The unanswered question is whether levodopa may be dangerous immediately after a myocardial infarction. Levodopa sometimes produces ectopic rhythms in man and animals. Arrhythmias are common after a myocardial infarction, and it is logical to presume that a summation effect may well operate when levodopa continues to be given to a patient immediately after a myocardial infarction. A recent case treated at this hospital presented with this problem.

A man aged 61 had been taking 2.5 g of levodopa a day for Parkinson's disease since March 1971. Since 1969 he had suffered from occasional angina on exertion. In May 1972 he was admitted with a fairly extensive anterior myocardial infarction. Ventricular fibrillation occurred but sinus rhythm was restored, to be followed by multiple atrial ectopic beats. Six hours after these had subsided premature coupled ventricular beats began. The arrhythmias lasted for 36 hours altogether, and levodopa was continued throughout with constant monitoring of the rhythm. The levodopa would certainly have been stopped if the ectopic rhythms had persisted or if they had failed to respond to anti-arrhythmic therapy.

The patient's general condition remained satisfactory for about a week, when rapidly progressive heart failure developed. He died three weeks after admission. Levodopa was discontinued 48 hours before death when hypotension had developed.

Though it is obviously unwise to draw any definite conclusions from a single case, one wonders whether this patient's tendency to arrhythmias after myocardial infarction was increased by levodopa. The experiences of others are needed to substantiate a theoretical risk. Until more definite evidence is available careful monitoring of these patients is required after a myocardial infarction.—I am, etc.,

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Activated Charcoal Rediscovered

SIR,—Your excellent leading article (26 August, p. 487) on activated charcoal omitted to mention one of its modern therapeutic applications. Since 1960 we have used activated charcoal in uraemic patients. We had previously found that charcoal effectively adsorbed certain uraemic substances directly from plasma or gastrointestinal contents (creatinine, uric acid, urea, phenols, guanidines, organic acids). A dose of 20–50 g of activated charcoal daily often results in an impressive clinical improvement, mainly on the gastrointestinal disturbances of the patient (oral fetor, anorexia, nausea, vomiting). No side effects were noted during continuous treatment for 4–20 months.¹ More recently we have devised a simple apparatus for direct perfusion of blood through granular activated charcoal (charcoal artificial kidney), and we have reported the good results we have had with this method in cases of renal failure and severe barbiturate poisoning.^{2,5} Others have also published reports.^{6,7}—I am, etc.,

HIPPOCRATES YATZIDIS

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¹ Yatzidis, H., *Nephron*, 1964, 1, 310.
² Yatzidis, H., *Proceedings of the European Dialysis Association*, 1964, 1, 83.
³ Yatzidis, H., et al., *Lancet*, 1965, 2, 216.

⁴ Yatzidis, H., *Proceedings of the 3rd International Congress of Nephrology*, p. 290. Basel, Karger, 1966.
⁵ Yatzidis H., in *Acute Barbiturate Poisoning*, ed. H. Matthew. Amsterdam, Excerpta Medica Foundation, 1971.
⁶ Dunce, G., and Kolff, W. J., *Transactions of the American Society for Artificial Internal Organs*, 1965, 11, 178.
⁷ Andrade, J. D., et al., *Transactions of the American Society for Artificial Internal Organs*, 1972, 18, 473.

Admitting the Mother

SIR,—Hospital planners should learn by heart Dr. Arnon Bentovim's superb article (2 September, p. 579) and the account in the epidemiology section of the same issue (p. 597) of the spread of *E. coli* enteritis. All district hospitals should have comprehensive facilities for patients of all ages with physical, intellectual, and emotional handicaps, and all such hospitals should have comprehensive facilities for the accommodation of patients of all ages with communicable disease.

The particular link between the minimization of cross-infection in small babies and the maintenance of the mother-baby relationship lies in the policy of regarding the admission of the mother with the baby as a vitally necessary step. If provision for "rooming in" is made and constantly encouraged it will usually come about; its value both to barrier nursing and to psychoprophylaxis is probably immeasurable but almost certainly immense. The shuffling of patients, either because of infection or of handicap, from one place to another is both dangerous and inhumane: we must "plan it" into the past.—I am, etc.,

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Serum Prolactin Periodicity

SIR,—In their paper describing a rise of human serum prolactin concentration during the night, Dr. J. Nokin and his colleagues (2 September, p. 561) refer to it as an example of "circadian periodicity." Had they described it as a diurnal variation I would have had no quarrel with them, but their term implies an autonomous rhythm that would persist in the face of widely differing circumstances.

There indeed seem to be circadian rhythms of blood constituents, plasma cortisol being an example. However, it is only a few years since human growth hormone secretion was so described because of graphs very much like the one shown by Dr. Nokin and his colleagues. Yet after pioneer work in Japan^{1,2} it was conclusively demonstrated that the rise at night was triggered by a certain phase of sleep and that it did not appear unless that phase of sleep occurred. I was among those present at the annual meeting of the Association for the Psychophysiological Study of Sleep in New York earlier this year and heard leading workers describing research which led to the conclusion that the rise in serum prolactin in men and women during the night was also associated with sleep, though we shall have to await their publications before coming to a firm judgement.

Dr. Nokin and his colleagues seem not to have used the technique that is now commonplace in many departments, including

the department in which I work, whereby blood is sampled frequently throughout the night by an indwelling catheter. They do not even tell us whether their subjects were asleep during the night prior to the four-hourly sampling, but one supposes that they were. In the circumstances the use of the term "circadian periodicity" is inappropriate, since the authors have not excluded the simple possibility that they were observing a sleep-provoked phenomenon.—I am, etc.,

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¹ Sassin, J. F., et al., *Science*, 1969, 165, 513.
² Sassin, J. F., et al., *Life Sciences*, 1969, 8, 1299.

Thymectomy for Myasthenia Gravis

SIR,—While the riddle of myasthenia gravis still remains to be solved I was glad to read in your leading article on thymectomy for myasthenia gravis (2 September, p. 543) that it is now agreed that good results are obtainable in both sexes after surgery.

I was, however, sorry not to read, as pointed out elsewhere,¹ that the sooner thymectomy is carried out in these unfortunate patients the better the prognosis. All too often patients are referred who have suffered from the disease for many years. In the early stages they had responded well to drugs but it was only with the passage of time, as the symptoms became intensified and larger doses of the cholinesterase inhibitors became necessary, that surgery was recommended.—I am, etc.,

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¹ Lange, M. J., *British Journal of Surgery*, 1960, 48, 285.

Handicapped Preschool Children

SIR,—Dr. Arnon Bentovim (2 September, p. 579) provides a useful guide to understanding parental attitudes to the young handicapped child. He rightly stresses the need for successful intervention at the beginning to enable parents to accept the child and work through their own emotional reactions. The value of a voluntary enterprise is worth recording in this respect.

Opportunity classes provide a nursery class for handicapped children from birth onwards, and important added features are the presence of normal children and a meeting for mothers. The most interesting point about the classes has been the response of attending mothers. Firstly, nearly all mothers choose to attend, and, secondly, the degree of acceptance of the child's handicap, reduction of their own anxiety, ability to verbalize their feelings about their child, and confidence in handling and responding to their child have increased remarkably, even in comparison with parents who have received traditional social-work support in a one-to-one situation. Professional social-work support to the classes rarely exceeds one session each month. Clearly the mothers are providing continuing support for each other by the mechanisms postulated by Bentovim.

It is not claimed that the classes provide