etc. Your article points out that the scratching finger is likely to introduce secondary infection into the affected auditory canal.

Difficulties concerning treatment of infected external otitis stem from the possibility of hypersensitivity reactions which can be induced by almost any topical agent and which may convert an idiopathic eczema into an allergic contact eczema (dermatitis). This change may not be clinically obvious, except in the failure of the treatment to clear the condition.

Your article rightly lists the antibiotics chloramphenicol, penicillin, and tetracycline as commonly inducing such hypersensitivity reactions, but later recommends neomycin for treatment of the secondary infection. Yet neomycin (and the related) framycetin must be added to the list of frequent offenders.¹⁻³ A recent series of 70 cases of allergic contact dermatitis due to neomycin and framycetin included 13 patients in whom these antibiotics had been used topically in the treatment of external otitis.⁴

Responsibility of a topical agent for a hypersensitivity reaction is best determined by patch-testing. Although the technique is simple there are snags, and perhaps it is wiser to refer patients to a skin clinic where patch tests are regularly used in the diagnosis of contact dermatitis. Our experience suggests that it is probably wise not to use neomycin and framycetin in treatment of secondarily infected otitis externa.—We are, etc.,

MICHAEL FEIWEL.

DONALD MUNRO-ASHMAN.

St. Mary's Hospital,
London W.2.

REFERENCES

- ¹ Calnan, C. D., and Sarkany, I., *Brit. J. Derm.*, 1958, 70, 435.
- ² Epstein, S., and Wenzel, F. J., *Acta derm.-venereol.*, 1963, 43, 1.
- ³ Munro-Ashman, D., *Brit. J. clin. Pract.*, 1963, 17, 537.
- ⁴ Kirton, V., and Munro-Ashman, D., *Lancet*, 1965, 1, 138.

Tetracycline Hepatotoxicity

SIR,—Your discussion of "Tetracycline Hepatotoxicity" (19 December, p. 1545) in relationship to pregnancy brings up some significant questions:

(1) What evidence has been presented that tetracycline *per se* caused the fatty livers found in pregnant women dying of Gram-negative septicaemia?

(2) Since all these cases reported from public hospitals in the U.S.A. were in women from our lowest socio-economic class, is it not reasonable to suspect that some of them may have had nutritional deficiencies leading to impaired liver function, perhaps even fatty livers before their infections?

(3) Could not this fatty metamorphosis be possibly related to the effects of the Gram-negative septicaemia itself—that is, endotoxaemia, shock, acute starvation superimposed upon chronic malnutrition which made these particular women less resistant to overwhelming infections?

(4) Are there not more effective antibiotics than tetracycline available for treatment of Gram-negative septicaemia?

(5) In reporting clinical cases for research purposes should obstetricians neglect one of the most effective tools in modern scientific medicine: a thorough clinical history?

Since tetracycline has been used so widely in a broad spectrum of infections without "hepatotoxicity," it seems reasonable to study carefully all the biological factors known to be associated with both fatty metamorphosis of hepatic cells and infections in general. In epidemiology we are taught that the resistance of the host is often as significant as the virulence of the organism in determining the clinical manifestations of infectious diseases.

From over 10 years' obstetrical experience with women in the lowest socio-economic class in our southern states I have learned that malnutrition plays a basic role in causing several common complications of pregnancy, including decreased resistance to common clinical infections.—I am, etc.,

Martinez,
California, U.S.A.

TOM BREWER.

Bullous Lesions

SIR,—I was interested to read Dr. G. W. Beveridge and Dr. A. A. H. Lawson's study (27 March, p. 835) of bullous lesions occurring in barbiturate intoxication. I was disturbed at their attempt to show that these lesions may be specific in barbiturate intoxication, as this may lead to mis-diagnosis.

They too easily discard the suggestions that similar lesions occur in other types of poisoning. I have seen similar bullous lesions of the fingers in a comatose patient, an old lady who had been given an injection of morphine gr. $\frac{1}{2}$ (32.5 mg.) for trigeminal neuralgia.—I am, etc.,

Paddington Clinic and
Day Hospital,
London W.2.

E. LEWIS.

Transfusion in Severe Anaemia

SIR,—In your recent leading article (20 March, p. 744) you stress the danger of blood-transfusion in severe anaemia. You mention exchange transfusion as a method of managing these difficult situations but tend to damp enthusiasm for the procedure by describing it as "elaborate."

However, exchange transfusion for anaemia can be achieved simply, effectively, safely, and reasonably quickly by using the same apparatus as is commonly used for exchange transfusion in the neonate, and substituting the antecubital vein for the umbilical vein.

Mrs. M. C., aged 26, was admitted as an emergency in cardiac failure due to anaemia

28%. She was now in a fit state to tolerate a straight transfusion with packed cells given slowly. She was delivered of a healthy infant a week later.

The apparatus worked well and no difficulties were encountered. No anticoagulants were used, but the syringe was washed out in citrate from time to time. The new plastic disposal exchange transfusion sets now available (No. 910 Pharmaseal) have a 20 ml. syringe and are so light and compact that the whole apparatus could be strapped on to the patient's forearm (see illustration).

In doing the exchange by this method 5-10 seconds should be allowed between injecting and withdrawing blood, as the Intracath ends in a medium-size vein only. The bigger 20 ml.

(Hb. 30%). She was 32 weeks pregnant and was having irregular painful uterine contractions. She was hypertensive (blood-pressure 150/100) and had an acute pyelonephritis. She was digitalized and an exchange transfusion performed. 100 mg. of pethidine and 50 mg. Phenergan (promethazine hydrochloride) were given prior to exchange, to allay anxiety and reduce the chance of a "febrile" reaction to the blood. An 8 in. (20 cm.) 14-gauge "intracath" was inserted in the antecubital vein, and this was connected to a simple 3-way tap and a 10 ml. syringe. In two hours 1,030 ml. of the patient's blood was exchanged for 1,050 ml. of packed cells, 10 ml. at a time.

During the exchange, the patient's general condition improved dramatically; respirations dropped from 36/min. to 24/min., her pulse from 80/min. to 68/min. Her Hb rose from 30 to 50%; P.C.V. rose from 17% to

syringe would enable a longer Intracath to be used. The "dead space" in the apparatus actually used meant a loss of 50 ml. of effectively exchangeable blood per litre. A 20 ml. syringe would waste 25-30 ml. per litre, and so could tolerate twice the length of Intracath—hence increasing the speed of exchange.

The blood withdrawn could be collected in a cooled sterile citrate blood collecting bottle and transfused to the patient as packed cells later.

This method is simpler but slower than the method described by Fullerton and Turner.¹ It is much faster than Ward's method.² The end result is just as good however. In two hours, using as little as 1 litre of packed cells, a patient's condition can be improved dramatically. It is hoped that by the simplicity of the method technical considerations will cease

to deter doctors from using the valuable technique of exchange transfusion in the severely anaemic patient in need of blood.—I am, etc.,

Pembury Hospital,
Tunbridge Wells,
Kent.

D. G. DANIEL.

REFERENCES

- ¹ Fullerton, W. T., and Turner, A. G., *Lancet*, 1962, **1**, 75.
- ² Ward, T., *Brit. med. J.*, 1952, **1**, 631.

Indomethacin and Peptic Ulcer

SIR,—Last year we reported a 'high incidence of peptic ulcers (5 out of 18 patients) in patients with rheumatic diseases treated with indomethacin (11 January 1964, p. 118). Since September 1963 we have used only capsules of indomethacin, and we now wish to report a much-lessened incidence of gastro-intestinal side-effects.

Fourteen patients with a variety of rheumatic diseases were treated for periods varying from one to 17 months with capsules containing indomethacin, 25 mg., thrice daily with food. All patients had a barium-meal examination before the treatment and at least once during the period of treatment. Three patients who gave a history

of peptic ulcer received concomitant anticholinergic-drug therapy and antacids.

One patient died during the course of treatment from cerebral haemorrhage, but at necropsy there was no ulceration of the gastro-intestinal tract. One of the patients with a past history of peptic ulcer developed a gastric ulcer; indomethacin was discontinued and the occult-blood test became negative. The second patient with a history of peptic ulcer who had developed ulceration with indomethacin tablets did not develop an ulcer when given indomethacin capsules. The third patient with a peptic ulcer history did not develop ulceration either on tablets or on capsules.

Thus the incidence of peptic ulceration can be reduced by switching from tablets to capsules. Moreover, other side-effects such as vertigo, headache, nausea—which were relatively common in patients treated by tablets—did not occur. In our previous report we suggested that a lower dosage of indomethacin would overcome troublesome side-effects, and we feel that this has been achieved without any reduction of anti-rheumatic efficacy.—We are, etc.,

Medical Dept. I,
St. Erik's Hospital,
Stockholm K, Sweden.

OLLE LÖVGREN.
ERIK ALLANDER.

Better Method for Occluding Umbilical Cord

SIR,—Mr. C. K. Vartan has recently described (10 October, p. 944) the use of a rubber band cut from latex intravenous tubing for "tying" the umbilical cord. Like him, I have found this method most satisfactory and started using it for the same reason—that the ordinary cord tie, being

through the band, which is autoclaved in a small paper envelope as part of the large package of instruments for the delivery.

At delivery, using the tape as a hold, the closed jaws of the artery forceps are thrust through the centre of the rubber band. The cord is clamped with these artery forceps

non-elastic, will not take up as the cord shrinks. Repeated cord tying is tedious and not a complete guarantee against haemorrhage. An artery forceps left on the cord is safer, but the instrument is remarkably awkward in a baby's cot, and may exert considerable leverage on the umbilicus.

The method of application of the rubber band, as shown in the drawing, is simpler than that described by Mr. Vartan. The rubber bands (two to three mm. in diameter), are cut from the latex intravenous tubing with one cut of a large pair of scissors. A piece of umbilical-cord tape is threaded

about 1 in. (2.5 cm.) from the abdomen. Another forceps is then applied on the placental side, in the usual way, and the cord divided. The rubber band is pulled over the cord stump, as shown in the diagram. With the tape the rubber band can be readily positioned about half an inch from the skin edge. The tape is then pulled out. It has been the practice to leave the artery forceps on for one hour, although this is doubtless unnecessary. The sliding of the band down the cord empties it of blood, which is desirable.

In an unsuccessful attempt to simplify the method even further the rubber band was

then put on the artery forceps before the instrument was autoclaved. This proved unsatisfactory, as the latex band lost some of its elastic character through heating in contact with the metal. Autoclaving the bands on their own does not affect their elasticity.

In one year's use of this method no haemorrhage has occurred from the cord. The cord separates in the normal length of time.—I am, etc.,

Palmerston North,
New Zealand.

JOHN CROWLEY.

The Catarrhal Child

SIR,—Dr. D. H. Garrow in his article on "The Catarrhal Child" (20 March, p. 773) is justified in condemning the operation of T's and A's as a cure for all catarrhal ailments in children. All E.N.T. consultants would agree that to-day they will only perform this operation if there are very clear indications for it.

His remarks about deafness in children must be challenged as they are at variance with the facts. He says that "deafness after acute otitis media is usually short lived and clears up spontaneously" and he recommends energetic treatment with penicillin. Whilst it is true to say that many children with acute otitis media are treated by penicillin it is a fact that this is very frequently oral penicillin, which is prescribed by the general practitioner in vast quantities. The condition of "glue ear" or secretory otitis media has become extremely common in recent years and there is no really satisfactory treatment for it once it has become established—the child may be condemned to a permanent conductive deafness. Recent experience has tended to show that the child who has had his adenoids removed is less likely to develop this condition. It is also possible that oral penicillin is a factor in the production of it.

I was speaking at a symposium on deafness recently and I was surprised to find that the extreme prevalence of this disease is not appreciated by many paediatricians; nor do many realize what a serious degree of conductive deafness it can produce. At least 4% of our population have a considerable degree of hearing loss and a much larger proportion have slight degrees of deafness; much of this deafness is conductive and can presumably be prevented. We should appreciate that by refusing to remove the tonsils and adenoids of children who get recurrent attacks of infection and by treating them with penicillin we may be adding to the already considerable amount of conductive deafness which is present to-day.—I am, etc.,

Doncaster, Yorks.

P. H. BEALES.

Hormones and Hair

SIR,—I am induced by your leading article "Hair Cycles and Hair Patterns" (6 March, p. 604) and Dr. Arthur J. Rook's most excellent lecture on "Endocrine Influences on Hair Growth" (6 March, p. 609) to report my own clinical experiences using transplantation homologous punch-grafting and oestrogen in treating male baldness and generalized thinning of hair in the menopausal female.

Dr. Rook states that grafting experiments convincingly demonstrate donor dominance. The success of transplantation homologous