterus, on exploration, was made up of two compartments, with a communicating opening at the inferior end, the rest being divided by a muscular ridge, thick at the upper end, and tapering towards the lower end.

Post-partum haemorrhage, which we feared, was not as alarming as we had expected.

The patient was discharged 10 days later.—I am, etc.,

Enugu General Hospital,
Nigeria.

B. V. O. AMOBI.

Dental Caries and Trace Elements

SIR,—I would like to comment on your leading article entitled "Dental Caries and Trace Elements" (April 20, p. 1039). In this editorial you write that "Epidemiological studies in Oregon showed that the incidence of caries in both permanent and deciduous teeth was reduced by trace amounts of fluoride and vanadium and increased by selenium." The study mentioned in your article¹ was conducted in the State of Wyoming and not in the State of Oregon. With regard to the trace element selenium, this investigation in Wyoming merely corroborated the findings of epidemiological studies conducted in Oregon some years ago by me and my associates which revealed, for the first time, that selenium appears to be a factor responsible for increasing the susceptibility to dental caries in children.^{2,3}

In a recent experiment with laboratory animals it was also shown that selenium significantly increased dental caries in white rats when administered during the period of tooth development and subsequently for a period of 120 days.⁴ Furthermore, in recent years

we have conducted a number of studies on the selenium content of teeth, placental tissue, and foetal cord blood, bovine milk, eggs, water, and human milk in relation to dental caries susceptibility in children.⁵⁻⁹

There is no doubt that the role played by trace elements in preventing dental caries requires further exploration. It is believed, however, that the study of trace elements that may be responsible for increasing the susceptibility to dental caries, such as selenium, should also be given serious consideration by research workers.—I am, etc.,

D. M. HADJIMARKOS.

University of Oregon Dental School.

REFERENCES

- ¹ Tank, G., and Storvick, C. A., *J. dent. Res.*, 1960, **39**, 473.
- ² Hadjimarkos, D. M., Storvick, C. A., and Remmert, L. F., *J. Pediat.*, 1952, **40**, 451.
- ³ — and Bonhorst, C. W., *ibid.*, 1958, **52**, 247.
- ⁴ Büttner, W., *J. dent. Res.*, 1963, **42**, 453 (Supp.).
- ⁵ Hadjimarkos, D. M., and Bonhorst, C. W., *Oral Surg.*, 1959, **12**, 113.
- ⁶ — and Mattice, J. J., *J. Pediat.*, 1959, **54**, 296.
- ⁷ — *ibid.*, 1961, **59**, 256.
- ⁸ — *Nature (Lond.)*, 1962, **193**, 177.
- ⁹ — *J. Pediat.*, in press.

Ettriol Trinitrate and Prenylamine Lactate in Angina Pectoris

SIR,—An effective method for the prolonged relief of severe angina pectoris is badly needed. Glyceryl trinitrate (trinitrin) relieves angina rapidly but its action is short-lived. And none of the many drugs claimed to produce prolonged relief have proved active when tested by acceptable methods of double-blind trial. The most widely prescribed, pentaerythritol tetranitrate, showed no effect even in doses of 180 mg. daily¹; and the various monoamine oxidase inhibitors have proved no better, as well as causing deaths from liver damage. The search continues, and I wish to report briefly double-blind trials of two recent drugs, claimed to be effective for the prolonged control of angina.

1. Ettriol trinitrate (E.T.T.N.) in experimental animals has shown actions on smooth muscle and coronary blood-flow similar to trinitrin. Sowton and Oram² found E.T.T.N. to be as effective as trinitrin for the rapid relief of anginal pain. Prolonged improvement of angina has been reported, though a controlled trial did not confirm this improvement.³ Twelve patients with typical severe angina took part in a double-blind trial; E.T.T.N. 10 mg. three times daily was given during the treatment period. Two patients improved on E.T.T.N., with more angina in the control period. The trial periods were repeated in both patients, when there was no difference between the E.T.T.N. and placebo periods. One patient improved during the control period, with more pain on E.T.T.N. Three patients showed moderate improvement in both periods, and four noticed no change in angina throughout the trial.

2. Prenylamine lactate increases coronary blood flow in animals, and the only double-blind trial⁴ showed moderate improvement with prenylamine in four out of six patients. Eleven patients, with severe angina, took part in a double-blind trial, receiving prenylamine in a dose of 30 mg. three times daily. Three patients showed slight improvement during the prenylamine period only, and two during the control period only. Three showed improvement throughout both periods of the trial, and in three angina persisted unchanged.

Neither ettriol trinitrate nor prenylamine lactate have proved more effective than control tablets for the prolonged relief of angina, when tested by a double-blind technique. Only one drug, trinitrin, is accepted as valuable for the relief of angina. The mechanism of

its action is uncertain. In normal subjects trinitrin causes coronary vasodilatation; but in patients with angina there is no increase in coronary blood-flow and occasionally even a decreased flow. Cardiac work is invariably decreased, owing to a fall in blood-pressure from peripheral vasodilatation, and this decrease in cardiac work may relieve angina. The coronary response suggests maximal dilatation of the coronary tree and collateral vessels even in the resting state, with no increase of coronary blood flow possible after trinitrin or exercise.⁵ It is doubtful whether the coronary arteries can be dilated by any drug more effectively than by the potent vasodilator stimulus of surrounding tissue ischaemia. And if coronary blood-flow does not increase with trinitrin, other coronary vasodilators with a more gentle and prolonged action are unlikely to dilate atherosclerotic coronary arteries.

Frequent disappointments in the past indicate that the spate of new drugs introduced for angina require formal testing before acceptance. At present we have no drug of proved value. Angina frequently improves with prolonged anticoagulant treatment,⁶ perhaps by prevention of recurrent small thromboses or by encouragement of collateral circulation; and the high incidence of infarction in these patients is considerably reduced by anticoagulants.⁷ Treatment of severe angina must therefore at present depend on general measures such as weight loss, reduction of smoking, and sedation; correction of precipitating factors such as anaemia, hypertension, or myxoedema; and anticoagulants if symptoms warrant. Fortunately, at least half these patients will improve with interest and enthusiasm alone.—I am, etc.,

Welwyn Garden City,
Hertfordshire.

DAVID N. PHEAR.

REFERENCES

- ¹ Phear, D., and Walker, W. C., *Brit. med. J.*, 1960, **2**, 995.
- ² Sowton, E., and Oram, S., *ibid.*, 1961, **1**, 794.
- ³ Oram, S., and Sowton, E., *ibid.*, 1961, **2**, 1745.
- ⁴ Baumgarten, A., *Med. J. Aust.*, 1962, **49**, 429.
- ⁵ Gorlin, R., Brachfeld, N., MacLeod, C., and Bopp, P., *Circulation*, 1959, **19**, 705.
- ⁶ Parry, E. H. O., and Wells, P. G., *Brit. med. J.*, 1960, **1**, 26.
- ⁷ Borchgrevink, C. F., *Acta med. scand.*, 1960, **168**, Suppl. 359.

Eaton Agent

SIR,—The author of your interesting leading article on "Respiratory Illness caused by Mycoplasma" (May 11, p. 1246) appears to have overlooked the recent work of Dr. Phyllis Pease.¹ She has produced convincing evidence that the Eaton agent is an L form of streptococcus MG, an observation which may prove to be of great biological importance.—I am, etc.,

Birmingham 15.

R. LANNIGAN.

REFERENCE

- ¹ Pease, P., *Nature (Lond.)*, 1963, **197**, 1132.

Detection of Glaucoma

SIR,—In his letter Mr. R. A. Greeves (May 4, p. 1231) suggests that tonometric measurements on all persons over 40 are not practicable. I thought, therefore, that your readers might like to know that Drs. Mackay and Marg (of the School of Optometry, Berkeley, California) have developed a guard-ring electromanometer, 3 mm. in diameter, which gives an accurate recording of the pressure in the anterior chamber if touched against the eyeball for two seconds. No local anaesthetic is necessary. The contact area of the instrument is smooth and covered with a sterile rubber membrane, and its application to the eyeball is not uncomfortable. It is