Management of Functional Constipation in Children

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Functional constipation (FC) is a common problem in children and constitutes 90-95% of all causes of constipation in the pre-school years. Passage of stools with decreased frequency, harder consistency, difficult or painful evacuation, fecal soiling and associated anal fissures are the manifestations of the same. Retention (and/or withholding) maneuvers and presence of hard stools in per rectal (and/or palpable fecolith in abdomen) typically differentiate FC from Hirschprung's disease. Thorough clinical history and examination suffice the diagnosis. In a classical case of FC, abdominal X-ray, barium enema, colonic transit time, colonoscopy, anorectal manometry and rectal biopsy are not required and should be discouraged in routine practice. Presence of red flags (eg: anemia, gut obstruction, urinary issues, growth failure) should alarm for organic causes and warrant further workup. A four pronged therapy approach is required in FC.

1. **Counselling**: Care givers must be explained the disorder with a diagram, understand the natural history and adherence to therapy. They should identify and modify precipitating factors
2. **Diet:** Most children in India have constipation due to a milk predominant diet that lacks in fiber. Urban children have food faddism. Balanced diet rich in high fiber (vegetables, unpeeled fruits, whole pulses, legumes and bran) increased water intake and decreased milk intake should be encouraged and sustained even after medical therapy is completed
3. **Toilet training**: Toddlers should be trained by the "Rule of One": One person, one routine (5 min after every major meal), one word (eg pooh, potty), one toilet (Indian or Western with foot elevated rest). Reward system gives encouragement, ensures better compliance and avoids child-parent conflict
4. **Medical therapy**: This has two phases disimpaction and maintenance

A. *Disimpaction*: Presence of impacted stools in rectum, palpable fecolith or fecal soiling (overspill) of undergarments are indications of the same. Disimpaction is the process of flushing the gut with a laxative to clear the impacted stools. Drug of choice is polyethylene glycol (PEG) 3300-4000 (preferably with electrolytes). For home based disimpaction 1.5-2 g/ kg/ day PEG is given in two divided doses for 3-6 days (depending upon the clarity of rectal effluent). For hospital based disimpaction, 3-4 g/kg (25 ml/ kg/ hour) PEG is given orally or by nasogastric tube in young children. End point is clear rectal effluent. During this process, small children may require intravenous fluids to maintain hydration. Fluid overload should be avoided. SOS proctoclysis enemas are rarely required to relieve abdominal distention during disimpaction. Regular rectal enemas are overall discouraged due to possibility of inducing repeated mental trauma.

B. *Maintenance therapy*: PEG (0.5-1 g/kg/day) >1 year age or lactulose (1-2 ml/kg/day) <1 year age is recommended for 3-6 months (to restore normal colonic tone) without any dose interruptions. Premature withdrawal leads to recurrence. Caregivers can titrate the dose that best suits their child with targets of daily 1-2 stools, soft and semi solid consistency. Follow-up visits are recommended at D14, D30, D90 and D180 with vigilance over stool diary to understand the trend. Once normalcy is attained for at least 3-6 months, slow tapering is initiated over another 3-4 months with dose halving each month till complete withdrawal. Polytherapy and stimulant laxatives are not recommended as maintenance therapy.

Recurrence (10-15%), developmentally delayed and cerebral palsy children require where longer therapy (1-2 years from last episode of disimpaction). Rarely short episodes of acute constipation (5-10%) may require stimulant laxatives (bisacodyl, sodium picosulphate) as rescue therapy for 1-2 days. Refractory constipation despite optimal laxative dose and duration needs dedicated workup for organic causes.

Further Reading:

1. Yachha SK, Srivastava A, Mohan N, Bharadia L, Sarma MS; Management of Childhood Functional Constipation: Consensus Practice Guidelines of Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition and Pediatric Gastroenterology Chapter of Indian Academy of Pediatrics. *Indian Pediatr.* 2018; 5: 885–892.
2. Tabbers MM, DiLorenzo C, Berger MY, Faure C, Langendam MW, Nurko S, et al. Evaluation and Treatment of Functional Constipation in Infants and Children: Evidence-Based Recommendations From ESPGHAN and NASPGHAN. *J Pediatr Gastroenterol Nutr.* 2014; 58: 258–74.

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