dopamine. In Parkinson's disease dopamine is deficient in the striatum but, according to Professor Burn, acetylcholine would be liberated from the nigrostriatal fibres and would produce symptoms of its own, unless checked by an anticholinergic agent or unless dopamine were made available by administration of levodopa.

This seems unlikely, for pathological evidence indicates that in Parkinson's disease it is not simply a biochemical function that is lost, but rather the entire fibre extending back to the substantia nigra.^{1,3} Degeneration of the nigrostriatal fibres with their entire neuronal complement of enzymes, substrates, and transmitters, is supported by much experimental evidence that has become available since 1964-65,³⁻⁶ so that even if Professor Burn is correct in his hypothesis about the acetylcholine - catecholamine sequence of events in nerves, neuronal degeneration would result in the loss of the two functions at about the same rate and to the same extent.

Of course, there is considerable evidence for the cholinergic nature of many fibres of the corpus striatum, and it is readily conceivable that dopamine, released as a transmitter from specific neurones impinging upon these, would exercise a tonic inhibitory action. The same net result could be produced alternatively (or synergistically) by an anticholinergic drug acting at the terminations of the acetylcholine-producing fibre. Indeed, experimental evidence has recently

been brought forward in favour of this and in relation to the action of levodopa,⁷ although other possibilities are not thereby excluded.

I hope that this will clarify an issue first raised by Dr. R. C. Hughes and his colleagues (29 May, p. 487).—I am, etc.,

THEODORE L. SOURKES

Departments of Psychiatry and Biochemistry,
McGill University,
Montreal, Canada

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Accident and Emergency Services

SIR,—Mr. A. M. Murray's comment on the treatment and disposal of injuries by general practitioners (28 August, p. 536) must not go unchallenged. Recent figures from another big casualty unit in central Glasgow, in which I hold a general practitioner appoint-

ment, show that only 4.6% of the total patients seen are non-emergencies referred by their family doctors.

Modern standards require that the majority of accidents should be treated with hospital facilities. As your leading article (14 August, p. 385) stated, "these cases often need careful treatment to avoid unnecessary delay in recovery and interference with employment"—aims which are the essence of good general practice.—I am, etc.,

DONALD B. MCFARLANE

Glasgow W.3

Treatment of Myocardial Infarction

SIR,—Dr. H. G. Mather and others are to be congratulated on carrying out the careful trial of treatment of acute myocardial infarction (7 August, p. 334) comparing the mortality rates of those treated at home by the family doctor and those admitted to a hospital coronary care unit.

Their results suggest that, in general, by the time the general practitioner sees a patient with myocardial infarction at home it makes little difference, with regard to mortality, whether he is admitted to hospital or not. It has been shown by several groups of workers^{1,2} that the majority of deaths from this condition occur within four hours of the onset of symptoms and that the death rate falls off very rapidly after this period. The overall death rate, including sudden and early deaths, is around 40%.^{1,2} The death rate among the patients of Dr. Mather and others was 15%, indicating that most of the deaths had occurred before the general practitioners could get to the patients concerned. In order to have any chance of reducing the death rate from this condition to a substantial extent an organization is required which will make intensive coronary care available to patients within one or at most two hours of the onset of symptoms so that the dangerous bradycardia and arrhythmias that occur most often soon after the infarction can be corrected or cardiac resuscitation instituted if required. A mobile coronary unit summoned by the general practitioner before he goes to the patient or by the police, or even by the patient or a relative would appear to be one way of achieving this, in addition to encouraging members of the public to report acute chest pain to their doctor immediately.

Pantridge³ has shown that 27% of patients can be reached within an hour of onset of

Mitotic Indices and Oral Contraceptives

SIR,—During the last year we have been investigating various aspects of oral contraceptives—for example, transformation of peripheral blood lymphocytes, chromosomes, sex chromatin, etc. We thought it might be of interest to make available our results relating to mitotic indices of peripheral blood leucocyte cultures of mothers who had taken various types of "pill," and their progeny, together with the time between stopping the "pill" and the onset of pregnancy.

Bloods (cord from the newborns and peripheral venous from mothers) were collected at the time of delivery from mothers who had been on any form of oral contraceptives, their newborns, and from suitable controls. They were then coded and sent to the cytogenetic laboratory for culturing and harvesting by standard procedures previously described.¹

Calculation of mitotic indices (percentage of mitoses) involved examination of 500 cells

from each subject and then recording the number of metaphases. The Table shows the ranges and means of mitotic indices in each subject. Application of the Student's *t* test to these results failed to prove any significant differences between the test and control mothers and babies.

We therefore conclude that, provided the constituents of the "pill" are still effective after discontinuing the varying lengths of time (see Table), the taking of the "pill" does not have an appreciable adverse effect on the mitotic activity of peripheral blood cells stimulated with phytohaemagglutinin.—We are, etc.,

N. P. BISHUN

J. MILLS

Research Department,
Marie Curie Memorial Foundation,
Oxted,
Surrey

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Pill	No. of Patients	Mothers				Babies		
		Time*	Test	Control	Probability Values	Test	Control	Probability Values
Ovulen-21 ..	20	0-60 Mean 11.4	0-25% Mean 4.7%	0-10% Mean 3.2%	P > 0.50	0-28% Mean 13.1%	0-26% Mean 9.7%	P > 0.50
Anovlar-21 ..	8	0-60 Mean 17.0	0-28% Mean 3.6%	0-12% Mean 4.2%	P > 0.50	0-28% Mean 7.2%	0-22% Mean 10.6%	0.50 < P > 0.10
Gynovlar-21 ..	11	0-36 Mean 6.3	0-28% Mean 10%	0-25% Mean 9.9%	P > 0.50	1-28% Mean 17.3%	0-28% Mean 14.2%	0.50 < P > 0.10
Norinyl-1 ..	10	0-18 Mean 4.5	0-20% Mean 6.0%	0-15% Mean 4.6%	P > 0.50	0-25% Mean 11.3%	0-25% Mean 6.8%	0.50 < P > 0.10
Conovid-E ..	7	0-48 Mean 11.7	0-25% Mean 5.7%	0-4% Mean 1.1%	0.50 < P > 0.10	0-28% Mean 14.4%	0-15% Mean 5.0%	P = 0.05
Lyndiol-1 ..	7	0-34 Mean 11.8	0-20% Mean 8%	0-26% Mean 9.5%	P > 0.50	0-28% Mean 10.8%	0-28% Mean 17.9%	0.50 < P > 0.10
Minovlar-21 ..	7	0-48 Mean 9.8	0-28% Mean 9.8%	0-22% Mean 6.2%	P = 0.50	0-28% Mean 11.2%	8-25% Mean 17.0%	0.50 < P > 0.10

*Time in months between discontinuation of the pill and pregnancy.