Hazards of hypertonic magnesium enema therapy

Sir,

Serious electrolyte disturbances can follow the use of enemas in children who have chronic bowel problems associated with disturbed absorption (Moseley and Segar, 1968). The hazards of hypertonic phosphate enemas were shown by Loughnan and Mullins (1977) and we have recently seen a case.

A 4-year-old boy had been attending medical outpatients department with chronic functional constipation. His father, weary of the child’s chronic burden, had bought from a chemist, without prescription, a Fletcher’s magnesium sulphate retention enema. The father then administered approximately 100 ml of the total 130 ml magnesium sulphate to the child per rectum. In the father’s presence 20 minutes later, the child suddenly collapsed and apparently lost consciousness. He was subsequently rushed to hospital by ambulance.

On admission the child was found to be deeply unconscious with fixed dilated pupils. He was centrally cyanosed with shallow, irregular respirations. Heart rate was 120/minute. He was markedly hypotonic and deep tendon reflexes could not be elicited. The child was immediately intubated and intermittent positive pressure ventilation was successfully carried out. Fortunately the full preceding history was elicited early and 10 ml 10% calcium gluconate was administered intravenously.

Within a few minutes consciousness was regained, the pupils began to react to light, the deep tendon reflexes returned to normal, and spontaneous respirations were rapidly re-established. Initial investigations were Ca 2-31 mmol/l; 9-24 mg/100 ml (normal range 2-1-2-6 mmol/l; 8-4-10-4 mg/100 ml), Mg 5-87 mmol/l; 14-3 mg/100 ml (normal range 0-7-1-0 mmol/l; 1-7-2-4 mg/100 ml). Serial serum magnesium levels remained grossly raised and, subsequently, more treatment in the form of further aliquots of intravenous calcium gluconate, followed by peritoneal dialysis, and then by forced diuresis, was carried out for the next 18 hours. Results 20 hours after enema, were Ca 2-27 mmol/l (9-1 mg/100 ml), Mg 0-91 mmol/l (2-2 mg/100 ml). The child continued to make a full recovery without any abnormal sequelae.

We feel this case shows the danger resulting from the availability of such enema preparations, permitting well intentioned but ill advised use by parents and others. It would appear that the recent legislation covering Part III of the Medicines Act does not restrict the sale of disposable enemas.

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Sir,

Packer et al. (Archives, 1978, 53, 449) reported their experience of 32 children previously diagnosed as having coeliac disease who were re-investigated by gluten challenge in a well-documented study. While I agree with their advocacy of a small intestinal biopsy some 3 months after return to a gluten-containing diet, I cannot agree that a normal small intestinal biopsy, after such a 3-month interval, suggests that coeliac disease is ‘for practical purposes’ excluded. I have published details of my own experience concerning 2 children who respectively had a normal small intestinal mucosa after the following intervals back on a gluten-containing diet: 6 months (Walker-Smith, 1972), and 14 months (Walker-Smith et al., 1978). Yet they subsequently developed an abnormal small intestinal mucosa 1 year 10 months and 2 years respectively on a gluten-containing diet. So in fact these children did have coeliac disease and a previously normal biopsy after gluten challenge did not exclude this diagnosis. Such circumstances are certainly not common, but I believe that it is vital to emphasise the importance of a final biopsy at least 2 years after returning to a normal gluten-containing diet (as in fact, Packer et al. did) before it can be stated that coeliac disease is excluded (Walker-Smith and Kilby, 1977). What is more, Egan-Mitchell et al. (1978) and others have described an occasional child who may take even longer than the 2-year interval before developing a histological relapse. Therefore, it is my view that it is of great importance that there should be long-term, perhaps indefinite follow-up into adult life, for those children previously diagnosed as having coeliac disease in whom the mucosa remains normal despite return to a normal gluten-containing diet for 2 or more years. It is possible that some may eventually relapse.

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References