

Cow's milk protein intolerance has been found to contribute to constipation in between one quarter and two-thirds of children presenting to paediatric gastroenterologists with severe medication-resistant or medication-dependent symptoms. However, much lower rates of dairy allergy have been reported in a community based study. Multiple food intolerance can also cause intractable constipation in a very small percentage of children.

Food intolerance-related constipation is characterised by proctitis, with increased eosinophils in rectal mucosal biopsies and a raised anal resting pressure on manometry testing. These factors are reversible with elimination diet in such children. Food-intolerance-related constipation is not due to IgE-mediated allergy, so tests such as RAST and skin prick tests are unhelpful.

Identification of children at risk of food-intolerance related constipation is based on history. Usually, children whose constipation improves with dairy elimination are atopic or have a personal or family history of food reactions. Many have a history of irritability, vomiting and diarrhoea in infancy. Features that increase the likelihood of a child having cow's milk protein intolerance as the trigger and/or precipitating factor in their constipation are listed below.

#### **Factors associated with cow's milk protein intolerance in children**

1. Very early onset constipation
2. Onset of severe constipation on changing from breast to bottle feeds
3. Medication resistant/medication dependent
4. Persistent, severe irritability and straining during defecation (apparent tenesmus) even when stools rendered soft and passed easily
5. Perianal erythema and/or fissures
6. Other atopic diseases (eczema, rhinitis)
7. Contact reactions to food or vomit
8. History of irritability, formula intolerance, "colic" or "reflux" in infancy
9. Self-reported dairy intolerance or other reproducible food reactions
10. Voluntary dairy restriction

#### **Family history:**

- Atopy
- Food allergy
- Infants whose symptoms improved on soy, goat or prescription formula
- Autoimmunity (maternal, organ-specific)

In children with intractable constipation whose history indicates a risk of underlying cow's milk allergy, a four week trial of strict dairy exclusion followed by rechallenge is worthwhile. Stooling habits should be documented during a run-in period and during elimination and rechallenge. Calcium intake should be maintained with soy products, rice milk or by calcium supplement. Laxative medications may be adjusted as needed to obtain ongoing good stool output. Paediatric dietetic support is recommended, should dairy intolerance be identified as a contributing factor to constipation and long term dairy avoidance be considered. In children with acquired megarectum from constipation, sensory or motor dysfunction of the rectum is likely to require ongoing laxative support in the medium term regardless of whether dairy intolerance plays a role in triggering or fuelling ongoing constipation. However, medication requirement may be reduced by the exclusion of dairy in children who are dairy intolerant. There are no longitudinal studies to assist the prognosis of this group of constipated children. However, other forms of dairy protein intolerance do improve with age, therefore rechallenge with dairy products every 6 months is reasonable in children for whom dairy products previously played a role in constipation.

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