

## Correspondence

### Sodium valproate and pregnancy

Sir,

We were presented with a baby born to a mother taking sodium valproate who wished to breast feed. There are no data on breast milk levels of sodium valproate; it is presumed from collateral evidence that some of the drug would pass across from maternal serum into the milk. Studies in animals given modest doses of sodium valproate during pregnancy (30-90 mg/kg) showed no significant teratogenic effects. When a much higher dose was used (about 600 mg/kg) there was a dose-related increase in the rate of intrauterine death and major fetal abnormalities, most of which involved the kidneys or the lower lumbar spine (Whittle, 1976).

Information on the outcome of the pregnancies where sodium valproate has been taken as the main anticonvulsant is very scanty; in most reports two or more drugs have been used or, in the case of an abnormality, the family history has suggested a strong genetic element (W. Reckitt-Labaz, 1978, personal communication).

Case 1, a 22-year-old primipara, was epileptic and changed to sodium valproate in November 1975. She was well controlled taking 1600 mg/day in divided doses. She had had irregular periods and did not realise that she was pregnant until she was about 14 weeks. She consequently booked at the hospital clinic at about 18 weeks. Her anticonvulsant drug was not changed.

She was admitted in labour at term in July 1978 and delivered a healthy boy weighing 3010 g; Apgar score was 9 at one minute, and no abnormalities were observed. The baby breast fed well and was discharged home on the 6th day, slightly under his birthweight. Mother and baby were seen at 29 days after delivery. The baby was still breast feeding well, gaining weight, and beginning to smile.

The sodium valproate level was measured in the mother's serum, as shown in the Figure. The level fell slightly at term without any change in the oral dose and then rose to the previous level by 29 days. The valproate level in the serum of the neonate was of the same order as that of the mother's at delivery, but fell to insignificant levels by 5 days and was undetectable at 29 days (Figure). The mean level of valproate in breast milk at 5 days was 50 mmol/l; it had fallen to 21 mmol/l by 29 days.

The neonatal valproate level indicates that valproate crosses the placenta freely and maternal serum levels will reflect fetal serum levels. Sodium valproate crosses through from serum into breast milk and will be found at a level between 5 and 10% of that in the mother's serum. The absorption of valproate from breast milk by the neonate appears to be insignificant. In this instance there was no evidence of any abnormality associated with the use of this drug.

It may be concluded that breast feeding while on therapeutic doses of sodium valproate is safe and will not

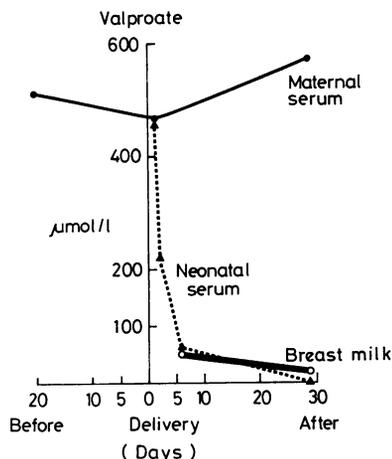


Figure Maternal serum and breast milk levels of sodium valproate, note marked fall in neonatal serum levels.

result in detectable neonatal blood levels. Nevertheless, in early pregnancy it must still be prescribed with caution until there is evidence of its safety.

#### Reference

Whittle, B. A. (1976). In *Proceedings of a Symposium on Clinical and Pharmacological Aspects of Sodium Valproate*, Nottingham, September 1975, p. 105. Edited by N. J. Legg. MCS Consultants: Tunbridge Wells.

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### Breast feeding and smoking

Sir,

Success at breast feeding has been related to social class (Martin, 1978) and the age at which the mother finished full-time education (Last, 1978; Martin, 1978; Pursall *et al.*, 1978). This study was aimed at determining the prevalence of breast feeding in Cambridge, after delivery and at 3 months. The influence of smoking by mothers was also examined. Smoking by the mother has been shown to have adverse effects on the fetus (Butler *et al.*, 1972) and smoking by either parent an adverse effect on the health of the infant (Leeder *et al.*, 1976), but its effects on lactation do not appear to have been investigated.