Correspondence

Parenteral nutrition compared with transpyloric feeding

Sir,

Glass et al1 compared parenteral nutrition with transpyloric feeding in two matched groups of infants weighing less than 1500 g at birth. In their hands parenteral nutrition resulted in a 40% mortality rate and a 70% infection rate. They recommend a method of transpyloric feeding which had to be abandoned in one third of their patients in favour of parenteral nutrition, while one third of the remainder developed necrotizing enterocolitis.

We feel that this study is based on the false premise that there is one optimal regimen of feeding which can be rigidly administered to all low birthweight infants irrespective of their clinical status. Such an approach led to unacceptably high mortality and morbidity which raises serious ethical questions. We were surprised that they continued with it for a period of one year in the face of such disturbing results.

We contend that a flexible approach based on a full clinical assessment of the individual patient would avoid many of the difficulties encountered by the authors. It is our practice to introduce enteral feeds only after stabilising the vital signs of the infant and establishing acid base and biochemical homeostasis. It is important to increase the volume of milk according to a continuous assessment of the individual infant’s tolerance judged by gastric retention, the presence of bile stained aspirate, abdominal distention or tenderness, and the passing of normal motions. The full nutritional needs of the individual infant may be met by supplemenational enteral feeds by partial parenteral nutrition until full enteral feeding is established. By the same process of reasoning we agree with the authors that a rigid policy of withholding enteral feeds in the first two to three weeks of life in all very low birthweight infants as suggested by Eyal et al2 is unnecessary but support their plea for caution in the introduction of milk.

In a small proportion of very immature or sick infants total parenteral nutrition may be required for prolonged periods because they are unable to tolerate enteral feeds based on the above criteria. Contrary to the experience of Glass et al1 we have found this to be a safe and effective procedure when properly managed in agreement with the findings of Yu et al.3

By adopting this individualised flexible approach based on continuous clinical and laboratory monitoring, the iatrogenic infection rate of our very low birthweight infants is less than three per cent and the incidence of necrotizing enterocolitis is less than two per cent. We expect a survival rate of over 95% for infants between 1 and 1.5 kg and of over 60% in infants under 1 kg, excluding those with lethal congenital malformations.

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Dr Glass and co-authors comment:

Dr Ferguson and his colleagues have failed to comprehend our paper.1 We did not ‘recommend’ a method of transpyloric feeding but adopted a method deemed appropriate on the basis of the published reports. This study was based on a premise which is anything but false, namely that the different methods of feeding which are advocated for the low birthweight infant need to be looked at critically and assessed objectively by proper clinical trials if we are to understand how best to meet the nutritional needs of these infants.

This trial was indicated because the results with the ‘flexible’ type of approach which Dr Ferguson and his colleagues advocated proved so unsatisfactory. ‘Full clinical assessment’ and, as far as possible, ‘stabilising the vital signs of the infant and establishing acid base and biochemical homeostasis’ are practised on all infants in this unit but do not of themselves answer adequately the question as to the best methods of feeding low birthweight infants. Properly conducted clinical trials using accepted methods of feeding are an essential element in answering this question adequately and the results must be reported no matter how unsatisfactory they prove to be.

In such trials it is the comparison between different methods which is important. As this unit is a regional one accepting low birthweight infants referred from other hospitals, the proportion of high risk low birthweight infants for whom it cares is high. As we pointed out in our paper1 most infants in the trial who died in the first week did so from intraventricular haemorrhage, and it is doubtful whether the method of feeding played any part in their aetiology or whether any ‘flexibility’ other than the carefully considered switching to an alternative method of feeding which took place in our trial when one method proved unsuitable would have made any difference. The claims of Dr Ferguson and his colleagues would have been more credible and responsible if they had quoted an actual rather than an expected mortality rate and had defined their population and their criteria.

Dr Ferguson and his colleagues also quote a meaningless infection rate based on an ‘iatrogenic infection rate’ (whatever that is) and the exclusion of infants with lethal congenital malformations. Our infection rate was uninfluenced by such dubious qualifications.

The Archives of Disease in Childhood rightly demands high ethical standards and invites those whose opinions it seeks as referees to pronounce on the ethics of any paper submitted for publication. A sinister danger to the welfare of children, however, would be a reluctance by those who have conducted careful and ethical research to publish unsatisfactory results honestly and frankly lest some whose practices differ or whose prejudices blind should seek too readily to discredit this essential research not by scientific data or logical argument but by irresponsible, ill considered imputations of unethical conduct.

References

1 Glass EJ, Hume R, Lang MA, Forfar JO. Parenteral nutrition

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