Carbohydrate intolerance after rotavirus gastroenteritis: a rare problem in the 1990s

EDITOR,—During the first three months of 1993, 32 children with rotavirus gastroenteritis were admitted to our unit (37% of admissions with acute gastroenteritis). Standard treatment was given, that is oral rehydration therapy for 24 hours followed by immediate return to full strength standard formula milk in those under 1 year and light diet for 24 hours followed by reintroduction of ‘doorstep’ milk in those over the age of 1.

Carbohydrate intolerance (>0-5% reducing substances in the stool) was seen in 16 (50%) of the children admitted with rotavirus gastroenteritis; all had watery explosive diarrhoea. Monosaccharide intolerance was present in 11 (10 aged >1 year), lactose intolerance in four (three aged <1 year) and one child had glucose polymer intolerance. Children were diagnosed as monosaccharide intolerant when after six hours of oral rehydration therapy they had persistent loose watery explosive stools with reducing substances present. Lactose intolerance was defined as the appearance of loose watery stools within 24 hours of reducing substances after reintroduction of milk.

Children with monosaccharide intolerance were given a 12 hour period of carbohydrate free electrolyte solution followed by 24 hours of a glucose electrolyte solution before returning to full strength milk. Secondary lactose intolerance after milk reintroduction was managed by returning to oral rehydration therapy for 24 hours followed by a 12 hourly regimen back on to full strength milk. In all cases the carbohydrate intolerance was transient, resolving after 24 hours in 8/16, after 72 hours in 13/16, and in all by five days. No child developed a prolonged intolerance requiring further investigation and a change of milk. Nevertheless, the short term changes made in the carbohydrate content of the feed resulted in rapid reduction in stool output and relief of acute symptoms.

In 1985 Trounce and Walker-Smith reported carbohydrate intolerance in 15/45 (33%) children admitted to our unit with rotavirus gastroenteritis with rapid resolution of symptoms in most cases. In common with others, we have seen this problem much less frequently in more recent years. Prolonged carbohydrate intolerance after acute gastroenteritis is now considered to be a rare event. Indeed a retrospective review of cases admitted to our unit with rotavirus gastroenteritis in the first three months of 1989, 1990, and 1991 showed carbohydrate intolerance to be present in 5%, 5%, and 0% respectively.

What is the reason for this surge in cases of transient carbohydrate intolerance during 1993? In our experience only two cases during the first three months of 1994. There has been no recent change in amount of carbohydrate in feeds or in the management of gastroenteritis. No particular rotavirus serotype was identified. The reasons for this are unknown. It is possible that there was a short term change in the pathogenicity of the organism which was expressed in association with carbohydrate intolerance.

The assumption is that monosaccharide intolerance and lactose intolerance coexist reflecting the severity of small intestinal mucosal damage. Our experience reinforces the importance of prompt treatment of loose, watery, explosive stools for reducing substances in children with acute gastroenteritis.

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R M Beattie, M C Vieira, A D Phillips, N Meadows and J A Walker-Smith

Arch Dis Child 1995 72: 466
doi: 10.1136/adc.72.5.466

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