Correspondence

Sugar intolerance complicating acute gastroenteritis

Sir

Trounce and Walker-Smith's recent 'Personal practice' article¹ raises some queries.

Firstly, is it necessary to reintroduce milk feeds slowly over four days ('regrade') after 24 hours' rehydration in infants with acute gastroenteritis? Recently, we compared two groups of infants admitted to our unit with acute gastroenteritis²—group 1 of 47 infants reintroduced abruptly to milk feeds and group 2 of 46 infants regressed over 48 hours after 24 hours of rehydration in both groups. Not surprisingly, there were no significant differences in duration of hospital stay, relapse rate, or incidence of sugar malabsorption, whereas weight change differed significantly (+55 g in Group 1 and -42 g in group 2). In a comparable study Placzek and Walker-Smith concluded that, at least for children over 9 months of age, rapid reintroduction of full strength feeds after initial rehydration therapy was appropriate.³

Secondly, the authors' statement that their 'approach is preferable to the prescription of lactose free diet' in sugar malabsorption associated with acute gastroenteritis needs justification. In our study nine infants were presumed to have sugar malabsorption when relapsing for the second time—in six, stools did not show 0.5% reducing substances or more but yet all responded to a lactose free diet, returning then to their normal diets some two to four weeks later as outpatients. Had any infant not responded, only then would we have considered cow's milk enteropathy. This leads to another query: is it really necessary to perform a small intestinal biopsy in this situation when we know that the sometime patchy changes can be missed? Is not the introduction of a cow's milk free diet entirely reasonable without biopsy examination in this clinical situation?

The protocol described by Trounce and Walker-Smith is, in practice, a protracted one, and we are concerned about its possible adverse effects on the infants' nutritional state—a concern voiced by the authors in their comment that their 'regimen must be approached with some circumspection, however, in a previously malnourished child'.

Paediatricians should aim to minimise admission to hospital in children while giving appropriate definitive treatment. We are not convinced that Trounce and Walker-Smith's regimen fulfils these criteria.

References

- 1 Trounce JQ, Walker-Smith JA. Sugar intolerance complicating acute gastroenteritis. *Arch Dis Child* 1985;60:986-90.
- 2 McDowell HP, Evans-Jones G. Is gradual reintroduction of milk feeds in gastroenteritis necessary? *Lancet* 1985;i:690.
- 3 Placzek M, Walker-Smith JA. Comparison of two feeding

regimens following acute gastroenteritis in infancy. *Journal of Pediatric Gastroenterology and Nutrition* 1984;2:245-8.

G EVANS-JONES and H P McDOWELL
Countess of Chester Hospital, Chester

Dr Walker-Smith comments:

In reply to Drs Evans-Jones and McDowell.

Firstly, in relation to regrade. In our practice a slow regrade is over three days not four, and a quick regrade is over 36 hours. In their experience, although number of relapses between the two groups was not different the number of children who did relapse was.¹

Secondly, in relation to lactose malabsorption. For practical purposes a lactose free diet and a cow's milk free diet are the same, and both disorders often coexist.² Children with diarrhoea without excess sugar who respond to a lactose free diet are likely to have cow's milk sensitive enteropathy of short duration. Any infant who does not respond to a lactose free diet cannot have cow's milk sensitive enteropathy. There must be some other cause. We only perform small intestinal biopsy in a tiny minority (1.5%) in the reported study. Indications are diarrhoea for two weeks or more or failing three attempts at regressing provided there is no evidence of re-infection by viruses, etc. Reason for biopsy examination is that while cow's milk sensitive enteropathy is the most common explanation for symptoms, coeliac disease, giardiasis, cryptosporidiosis, or microvillous atrophy may present as post-enteritis diarrhoea. The thrust of our paper is that in the 1980s, with the use of modern adapted formulas, incidence of significant problems after acute gastroenteritis is now very low in contrast to our earlier experience.² If small bowel biopsy examination is not easily available a therapeutic trial of a milk or lactose free diet is appropriate. In a gastroenterology unit small bowel biopsy examination is simple, safe, and quick and provides a firm diagnosis. Rapid stool viral diagnosis with electron microscopy in this unit has shown that a relapse after gastroenteritis is now more often due to persistent viral infection or to hospital acquired viral re-infection than to cow's milk sensitive enteropathy.² Clearly, in such circumstances neither a biopsy examination nor a therapeutic trial of a lactose free diet is warranted and a further regrade is indicated.

Thirdly, this approach of regressing is not satisfactory when malnutrition is present. Continued oral feeding is then the ideal to maintain caloric intake, but dietary intake that exceeds intestinal absorptive capacity can result in a greater risk of dehydration and electrolyte disturbance. We do not believe that the final answer has been given to the question how best to realiment children after gastroenteritis but we believe this answer may be different for well nourished and poorly nourished infants.

References

- 1 Walker-Smith JA. Reintroduction of milk feeds after gastroenteritis. *Lancet* 1985;iii:121.