Oman Medical Journal (2011) Vol. 26, No. 5:376-378
DOI 10. 5001/omj.2011.94

Clinical Notes

Fecal Incontinence and Constipation in Children: A Clinical Conundrum

Syed Rehan Ali, Shakeel Ahmed, Maqbool Qadir, Khadija N. Humayun

Received: 11 Jun 2011/ Accepted: 06 Aug 2011
© OMSB, 2011

Constipation is the infrequent passage of hard stools with pain and difficulty. It is one of the most common pediatric problems parents and healthcare providers face. A significant number of children, especially of the younger age group, are referred to specialists because of constipation. Fecal incontinence is almost always associated with constipation, which leads to marked loss of self esteem among children. The majority of cases of constipation and fecal incontinence are secondary to functional disorders, rather than organic causes and result in behavioral problems, which affect the social life of the child, as well as the family. Previously, it was believed that constipation and fecal incontinence were actually secondary to underlying psychological problems. Studies have failed to prove that psychological abnormalities are etiological factors for constipation among children; chronic constipation probably leads to behavioral abnormalities and also affects the family dynamics. The important causes of constipation and fecal incontinence, their impact on the child and the family, as well as various treatment modalities available are discussed in this article, which also emphasizes the importance of history and physical examination.

Fecal incontinence is a common problem among children. The significance of the problem is often underestimated by medical practitioners. Chronic constipation with fecal incontinence is reported to account for 3% of referrals to pediatric clinics in teaching hospitals. In reality, constipation and fecal incontinence in a child are major problems for parents. Fecal incontinence results in marked loss of self esteem in children. Parents who assume that fecal incontinence is an intentional behavior may become angry and aggressive, often resulting in disruption of the relationship between parents, as well as between parents and their children.[1] These children often become very frightened as they are punished for something which the majority of them have no control over.

In the past, there was a tendency to attribute fecal incontinence in childhood to an underlying psychological disorder. However, studies have failed to identify the presence of underlying psychological abnormalities as the cause of fecal incontinence. On the contrary, there is evidence to suggest that many of the associated behavioral abnormalities are the result and not the cause of fecal incontinence. Resolution of behavioral problems has been demonstrated when fecal incontinence was successfully treated.[2]

Fecal incontinence is almost always associated with constipation.[3] Constipation is associated with hard, large stools in the rectum which become difficult and painful to evacuate, often leading to withholding of stools. The lower colonic segment becomes gradually distended with accumulated stool. The urge to defecate becomes irregular because of a decrease in rectal sensation. A vicious cycle ensues. When the rectum becomes sufficiently distended, softer stool arriving from the more proximal colon cannot be accommodated and leaks around the bolus of hard stool. Because of the lack of sensation in the distended distal colon, this passage of soft stool (overflow) is not sensed by the child until incontinence has actually transpired. The parents of these children will often insist that there is no history of constipation and that the child passes several soft stools daily. Hence, it is often difficult to convince the parents that the child should be treated for constipation.

Care has to be taken in obtaining accurate history from children with fecal incontinence.[3] Parents of children who are toilet trained for a few years generally have little idea concerning the regularity of their child's bowel movement. The child (if old enough) and the parents should be asked specifically about the presence of very large stools, painful defecation, blood in the stools and stool withholding behavior. Children with severe constipation are usually found to be tired, irritable and pale. The parents often remember marked changes in the child's behavior after previous successful courses of laxatives. Stool withholding behavior may begin as early as one year of age, but is more common in the latter part of the second year of life. Parents often notice the child spending long periods of time standing in a corner prior to passing stool in the nappy or undergarment. They often mistake stool withholding behavior for exaggerated attempts at defecation.

All cases of fecal incontinence should in the first instance be treated as being secondary to constipation, unless there is also a history of daytime wetting or major psychological and/or behavioral abnormalities.[4] If however, fecal incontinence persists after successful treatment of constipation; psychological assessment should be undertaken. Investigations related to possible organic causes of constipation should be undertaken if initial treatment efforts fail, or in the minority of cases where there is a history suggestive of Hirschsprung disease or other organic causes. Hirschsprung disease is usually not associated with fecal incontinence.

Syed Rehan Ali, Shakeel Ahmed, Maqbool Qadir, Khadija N. Humayun
Department of Pediatrics and Child Health, Aga Khan University Hospital, Karachi, Pakistan.
Email: shakeel.shaikh@aku.edu

Physical Examination

A meticulous history must be obtained from the parents and the child (if appropriate), documenting time of onset of constipation and fecal incontinence.[5] Hirschsprung disease usually presents in the first few months of life with history of delay in the passage of meconium in the neonatal period and constipation. Typically, functional constipation and fecal incontinence occur in a child who has had a normal bowel pattern in the first year of life.

Physical examination is important, particularly the inspection of the perianal area, which may reveal tears that will explain the presence of blood in the stools. The back should be examined for any evidence of spinal anomalies and ankle reflexes should be elicited. Abdominal examination may often be normal even in cases of severe constipation, or it may reveal large fecal masses in the right or left iliac fossae.

Management

Management should begin with education and counseling of the parents and the child. It is important to give a clear explanation of the problem and reassurance that it can be treated successfully. Parents are under great stress because they feel that the child's fecal incontinence is intentional, as they have often been advised that fecal incontinence implies that their child may be psychologically abnormal. They should be clearly informed that fecal incontinence is not an intentional behavior.[6] This information removes great stress from the parents and also the child who has probably often suffered both physical and psychological abuse. The child's self-confidence improves rapidly due to this knowledge and the subsequent change in atmosphere at home, from hostile to supportive.[7]

Diagrams are useful in demonstrating the underlying cause of fecal incontinence. The structure of the small and large bowels could be outlined. The area of the bowel where mega colon develops and hard stools accumulate, the cause of the overflow, and the non-intentional nature of the problem may be demonstrated with simple line diagrams. The need for long-term treatment for the megacolon to resolve the problem should be stressed.[7]

Disimpaction: The initial phase of therapy involves disimpaction to remove very hard fecal material from the lower colon and rectum.[7] In children; this can be achieved by using a stimulant laxative for three days. Oral bisacodyl (Dulcolax) is effective in doses of 5 mg in the morning for children between 1 and 5 years of age, and 10 mg for older children.

Prevention of reaccumulation of stool: Simultaneously, therapy is initiated to prevent reaccumulation of stool and abolishing stool withholding behavior. Immediately after disimpaction, a child will not have fecal incontinence. However, if therapy is not initiated to prevent stool retention, the child will return to their former state after a short period of time.[8] Liquid paraffin given as a single dose at night is successful in children over the age of one year. It acts as a stool softener. Doses of up to 30-60 ml may be required. It could theoretically interfere with absorption of fat soluble vitamins, although studies have shown that this does not occur. In view of this possibility, it is given at night when food intake is completed. It is more acceptable to children if given directly from the refrigerator, when it is less viscous or mixed with frozen yogurt or ice cream. However, it should not be given to children under the age of one year or to children with neurological abnormalities because of the risk of aspiration.[9]

Lactulose can be used successfully in children under the age of one year. This should be given as a single dose daily, commencing with the dosage of 5 ml in small children and increased until an adequate response is achieved. It acts as an osmotic agent in the intestine. It is more difficult to titrate the dose of lactulose compared to liquid paraffin because the response to lactulose may be inconsistent from day to day. It may also be associated with severe nappy rash due to the production of acidic stools.[9]

Establishing regular bowel movement: The final stage of treatment is aimed at establishing regular bowel movement. This should only be commenced after the bowels are disimpacted and stools are soft. The child must be encouraged to sit in the toilet for at least 5 minutes once a day, ideally after breakfast when the gastro-colic reflex is most active. A foot-stool or other solid support would ensure that the hips are fully flexed and the legs are not dangling from the toilet seat. This regime should be continued daily irrespective of whether or not the child passes a stool.

The importance of dietary fiber in constipation during childhood is questionable. Most young children are on low fiber diets and do not suffer from constipation.[9] Children have much more rapid intestinal transit than do adults. Once established, stool withholding and fecal incontinence will not respond to dietary changes alone.

Overall, treatment should be continued for four to six months in order for the child to overcome the fear of passing stool, and also for the colon to recover its original tone and shape. Thereafter, liquid paraffin may be tapered gradually until it is no longer required.[10]

Acknowledgements

The authors reported no conflict of interest and no funding was received on this work.

References

1. Chan AO, Hui WM, Lam KF, Leung G, Yuen MF, Lam SK, et al. Familial aggregation in constipated subjects in a tertiary referral center. Am J Gastroenterol 2007 Jan;102(1):149-152.
2. Hyman PE, Milla PJ, Benninga MA, Davidson GP, Fleisher DF, Taminiau J. Childhood functional gastrointestinal disorders: neonate/toddler. Gastroenterology 2006 Apr;130(5):1519-1526.
3. Arce DA, Ermocilla CA, Costa H. Evaluation of constipation. Am Fam Physician 2002 Jun;65(11):2283-2290.
4. Procter E, Loader P. A 6-year follow-up study of chronic constipation and soiling in a specialist paediatric service. Child Care Health Dev 2003 Mar;29(2):103-109.

5. Constipation Guideline Committee of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. Evaluation and treatment of constipation in infants and children: recommendations of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. J Pediatr Gastroenterol Nutr 2006 Sep;43(3):e1-e13.
6. Clayden GS, Keshtgar AS, Carcani-Rathwell I, Abhyankar A. The management of chronic constipation and related faecal incontinence in childhood. Arch Dis Child 2005;90:58-67. Educ Pract.
7. de Lorijn F, van Wijk MP, Reitsma JB, van Ginkel R, Taminiau JA, Benninga MA. Prognosis of constipation: clinical factors and colonic transit time. Arch Dis Child 2004 Aug;89(8):723-727.
8. Rubin G. Constipation in children. In: Clinical evidence. London: BMJ Publishing Group, 2003; (9):350-354.
9. Price KJ, Elliott TM. What is the role of stimulant laxatives in the management of childhood constipation and soiling? Cochrane Database Syst Rev 2001;(3):CD002040.
10. Baker SS, Liptak GS, Colletti RB, Croffie JM, Di Lorenzo C, Ector W, et al. Constipation in infants and children: evaluation and treatment. A medical position statement of the North American Society for Pediatric Gastroenterology and Nutrition. (A Medical Position Statement of the North American Society for Pediatric Gastroenterology and Nutrition). J Pediatr Gastroenterol Nutr 1999 Nov;29(5):612-626.