CORRESPONDENCE

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Persistent Tardive Dyskinesia

SIR,—The report by Dr. S. G. Carruthers (4 September, p. 572) of a case of persistent tardive dyskinesia apparently responding to treatment with thiopropazate is most interesting but requires some amplification and the author's comments cannot be allowed to pass unchallenged.

It is necessary to establish whether the patient's disabling dyskinesia developed or became exacerbated after the withdrawal of chlorpromazine, whether at the time of her accident or later she became hypoxic (as suggested for instance by clouding of consciousness or the development of bronchopneumonia), and whether the statement that the patient's memory was good was based upon a careful and comprehensive mental state examination or upon clinical impression. Brandon, McClelland, and Protheroe¹ suggested that in some cases dyskinetic movements are an attempt to overcome the phenothiazine-induced blockade of the reticular arousal system by amplification of some afferent impulses, hence their occurrence on withdrawal and the occasional paradoxical improvement on increasing or reinstating the drug. They also reported the development of dyskinesia following hypoxia induced by poisoning or severe respiratory embarrassment. From their survey of the resident population of a mental hospital they concluded that while exposure to phenothiazines, the presence of brain damage, and increasing length of stay in hospital all show some association with dyskinesia, increasing age and constitutional factors are probably more important in the genesis of movement disorders. In particular, they demonstrated that more than a quarter of all cases of tardive

dyskinesia have never been exposed to phenothiazines.

With a disorder of such complexity it is important to avoid unfounded assumptions of cause and effect. In the case reported by Dr. Carruthers, age, cerebral disorder, psychiatric illness, or hospitalization, the administration or withdrawal of chlorpromazine, and sequelae of the hip injury were among the factors which may have been involved in the development of dyskinesia. The apparent increase in the prevalence of dyskinesia is related as much to its increased recognition as to changes in possible aetiological factors, and such movements were certainly evident in mental hospitals and other institutions before phenothiazines were available.

On the basis of present knowledge it is reasonable to advise that phenothiazines should be prescribed reluctantly in the aged or in the presence of cerebral disorder. When they are prescribed change or withdrawal should always be gradual and if dyskinesia does develop increasing or restoring the dose may diminish the movements. Perhaps we should also consider more frequent use of oxygen in bronchopneumonia and other conditions producing anoxia. It is clear however that we have not yet unravelled the pathogenesis of this syndrome. —We are, etc.,

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¹ Brandon, S., McClelland, H. A., and Protheroe, C., *British Journal of Psychiatry*, 1971, 118, 171.

Survival in Severe Congenital Heart Disease

SIR,—Professor J. D. Hay's comments (4 September, p. 579) on your leading article (26 June, p. 723) are apt and we support

his plea for an increase in staffing and resources to meet the demands on the paediatric cardiology service. Our experience

in Birmingham highlights the effect of having not quite enough nurses to do the work.

For example, our cardiac theatre has no spare capacity. To keep abreast of the waiting list we must average four planned bypass operations each week—which means doing five or six by-pass operations a week for much of the time in addition to "ordinary" cardiac surgery and emergency operations on babies. (Approximately 200 babies are admitted to the unit for investigation and treatment each year.) This imposes a heavy strain on the theatre staff and if, for any reason, a nurse has to go off duty unexpectedly the programme comes to a halt.

The level of staffing in the intensive treatment unit is such that we are frequently forced to use agency nurses to prevent any hold up to the flow of patients. (Incidentally, medical cover in this area is also severely stretched.) A steady flow of patients depends also on being able to transfer patients into high dependency areas in the two cardiothoracic wards. But how can this be achieved when the night staff to look after a ward of 26 children may consist of a third-year student nurse with no paediatric experience and a nursing auxiliary? Yet if the flow of patients hesitates or stops the waiting list grows, high risk cases accumulate and standards, enthusiasm, and morale decline.

The obvious solution is to recruit more nurses. This can be difficult when conditions are known to be unsatisfactory. Anyway, we are in no position to recruit even unqualified staff because we are told that we cannot expect extra money from central funds for additional salaries—we have to make better use of the nurses already on our payroll. We cannot take nurses from other wards in the hospital because that would make it impossible for the paediatricians to do their work. We thought it might make for greater flexibility if nurses were allocated to the cardiothoracic service instead of to a

ward, but this is unpopular with the nurses who, quite understandably, resent being moved around. Moreover, this proposal conflicts with our Salmon organization.

We are driven to the conclusion that money for additional nurses must be found by working more efficiently. Paradoxically we believe that the only way to make our service significantly more efficient is to treat more patients, and if this view is wrong we should welcome constructive advice. Certainly few things are more frustrating to a surgeon than to be prevented from operating solely because there is insufficient staff to keep the theatres and intensive treatment unit in action. And few things are more harrowing to a physician than to see patients deteriorating and dying because they cannot have the operation which might cure them.

There are times when it seems morally indefensible to see another new patient, yet if we give up the struggle and let patients look elsewhere for treatment we should not be helping them, for very soon they would find that they were looking in vain. Certainly we should be less of a burden on our hospital funds, but it would be a false economy. Surgeons should be used to capacity before turning to the much more expensive expedient of opening another paediatric cardiology centre to serve the area.

As Professor Hay says, the public will find out. Why should the facts be concealed? The truth is that, although paediatric cardiology has achieved much of which to be proud, we are still short of staff, resources, and money and we cannot give the service which we believe the public wants.

And, no doubt, other specialties can tell exactly the same story.—We are, etc.,

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SIR,—Your recent leading article on this subject (26 June, p. 723) is correct in calling attention to the need to avoid delay in transfer from neonatal department to paediatric cardiology department if the best results from cardiovascular surgery in the newborn period are to be obtained. It would, however, be incorrect to assume that as matters now stand in the United Kingdom the neonatal paediatrician is always in a position to avoid delay. In circumstances where accommodation, equipment, and staff for cardiac catheterization and cardiac surgery may be limited, shared, or borrowed, it would be unrealistic to imagine that the ideal of a day and night emergency service can be achieved throughout the country. Indeed, there is reason for thinking that the present practice may fall quite short of the ideal.

Professor J. D. Hay (4 September, p. 579) has rightly pointed to the present national deficiency, whereas your leading article was concerned largely with recent experiences in the North American setting. In our experience in recent years cardiac catheterization and angiocardiology on neonates has often had to be delayed and the catheterization of waiting list patients cancelled or postponed to allow the inclusion of these emergency cases. As an alternative measure more infants have had to be catheterized in a daily session than would be regarded as clinically desirable. Regrettably the paediatric cardiology service

which can offer the facilities to neonates which your leading article advocates is exceedingly expensive in terms of accommodation and equipment. Essential as equipment is, there can be no service without paediatric cardiologists, cardiac surgeons, anaesthetists, radiologists, junior medical staff, trained nurses, cardiological technicians, theatre technicians, and radiographers.

There are, at present, insufficient paediatric cardiologists in training in the United Kingdom and a shortage of trained nurses, cardiological technicians, and radiographers. We are encouraged to record that at the new Royal Hospital for Sick Children in Glasgow adequate accommodation and equipment are being provided for a regional paediatric cardiac service, but whether the staff, in suitable numbers, will be available cannot yet be foreseen.—I am, etc.,

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SIR,—Professor J. D. Hay (4 September, p. 579) has got his priorities wrong; the older child with an operable heart defect should be given priority over the newborn case. If the newborn child dies, it only needs a year for the parents to replace it, and this time almost certainly with a healthy infant. The child of, say, 5 is already a personality and essentially irreplaceable. If he dies, six years of work and sacrifice will be needed to grow another in its place.—I am, etc.,

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Practicalities of Nursing

SIR,—Your leading article on the practicalities of nursing (4 September, p. 545) is justifiably critical of the Salmon report and its implementation. But when will the powers that be realize that in contrast to young women in other competing occupations the nurse is required to study for three years, she has no five-day week from Monday to Friday, she is required to undertake night duty and weekend work, she is required to be on duty early in the morning and late in the evening even if not on night duty, she bears responsibility for human life, and herself is liable to the trammels of institutional existence.

The only way in which nursing can compete with secretarial, technical, or factory work is to provide a substantial financial inducement sufficient to outweigh all these disadvantages for a young girl choosing her occupation. We are heading for a complete breakdown of nursing and midwifery services unless action is prompt and realistic.—I am, etc.,

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Oral Contraceptives, Depression, and Libido

SIR,—Dr. Brenda N. Herzberg and others (28 August, p. 495) have performed a valuable exercise in their comparative study of

women's reaction to different methods of contraception. It is noted that 25% of 218 women stopped taking oral contraceptives after one year because of side effects and 13% of 54 provided with an I.U.D. stopped for similar reasons. It is interesting to note that it is felt that many of these "failures" were predictable and associated with pre-existing evidence of neuroticism. One wonders if a further assessment on the basis of motivation for adopting contraception, particularly the pill, would throw further light on the problem.

Our experience of contraception is virtually confined to women with three or more pregnancies who have had obstetrical histories and varying degrees of intrinsic reno-hypertensive abnormalities. An oral contraceptive is the only available method. "Failure" in the sense of abandoning treatment or even suggesting that it should be abandoned is scarcely ever experienced. This is not just a matter of tolerating side effects through fear of another pregnancy. Side effects, in fact, particularly depression, headaches, and loss of libido, are conspicuous by their absence. Our patients have an obvious and powerful motivating factor for adopting oral contraceptives. In the great majority of cases they have experienced unhealthy, unpleasant, and dangerous episodes in previous pregnancies and they have the obvious incentive to remain well for the sake of the three or more children already at home. In these circumstances any hidden guilt complex that might otherwise obtain is resolved or modified.

It is our feeling that these motivating factors are of the utmost importance in the high rate of adaptation to oral contraceptives seen in our group of women, and distinguishes them from those who are motivated only by the socio-economic factors inherent in routine family planning among physically healthy women. It would suggest also that most side effects of the pill are psychogenic rather than pharmacological in origin.—I am, etc.,

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Possible Hazard in Use of Gentian Violet

SIR,—Dyes of the triphenylmethane series are widely used as topical agents in the therapy of bacterial and fungal agents. Except for occasional contact sensitization,¹ no untoward effects of these drugs have been reported. The present study indicates that gentian violet, crystal violet, methyl violet, and malachite green are capable of interacting with the DNA of living cells. In view of the known relationship between ability to alter cellular DNA and mutagenesis as well as carcinogenesis, our findings suggest that the clinical use of these dyes should be re-evaluated.

Our experimental procedure is based upon the observation that cells exposed to agents which react with genetic material (DNA) attempt to counter this lethal effect by excising and replacing the portions of their DNA which have become altered. The enzyme DNA polymerase appears to be crucial to this repair process.^{2,3} Mutants that lack this enzyme will therefore be more sensitive than their parents to the inhibitory