Gastroenteritis in children

Dehydration and gastroenteritis account for almost 7% of avoidable hospitalisations in Australia—the second greatest contribution to avoidable hospitalisations for acute conditions (after dental conditions).[1] Viral pathogens account for about 70% of episodes of acute gastroenteritis in children under 5 years, with 50% of all admissions for severe diarrhoea attributable to rotavirus infection.[2,3] Bacterial causes are responsible for about 15% of cases of gastroenteritis, commonly in Australian children who have travelled overseas.[3]

Immunisation against rotavirus is available for eligible children and should be encouraged.[4] Extensive immunisation uptake will have a significant impact on the incidence of severe rotavirus infection in young children.

Symptoms of acute gastroenteritis

The clinical features of acute gastroenteritis are generally non-specific in children.

In viral gastroenteritis, children usually present in autumn or winter with watery diarrhoea without blood, with or without vomiting, low-grade fever and anorexia.

In bacterial gastroenteritis, children are more likely to have a high fever and blood and mucus in the stool.[3] Stool cultures are not always necessary but may guide treatment in very young immunocompromised children or particularly unwell children with a high fever, in children with bloody diarrhoea or a recent history of travel overseas, or in children who are part of an outbreak of diarrhoea in a childcare, school or hospital setting.[3]

Symptoms of diarrhoea and vomiting may also be caused by other conditions, such as urinary tract infections, meningitis, appendicitis, intussusception (prolapse of one segment of bowel into the lumen of another segment, a common cause of bowel obstruction in young children with the majority of patients being less than 1 year old) or systemic illness.[5]

Children and infants can become rapidly dehydrated during an episode of gastroenteritis. Replacement of fluid and electrolyte losses is therefore crucial.

Management of dehydration

Appropriate treatment of gastroenteritis depends on the presence and severity of dehydration. Table D.12 describes the clinical features of dehydration and the appropriate management strategies. Oral rehydration solution is the preferred treatment of fluid and electrolyte losses caused by diarrhoea in children with mild to moderate dehydration.

Routine use of antibiotics to treat gastroenteritis is not recommended; they should be reserved for children with invasive bacterial infections (giardiasis, shigella and cholera).[3]

Anti-emetics have no proven benefit in acute gastroenteritis and may result in adverse effects in children (e.g. acute dystonic reactions). Antimotility agents may reduce the duration of diarrhoea but are not recommended in children aged less than 12 years, and there are concerns about adverse effects (e.g. lethargy, ileus, respiratory depression, coma, death).[3]

Transient lactose intolerance

Lactose-free or lactose-reduced diets are usually unnecessary in children with acute gastroenteritis. Although there is some evidence that a lactose-free diet may reduce the duration of diarrhoea, there is enough variability in the results of published randomised controlled trials to make a general recommendation difficult.[3]

However, transient lactose intolerance may occur following acute gastroenteritis due to causative pathogens damaging the small intestine mucosal surface. In children with prolonged watery diarrhoea (more than seven days) with perianal excoriation, carbohydrate malabsorption should be excluded by testing the stool for reducing substances.[3] If transient lactose intolerance is confirmed, a temporary change for two to four weeks to lactose-free feeds could be suggested.[5]

Referral

Referral is required in the following circumstances[3,6]:

- child is less than 6 months old
- bile- or blood-stained vomit or stools