LETTERS TO THE EDITOR

Management and outcome of severe head injury in the Trent region 1985-90

EDITOR,—Elias-Jones *et al* recently reported the use of body surface cooling to 32°C for prolonged periods (up to 10 days) in the management of children with raised intracranial pressure after severe head injury.¹ While the authors have substituted body surface cooling for 'barbiturate coma', aiming to maintain a cerebral perfusion pressure of greater than 60 mm Hg and an intracranial pressure less than 20 mm Hg, we believe that they may well have replaced one potentially hazardous treatment with another.²

The use of surface cooling to maintain children normothermic after a severe head injury as a means of limiting the energy requirement of the brain is hardly controversial. However, the practice of cooling children to hypothermic levels for prolonged periods in our opinion results only in cold induced immunosuppression (including neutropenia), cold induced bronchorrhoea, and decreased mucociliary clearance, all of which contribute to a marked increase in the risk of nosocomial infection.³ Not surprisingly, Elias-Jones *et al* noted an exceedingly high incidence of 'infective episodes', particularly pneumonia, in their series. Although these 'infective episodes' responded to physiotherapy and antibiotic treatment, it is questionable whether it was appropriate to expose these children to this excessive risk of infection in the first instance.

Interestingly, the authors suggest that their use of cimetidine as stress ulcer prophylaxis may have contributed to the increased incidence of pneumonias. Yet at the same time, they resorted to the immediate infusion of parenteral nutrition – a known immunosuppressant – in those patients who seemed likely to require prolonged ventilation.⁴ This is exactly the population who, in our view, would benefit from early enteral nutrition as a more physiological means of gastrointestinal protection. Early enteral nutrition undoubtedly would have reduced the risk of infection associated with total parenteral nutrition and is never contraindicated in patients with a normal gastrointestinal tract. Failure to feed by the enteral route is more to do with local practices and prejudices than the patient's small bowel function.

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- 1 Elias-Jones AC, Punt JAG, Turnbull AE, Jaspán T. Management and outcome of severe head injuries in the Trent region 1985-90. *Arch Dis Child* 1992; 67: 1430-5.
- 2 Schwartz ML, Tator CH, Rowed DW, Reid SR, Meguro K, Andrews DF. The University of Toronto head injury treatment study: a prospective, randomized comparison of pentobarbital and mannitol. *Can J Neurol Sci* 1984; 11: 434-40.
- 3 Bohn DJ, Biggar WD, Smith CR, Conn AW, Barker GA. Influence of hypothermia, barbiturate therapy, and intracranial pressure

monitoring on morbidity and mortality after near-drowning. *Crit Care Med* 1986; 14: 529-34.
4 Maynard ND, Bihari DJ. Postoperative feeding. *BMJ* 1991; 303: 1007-8.

Dr Elias-Jones comments:

I read with interest the comments of Murdoch and Bihari. In the management of these children we were concerned about the effect of cold induced bronchorrhoea that might lead to decreased mucociliary clearance and consequently during the course of the study we changed our practice to warm the inspiratory gases to 37°C. We were however disappointed that this did not in fact alter the rate of respiratory infection and thus suggests that these factors are not great in determining the risk of those nosocomial infections. Furthermore we noted that the patients did not have neutropenia, indeed they had a neutrophilia response to their infection.

We would agree that the enteral route is preferred for treating such patients where this route is available. However, a large percentage of these patients had multiple injuries after their road traffic accidents, in some causing abdominal injury and in others, particularly those with major skeletal fractures, requiring additional general anaesthesia. All patients required quite high opiate infusions all of which predisposed to ileus developing. Where the bowel was functioning normally we would indeed endorse the Murdoch and Bihari view that the enteral route is preferred.

The growing pains of community child health

EDITOR,—Michael Rogers emphasises the secondary care role of community doctors, believing they should leave primary care [to] ... general practice.¹ He does not consider whether sufficient numbers of general practitioners (GPs) are available to do this work nor the effects such a policy would have in deprived areas. Service organisation in two contrasting districts serve to illustrate the different service needs of deprived areas.

South Sefton (Merseyside) is a small health district (population 180 000) within the conurbation of Liverpool. One of us (CNI) has conducted an audit of community child health work in a small geographical patch within the district. The new GP contract has had little effect on the involvement of GPs in child health. Thirty four per cent of babies were immunised by their GP in 1991, a modest increase on the 1989 figure (20%). Attendances at one community child health clinic showed an 80% increase over six years (1986-92) associated with a dramatic improvement in immunisation rates: diphtheria and polio (77% to 97%), pertussis (51% to 86%), measles, mumps, rubella (37% to 93%). It is hoped to publish detailed results at a later date.

Northampton is a larger district (population 300 000) with a mixed rural and urban population, including the towns of Northampton and Daventry. Almost all children are immunised by their GP and many GPs had established child health clinics before the new contract, allowing community doctors to withdraw from those areas. Fourteen of the 17 community child health clinics retained (because they continue to be needed) are in Northampton and Daventry and most are in or adjacent to the

most deprived wards in the district. District immunisation rates are diphtheria and polio 97%, pertussis 94%, and measles, mumps, rubella 96%.

Relative underuse of preventive, primary, and secondary care has been shown for lower socioeconomic groups.^{2,3} General practice in deprived areas is commonly underdeveloped, a finding described by the 'inverse care law': those most in need of high quality health care are least likely to receive it.⁴ Community paediatricians must assess their population's health needs and act accordingly. In South Sefton the predominant need is to improve access to primary health care: a policy that was highly successful in improving immunisation rates and other health indicators (unpublished data). In Northampton, only selected areas now need community child health input to primary care, but this will be maintained for the foreseeable future.

The uneven regional distribution of general practitioners – a shortfall of over 100 in Mersey region and an excess of 70 in the Oxford region¹ – is the likely reason for the different service needs in the two districts described. A rapid withdrawal of community doctors from providing primary health care would intensify the disadvantage of living in a deprived area.

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- 1 Rogers M. The growing pains of community child health. *Arch Dis Child* 1993; 68: 140-3.
- 2 Townsend P, Davidson N, eds. *Inequalities of health*. Harmondsworth: Pelican Books, 1988. (Black report; Whitehead M, *The health divide*.)
- 3 Hart JT. *A new kind of doctor*. London: Merlin Press, 1988.
- 4 Birch S, Maynard A. Regional distribution of family practitioner services: implications for National Health Service equity and efficiency. *J R Coll Gen Pract* 1987; 37: 537-9.

Dr Rogers comments:

I believe that the related aims of (1) developing community child health as a specialty within paediatrics and (2) the taking over of *all* aspects of primary care (including health surveillance) by general practice, together represent the best long term strategy for children's health services.¹

The points raised by Drs Ni Bhrolchain and Shribman about deprivation are very important, and the complex issues manifest in the 'inverse care law' have so far proved intractable. Purchasers have paid far too little attention to the realities of child health surveillance in deprived areas. The easy stage of transferring child health surveillance to general practice, involving enthusiastic and committed GPs, has already been achieved: further progress will be much more difficult, and a rapid withdrawal of community doctors' would indeed be very damaging. Nevertheless, I suggest we should not let short and medium term difficulties distract us from longer term objectives. Ultimately, all aspects of primary health care belong elsewhere than within the specialty of community child health. Achieving this may take some time!

- 1 Committee on Child Health Services. *Fit for the future*. London: HMSO, 1976. (Court report.)