given a bottle of antibiotic and is under the impression that once the total contents have been taken no further treatment is necessary.

Repeated attacks of otitis media may be due to sterile pus remaining within the middle ear, but it is essential to look for contributory lesions in the rest of the upper respiratory tract. The adenoids and sinuses are sources of infection which demand investigation and treatment. The "glue ear" is a well-recognized cause of deafness in children, but is overlooked because the drums appear normal. Abnormal physical signs such as a blue or yellow drum may be seen, but in a small child with a narrow canal it may be difficult to be certain of the appearance of the drum.

The operating microscope makes myringotomy a precise operation. The strong light with binocular vision helps the surgeon to see the character of the fluid aspirated and to judge when he has aspirated all the mucus from the middle ear. The fluid may be so tenacious that it takes 20 minutes' continuous suction with several changes of suckers in order to evacuate the middle ear contents completely. Many otologists advocate inserting a grommet to aerate the middle ear and prevent fluid reaccumulating. By doing so the patient is exposed to infection entering the middle ear from the external ear with subsequent otitis media. This risk should be explained to the child's parents.—I am, etc.,

Liverpool. J. SIEGLER.

Early Mixed Feeding

SIR,—As a clinic doctor and a mother I would disagree emphatically with the view that early mixed feeding is harmful (31 August, p. 541). Many mothers would testify to the relief of their anxiety when the introduction of solids changes their irritable, crying infant to a gurgling, contented one. Not to mention the prevention of anaemia and other deficiency diseases.

It is true that overfeeding is a cause of gastrointestinal upset, but an infective aetiology is far commoner. The only proviso I would make is that mixed feeding should be mixed—that is, a high protein content should be aimed at to forestall the development of carbohydrate-induced obesity so common today. Surely we have progressed past "Nature knows best"? Does your expert desire a thin, anaemic, rickety child proudly fed by a "natural" diet alone?—I am, etc.,

Plymouth. G. M. WAKLEY.

Suxamethonium Apnoea

SIR,—Dr. A. B. Bray (7 September, p. 620) reported a patient who had been labelled as sensitive to suxamethonium. Both the patient and the general practitioner had been warned of the "danger" following an episode of apnoea after receipt of that drug, but without confirmatory biochemical investigation.

Through the courtesy of Dr. Bray we have examined the serum from this patient. It has a normal cholinesterase activity, and the dibucaine and fluoride numbers indicate a homozygote with two "usual" genes. These results confirm Dr. Bray's finding that under his management the patient reacted normally to suxamethonium, and that the cause of the previous apnoea must therefore be sought elsewhere.

The Cholinesterase Research Unit was set up to provide a framework which would make a uniform methodology available throughout the country. This unit is willing to examine the serum from any patient who has apnoea after suxamethonium, the only condition being that anaesthetists who send specimens should assist in compiling a family tree and provide some clinical details of the circumstances of the apnoea. In this way it is hoped, in time, to accumulate a register of affected families, and a useful corpus of clinical detail. It is hoped that a greater awareness of the existence of this service will encourage practitioners to have all doubtful cases investigated, and discourage the misleading labelling of patients on inadequate data, of which Dr. Bray so rightly complains.—We are, etc.,

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Pyrazinamide and Hyperuricaemia

SIR,—Your Today's Drugs article "Drugs for Tuberculosis" (14 September, p. 664) contains a misleading statement that should be corrected. It concerns the use of aspirin for the treatment of hyperuricaemia and gout resulting from the administration of pyrazinamide. In small doses salicylates impair the renal excretion of uric acid, elevating the serum urate. Only impracticably large doses will produce the required uricosuric effect. If it is required to lower the level of serum urate either probenecid should be used as a uricosuric agent or allopurinol, which inhibits the metabolic pathway by which uric acid is formed from its xanthine precursors.

Phenylbutazone is probably the best drug for the suppression of acute iatrogenic gout.—I am, etc.,

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*** What was said in the article was: "Pyrazinamide often causes hyperuricaemia, and gout or generalized pain in the limbs may occur but responds to aspirin or salicylates." This was intended to indicate that pain in the limbs occurring during pyrazinamide therapy usually responds to aspirin or salicylates, *not* that hyperuricaemia was controlled by aspirin or salicylates. Dr. Yates is quite right in pointing out that the usual doses of aspirin may elevate serum urate, and that other drugs may be needed to lower serum urate if the symptoms of pyrazinamide hyperuricaemia fail to respond to aspirin.—ED., *B.M.J.*

Herpesvirus hominis Infections

SIR,—In their article on rapid diagnosis of *Herpesvirus hominis* infections in superficial infections by immunofluorescent techniques Dr. P. S. Gardner and others (12 October, p. 89) found that the average time for the appearance of a typical herpesvirus cytopathic effect in tissue cultures of HEp.2, HeLa, and W.I.38 was 4.3 days for material from skin lesions and 14.5 days from corneal scrapings. These periods are much longer than those we have obtained using primary human amnion cell-cultures. Thus in 51 patients yielding *Herpesvirus hominis* (herpes simplex) from skin or mouth lesions during 1967–8 the mean number of days for productions of a typical cytopathic effect was 1.8 (range 1 to 4); in conjunctival scrapings from nine patients the mean was 2.7 days (range 1 to 5). All these isolations were subsequently confirmed as herpes simplex by neutralization tests. No appreciable difference could be detected in the times required for isolation of virus from patients in whom clinical and/or serological evidence indicated a primary infection from those with recurrent infections. It would therefore appear that *Herpesvirus hominis* may be more rapidly isolated in human amnion cell-cultures than in those used by Dr. Gardner and his colleagues.

The rapid isolation of *Herpesvirus hominis* in human amnion cell-cultures is one good reason why greater attempts have not been made by many laboratories to establish fluorescent antibody techniques for diagnosis of *Herpesvirus hominis* in superficial lesions. Another reason is that there are marked serological cross-reactions between herpes simplex and varicella-zoster viruses. In herpes encephalitis, in which it may be important to reach a diagnosis of infection with a herpes group virus as soon as possible so that chemotherapeutic treatment may be commenced, we have found fluorescent antibody studies of smears disappointingly negative. Thus of direct smears from five brain biopsies examined for herpesvirus by fluorescent antibody studies all were negative, though three of the five yielded herpes simplex virus in tissue culture. It seems possible that antibody present in brain tissue may block attachment of fluorescein-conjugated anti-rabbit globulin. Finally, many laboratories have been discouraged from developing immunofluorescent diagnostic methods by difficulties in obtaining specific, reliable commercial reagents.—We are, etc.,

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Infusion of Liver Tumours

SIR,—Your leading article (10 August, p. 329), the paper of the same date by Drs. J. L. Provan, J. F. Stokes, and D. Edwards, and the letter (30 August, p. 554) by Mr. J. M. Anderson prompt me to comment briefly on my experience, because the above authors have used dosages of fluorouracil which I believe are considerably less than is safely tolerable by the liver.

I have used a similar technique, with a catheter inserted by the diagnostic radiologists into the coeliac axis artery, in 12 cases of primary and secondary liver tumours. Two patients were infused twice. One other case has been infused via a catheter inserted into the hepatic artery at laparotomy. Initial experience suggested that tolerance to fluorouracil was considerably greater in these cases than in carotid, aortic, or pelvic infusions. This has been confirmed. My practice now is to infuse 2 g. daily continuously to a total of 20 g. approximately, terminating the infu-