infant health from which management strategies can be evaluated and planned.

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Professor Morley comments:

I am delighted that Dr Bellman has raised the need to evaluate the methods developed in Bogota. He perhaps does not appreciate, however, that at the present time less than 1% of low birthweight (LBW) babies in developing countries have access to any form of intensive neonatal care facilities. It is hardly an 'either' 'or' situation. Even in the United Kingdom, I understand that there is difficulty in providing enough facilities.

My own experience in this field of LBW care arose from working with a nursing sister, Margaret Woodland, in the village of Imesi, Nigeria in the late 50s. Keeping the child in skin contact with the mother, she achieved survival results in LBW infants similar to those in Birmingham in the early 50s.

On visits to many countries I have frequently seen LBW babies placed in expensive incubators in areas where there was no oxygen, irregular electricity, and few maintenance facilities, let alone nurses adequately trained in their care.

The median expenditure on health care in developing countries in 1980, was US \$4 compared with a median of US \$220 for industrialised countries.² In these less fortunate countries, there are two or three times more births and 10 to 30% of all births may be considered LBW. In the foreseeable future, only a minute proportion of these can (or should) receive costly intensive neonatal care. For the remainder, mother-oriented methods such as those developed by the team in Bogota are likely to have many advantages.

References

- ¹ Morley D. The state of the world's children. *Arch Dis Child* 1985;**60**:693-4.
- ² World Bank. *Health sector policy paper*. Washington DC: World Bank, 1980.

Sir,

In his excellent review¹ Professor Morley states that the lives of half a million children were saved in 1984 by oral rehydration after diarrhoea, in spite of the fact that only 15% of the world's children had access to this treatment. May I add to Dr Morley's comments.

Diarrhoea kills 6 million children each year. The main source of infection being contaminated water supplies. There is a shortage of water in developing countries so that it tends to be used over and over again until it ends up thoroughly dirty and an ideal medium for pathogens and disease.

It seems to me that this is a case where prevention is much better than cure. There is an urgent need for governments to ensure the provision of clean and adequate supplies of water together with the safer disposal of all

waste products. Until this is done, many more millions of children will die in the Third World.

Reference

- ¹ Morley D. The state of the world's children. *Arch Dis Child* 1985;**60**:693-4.

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Sir,

Professor Morley's excellent annotation¹ draws attention in the final paragraph to the similarity of problems facing the Third World and research in this country. It also underlines the fact of very large numbers of children that so urgently need help in the Third World.

It appears appropriate to ask, are we in the United Kingdom, in medicine, and particularly in the BPA, responding adequately? Relatively speaking, we are very generously staffed by well qualified doctors.

Would it be appropriate if the route to promotion to career posts indicated that a period of service/experience in the Third World would be seen as a significant advantage? Perspective would be broadened, candidates would be better equipped to handle a multi-racial society, better able to make our research of more wide ranging application, and able to train overseas postgraduates more effectively.

Those of us who have followed this route have found it most rewarding in spite of frustrations.

Reference

- ¹ Morley D. The state of the world's children. *Arch Dis Child* 1985;**60**:693-4.

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Neonatal auditory brainstem responses

Sir,

We were interested to read the paper by Dear and Godfrey on the subject of the interpretation of auditory brainstem responses (ABR) in the neonatal period.¹ We agree that absent responses may be reversible and should not be relied upon to diagnose brain death in neonates. In the cases they described, absent ABRs were attributed to hypoxia. Other authors have suggested that immaturity may be responsible.² We have recently seen an infant in whom absent ABRs were associated with posthaemorrhagic hydrocephalus: after insertion of a ventriculo-peritoneal shunt, the responses returned.

The infant was born at 29 weeks' gestation and weighed 1.45 kg. On day 20 cranial ultrasound showed gross

bilateral ventricular enlargement and a small left communicating porencephalic cyst. His ABRs were absent on day 26 (Fig. 1), though binocular flash evoked visual responses (VER) were normal. Thirteen days after the insertion of a ventriculo-peritoneal shunt, ABRs were present (Fig. 2).

While the change in ABRs shown by our patient may be explained by hypoxia or maturation, the degree of increased response, the short time interval between examinations (19 days), and the presence of VERs makes this unlikely. An alternative explanation is that raised intracranial pressure is transmitted to the perilymph within the cochlea via the cochlear canaliculus, which is still patent in neonates,³ suppressing cochlear function. Additionally the integrity of the auditory pathways may be affected by the raised cerebrospinal fluid pressure. This may be mediated by distortion of the dorsal cochlear nucleus, which lies in a vulnerable position adjacent to the lateral foramina of the fourth ventricle, or simply by stretching of the eighth nerve. The use of ABR to assist in the decision of when to intervene surgically in posthaemorrhagic hydrocephalus deserves investigation.

Fig. 1 Auditory brainstem responses in a 26 day old infant with posthaemorrhagic hydrocephalus.

Fig. 2 The same infant after insertion of ventriculo-peritoneal shunt, 45 days.

References

- 1 Dear PRF, Godfrey DJ. Neonatal auditory brainstem response cannot reliably diagnose brainstem death. *Arch Dis Child* 1985;**60**:17-9.
- 2 Roberts JL, Davis H, Phon GL, Reichert TJ, Sturtevant EM, Marshall RE. Auditory brainstem responses in preterm neonates: maturation and follow-up. *J Pediatr* 1982;**101**:257-63.
- 3 Duvall AJ, Quick CA. *Ann Otol Rhinol Laryngol* 1969;**78**:1041.

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Rectal examinations and acute appendicitis

Sir,

I warmly welcome the paper by Dickson and MacKinlay¹ for I have not thought that rectal examinations in children were helpful in acute appendicitis, and indeed I have tried to persuade my junior staff to refrain from these. For example, I found recently that in one child up to four rectal examinations were carried out in a period of five to six hours—initially by the general practitioner, then the casualty officer, the admitting senior house officer, and finally the registrar! In these days of considerable and regular sexual abuse, it would not be surprising if the parents were concerned about this strange practice of frequent rectal examination. Indeed, I would go so far as to say that routine rectal examinations in children are not justified and certainly not helpful during recovery after operation.

I wonder whether the authors have discussed the routine fourth day postoperative rectal examination with the ethical committee, for I cannot see any value in carrying out this procedure at that time. I would like to see the BPA Committee on Child Abuse make a firm recommendation that rectal examinations in children, including the regular use of suppositories should cease forthwith, though I realise that some rectal medications are of use.

Reference

- 1 Dickson AP, MacKinlay GA. Rectal examination and acute appendicitis. *Arch Dis Child* 1985;**60**:666-7.

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Drs Dickson and MacKinlay comment:

We thank Mr Cudmore for his notes on our paper and are pleased he agrees with our observations.

Our aim was to show that in most cases of appendicitis the diagnosis can be made without the need for rectal examination. In others, of course, the only physical signs may be elicited rectally.

We too have encountered cases of appendicitis, often clearly diagnosed on abdominal examination yet having a