with the tissue-buffering mechanism for storage of catechol amines. Under these circumstances it is also likely that the tissue monoamine system is more sensitive to the action of ephedrine and amphetamine.

It is clear that tranlycypromine should never be given either in the form of "parstelin" (tranlycypromine and trifluoperazine) or of "parnate" (tranlycypromine) within one to two weeks of giving ephedrine or amphetamine as well. In view of the pharmacological action of the drug on so many systems it should probably not be given with anything else at all, at any rate in the present state of our knowledge.

The side-effects of tranlycypromine are due to amine-oxidase inhibition, but there is comparatively little to suggest that this is true of its antidepressant action. One hopes that it will be possible to separate these effects, since the practical difficulty of ensuring that a patient will not consume other tablets as well as tranlycypromine makes the drug a liability in practice. Although all these effects have been known since 1960 they are often still unrecognized.—I am, etc.,

C. W. BURKE.

London S.W.11.

REFERENCES

- Gertner, S. B., *J. Pharmacol. exp. Ther.*, 1961, 131, 223.
- Horwitz, D., and Sjoerdsma, A., *Proc. Soc. exp. Biol. (N.Y.)*, 1961, 106, 118.
- Spencer, J. N., Porter, M., Froehlich, H. L., and Wendel, H., *Fed. Proc.*, 1960, 19, 277.
- Babiak, W., *Canad. med. Ass. J.*, 1961, 85, 377.
- Luby, E. D. and Domino, E. F., *J. Amer. med. Ass.*, 1961, 177, 68.
- Robertson, D. S., *Canad. med. Ass. J.*, 1961, 85, 711.
- Womack, A. M., *Brit. med. J.*, 1963, 2, 366.
- Zeck, P., *Med. J. Aust.*, 1961, 2, 607.
- Tedeschi, R. E., Tedeschi, D. H., Ames, P. L., Cook, L., Mattis, P. A., and Fellows, E. J., *Proc. Soc. exp. Biol. (N.Y.)*, 1959, 102, 380.
- Green, H., and Erickson, R. W., *J. Pharmacol. exp. Ther.*, 1960, 129, 237.
- Lees, F., and Burke, C. W., *Lancet*, 1963, 1, 13.

Side-effects of Tranlycypromine

SIR,—In view of the recent reports of serious side-effects associated with tranlycypromine ("parnate") therapy, including the fatality reported in your columns by Dr. A. M. Womack (August 10, p. 366), we have thought it worth communicating our experience with this drug in the course of a two-year controlled comparative out-patient trial of four antidepressants: tranlycypromine, imipramine, amitriptyline, and isocarboxazid. A full account of this work is to be published elsewhere shortly.

There were 38 patient trials of parnate. The dose prescribed was 10 mg. twice daily for five days, then 20 mg. twice daily. 15 patients (39%) experienced severe side-effects; of these, 12 (32%) as a result stopped the drug or were advised to do so. Nine patients (24%) experienced headache, seven the characteristic sudden, severe, incapacitating type, and two others milder headaches. Three of those with headache were able to continue the drug without further trouble and without reduction in the dose of 20 mg. twice daily, four refused to continue, and two had further headaches in spite of

reduced dosage so the drug was discontinued. Of interest was the unexpected development of the headache in some patients who had been taking 40 mg. daily for long periods (three, eight, and twelve weeks) without trouble. In five other patients other symptoms (palpitations, chest tightness, giddiness, visual disturbance, nausea, drowsiness or hesitancy of micturition) occurred with smaller doses, 20 to 30 mg. daily, within a week or two of starting medication. In these cases also the patients either stopped taking the drug or were advised to do so. One patient, after taking a number of tablets irregularly over the course of a month, developed a hypoplastic anaemia. This may not have been attributable to the drug, since the patient gave a history of a previous episode of obscure anaemia.

We found the drug an effective antidepressant in the dosage we used, but not more so than isocarboxazid, which was comparatively free from side-effects. On the basis of our experience during this trial, together with the reports that have appeared of more serious sequelae to the use of tranlycypromine, we have grave doubts about the advisability of further administration of this substance, unless some explanation can be found which would enable preventive measures to be taken.—We are, etc.,

P. W. RICHMOND.
A. H. ROBERTS.

Atkinson Morley's Hospital,
London S.W.19.

Foetal Death after Pethidine and Promazine

SIR,—Having used the combination of pethidine and promazine as sedation in labour for the past five years I was disturbed at the report by Mr. A. G. Amias and Mr. D. Fairbairn of foetal death following its use (August 17, p. 432). I trust that the report will not discourage administration of the combination which has been proved effective.^{1 2}

It does, however, emphasize that care must be taken in the amount of drugs administered, especially intravenously. Pethidine 100 mg. given intravenously in a single injection is certainly not without hazard and any effect is bound to be potentiated when promazine is given simultaneously. One may doubt the need of any premedication prior to surgical induction of labour, but the intravenous use of such high doses as pethidine 100 mg. and promazine 50 mg. would seem unwarranted, since it has obviously no advantage over a suitable intramuscular injection given about an hour previously.

In what must be now over 1,000 cases I personally have seen no serious effect from the giving of pethidine and promazine (50 mg. of each) intravenously in a single injection. I have seen a case similar to the one described where in error a patient was infused with 100 mg. of pethidine and 100 mg. of sparine in 500 ml. of 10% glucose within 15 minutes.

The patient, who was established in labour, looked almost moribund with a thready rapid pulse, hypotension, and reduction in respiratory rate. The foetal heart rate rose to 180/min. It was decided to do nothing till the effect of the drug had worn off, and the patient delivered herself spontaneously eight hours later of an active healthy baby. At no time was there evidence of meconium staining of the liquor amnii.

It is always easy in retrospect to criticize the treatment of a case, but in that described by Mr. Amias and Mr. Fairbairn it might have been better not to have carried out caesarean section but to have waited till the effect of the drugs had subsided, as reported above. The actual operation within an hour of the initial injection may have played a part in the asphyxial death of the baby. Pre-eclampsia associated with post-maturity may also have contributed to intrauterine asphyxia.

With regard to routine sedation in labour the intramuscular administration of pethidine (maximum 100 mg.) and promazine (maximum 50 mg.) by single injection is safe in the hands of both midwife or medical attendant, whereas the intravenous administration of drugs during labour should be under experienced obstetrical supervision. As a general rule pethidine 50 mg. and promazine 50 mg. in a single intravenous injection would seem to be the maximum which should be given, and we have not found higher dosage necessary.

Where there is experienced obstetrical supervision I should like to advocate the extension of intravenous sedation in labour. It not only cuts down the total amount of analgesia required but it gives immediate relief to the patient and not 15 minutes or five pains later as with intramuscular injections. The psychological effect in the patient is obvious.—I am, etc.,

JOHN MACVICAR.

Department of Midwifery,
University of Glasgow.

REFERENCES

- MacVicar, J., and Murray, M. H., *Brit. med. J.*, 1960, 1, 595.
- Mathews, A. E. B., *ibid.*, 1963, 2, 423.

Increased Libido with Chlorprothixene

SIR,—There have been occasional reports^{1 2} in the literature of chlorprothixene ("taractan") having an excitatory, rather than a tranquillizing, effect on patients. Ma and Crandell¹ have also reported that a patient developed increased libido following the administration of the drug.

I wish to draw to your attention a similar effect upon a 37-year-old married woman suffering from manic depressive psychosis. This patient from the age of 17 years has had numerous attacks of depression and mania. Over the past two years the attacks have been circular, two weeks of depression alternating with two weeks of mania.

In June, 1962, chlorprothixene 50 mg. t.d.s. was prescribed to be taken during the manic phase. A few days after taking the