required medical supervision for at least six weeks. There were six cases of pneumonia. Two have since been found to have atelectasis of the lower lobe, two more have early bronchiectasis, and one has developed widespread bronchiectasis. There were no such respiratory cripples in the practice before this epidemic.—I am, etc.,

D. W. CAMMOCK.

Tuxford, Notts.

Computers in Diagnosis

SIR,—Dr. Colin H. Smith (18 September, p. 703) seems to have misunderstood completely the role of the digital computer in medical diagnosis. The first step towards making any diagnosis is to determine the presence or absence of various physical signs and symptoms. This cannot be done by the computer; it is the prerogative of the clinician. The next phase in diagnosis is the clinician's attempt to use his fallible and finite memory to correlate the various signs and symptoms with his clinical experience and so arrive at his diagnosis. It is this latter process which the computer can do supremely well, because its memory is infallible and virtually unlimited in size. The computer cannot replace the doctor; but it can increase the accuracy of his diagnosis, and perhaps in time help him to choose the most appropriate treatment for his patients.

Concerning Dr. Smith's second point, the importance of the digital computer in preventive medicine is beyond question. While it must be admitted that such facilities are not at present available, it is likely that, had the incidence of congenital deformities in various parts of the country been sent weekly to a central computer, then this machine would have detected the increasing incidence of phocomelia within weeks of the birth of the first "thalidomide babies." The computer could then have been made to search the medical records of the affected families and so detect the relevant statistical correlations. The interpretation of these correlations and the decision to withdraw the incriminated drug would still have been the responsibility of the medical authorities, but the evidence would have been available so much the sooner.

Computers are here to stay. If medicine in this country is not to fall behind the rest of the world then we must not only accept them but also actively explore the advantages which their use offers.—We are, etc.,

G. R. KELMAN.
M. D. HARGREAVES.

Department of Anaesthesia,
University of Leeds and
Department of Anaesthesia,
General Infirmary at Leeds.

Absorption of Oral Contraceptives

SIR,—May I draw your attention to a rare sequel to the use of the contraceptive pill?

The lady concerned was an intelligent 30-year-old who had been taking Volidan (megestrol) uneventfully for several months. She presented with localized pain and tenderness in the right iliac fossa. There were no abnormal urinary or gastro-intestinal symptoms. Her last "menstrual" loss was an apparently normal one a fortnight before. When I first saw her I failed to detect any abnormality per vaginam and I thought this was an early appendicitis. However, the pain grew worse and she was admitted to Croydon General Hospital. There a diagnosis of right tubal pregnancy was made and subsequently confirmed at operation.

This combination of contraceptive failure with ectopic gestation must be excessively rare. I am perfectly confident, after careful interrogation, that the patient did not slip up on her pill routine. However, she did have a gastro-intestinal upset just before the apparent time of conception. This may well have interfered with absorption of the Volidan. This danger may be insufficiently stressed in the literature.

It is also worth noting that menstrual irregularity warning of a possible ectopic pregnancy was apparently obscured by the Volidan.—I am, etc.,

KENNETH HEBER.

Caterham, Surrey.

Safety of Intrauterine Contraceptive Device

SIR,—In view of the recent correspondence on intrauterine contraceptive devices (I.C.D.) and their safety I would like to report the following case.

A married woman of 22, who had a normal first pregnancy in 1964 and had never had a miscarriage, had an I.C.D. fitted on 13 July 1965. Her last period before this was on 18 June 1965. She had no further period and it soon became apparent that she had conceived about a fortnight before the device was fitted. On consultant's advice it was left *in situ*, but she had a miscarriage on 6 September 1965 at about 11 weeks of pregnancy.

Although this may not happen very often, I feel the possibility of early pregnancy, unknown to the woman, should be borne in mind when fitting an I.C.D. Unless the patient is absolutely certain that she is not pregnant at the time it might be better to fit the device immediately after a period.—I am, etc.,

J. N. PACHMAYR.

London W.6.

Digitalis and Cor Pulmonale

SIR,—The place of digitalis in the treatment of cor pulmonale in patients with respiratory failure is uncertain. Although there is little evidence that it is beneficial many people nevertheless use it, assuming its use to be safe. This assumption may be questioned.

I am prompted to write this letter by a clinical impression that ventricular arrhythmias have been produced in some of these patients who have been treated with digitalis. During the past two winters I have cared for numerous patients with respiratory failure. Most were treated without the use of digitalis and it was prescribed to the few by practitioners unacquainted with our usual scheme of management.

Nine patients developed paroxysmal tachycardia. Six of the patients were receiving digitalis, and of these five developed ventricular arrhythmias and four died. The fifth recovered from ventricular fibrillation only after continuous external cardiac massage for one hour, and 12 alternating-current and 5 direct-current defibrillator shocks. In only one of these patients might the dosage of digitalis have been considered to be excessive under normal circumstances. The remaining patient developed paroxysmal supraventricular tachycardia, but she had previously had similar attacks while not taking digitalis.

In none of the three patients who developed arrhythmias while not on digitalis was the abnormality of rhythm ventricular when first detected. One of these patients had nodal tachycardia, was given digitalis, and died; one developed atrial fibrillation, was given digitalis, and reverted to sinus rhythm; and the third had a supraventricular tachycardia, was given digitalis, and also reverted to sinus rhythm.

This is of course a small series, but others have suggested that patients with cor pulmonale are particularly likely to develop the toxic effects of digitalis.[1-3] The incidence of arrhythmias is uncertain. Although it is generally considered to be low, Corazza and Pastor recorded 47 cases in 122 patients with chronic cor pulmonale.[2] Goldberg *et al.*, in reviewing 37 cases of paroxysmal atrial tachycardia with atrio-ventricular block, usually a manifestation of digitalis toxicity, found associated pulmonary disease in 54% and cor pulmonale in 27%.[3] They also noted that since the ventricular rates may be slow and regular the arrhythmias may be difficult to recognize clinically.

Of course digitalis cannot be incriminated as the sole precipitating cause of the ventricular arrhythmias I have observed. Other factors included hypoxia, hypercapnia, acidosis, probable potassium depletion aggravated by diuretic therapy, pulmonary hypertension, distension of the right atrium and great veins, and isoprenaline.

Experience suggests that the cardiac enlargement and oedema found in patients with acute or chronic respiratory failure improve as hypoxia and hypercapnia improve. The management of these patients should therefore include correct oxygen therapy and frequent physiotherapy aided by bronchodilators and antibiotics. Diuretics may also be helpful, but potassium depletion must be prevented. There are good reasons for reserving the use of digitalis for the minority of patients with specific indication, such as supraventricular tachycardia or atrial fibrillation. If it has to be used rapid digitalization should perhaps be avoided.—I am, etc.,

F. E. HARGREAVE.

Institute of Diseases of the Chest,
London S.W.3.

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Trasylol and Acute Pancreatitis

SIR,—It is refreshing to read in the report by Dr. A. Skyring and his colleagues (11 September, p. 627) a serious attempt at the evaluation of Trasylol in acute pancreatitis. Their employment of the double-blind technique is to be commended as a step towards the substitution of scientific criteria in place of the subjectivism which has characterized previous publications in this field.