

Clinical Practice Guideline

Evaluation and Treatment of Constipation in Children: Summary of Updated Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition

ABSTRACT

Constipation is a common pediatric problem. To assist health care professionals who care for children with constipation, the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) previously published a clinical guideline based on an integration of medical evidence with expert opinion. To evaluate studies published since then, the NASPGHAN Constipation Guideline Committee performed a comprehensive

and systematic review of the medical literature since 1997, to identify, review and rate the quality of new evidence. Based on this review, the recommendations of the original clinical guideline were reaffirmed with several modified according to the new evidence. Below is a summary of the evidence reviewed for this update. The complete revised guideline is available online in its entirety. *JPGN* 43:405–407, 2006. **Key Word:** Constipation. © 2006 Lippincott Williams & Wilkins

INTRODUCTION

Constipation, defined as a delay or difficulty in defecation present for 2 or more weeks, is a common pediatric problem. The stooling pattern of children is a concern of many families, and any deviation from what is thought to be normal may cause families to seek medical advice. To assist primary care pediatricians, family practitioners, nurse practitioners, physician assistants, pediatric gastroenterologists and pediatric surgeons in the management of children with constipation, the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) Constipation Guideline Committee published a medical position paper in 1999 based on a literature search completed in November 1998 (1). To evaluate the potential impact of new information published since then, the committee performed a systematic and comprehensive review of the medical literature and critically reviewed the new evidence.

MATERIALS AND METHODS

Literature searches, using the key word “constipation,” limited to the English language, and “all child” (which includes children and adolescents 0–18 years of age) were performed in PubMed on May 5, 2003, August 8, 2003, and August 9, 2004. The Database of Abstracts of Reviews of Effects and Cochrane Database of Systematic Reviews were also searched using the key word “constipation.” In the most recent search, 90 total

articles were identified by this process; 27 applied to children who did not have an underlying chronic condition. The authors identified an additional 8 articles during the subsequent discussions. The quality of evidence was categorized according to Fisher and Eckhard (2). The articles were reviewed in detail and discussed by the Constipation Guideline Committee until consensus was achieved on whether the original recommendations should be modified based on the new evidence.

RESULTS

Fiber

There are conflicting reports about the role of intake of dietary fiber, with evidence that constipated children have a lower, equivalent or higher intake of dietary fiber (3–6). Administration of glucomannan (7) in addition to laxatives may be beneficial in the treatment of constipation. Until additional studies demonstrate the efficacy of treatment with fiber, the current findings are too weak to support a definitive recommendation for fiber supplementation in the treatment of constipation.

Polyethylene Glycol (PEG) 3350

Eleven studies (8–18) were published on the use of PEG 3350 for children with constipation. One study (8), a prospective, double-blind, parallel, randomized study of 4 doses of PEG 3350 (0.25, 0.5, 1 and 1.5 g/kg/d) given for 3 days in children who had constipation for more than 3 months and evidence of fecal impaction, assessed the effectiveness of PEG 3350 as an agent for disimpaction. This study showed that PEG 3350 is effective for

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the treatment of childhood fecal impaction at a dose of 1 to 1.5 g/kg/d. The other studies focused on maintenance treatment for constipation and suggest that PEG is safe, effective and well accepted. There is no study suggesting that PEG 3350 is superior to other cheaper or more traditional agents. One retrospective study (18) found that administration of a maintenance dose of 0.78 g/kg/d of PEG 3350 to infants younger than 18 months for an average duration of 6 months was not associated with any significant side effect.

Polyethylene glycol 3350 is efficacious for disimpaction in children. When daily medication is necessary in the treatment of constipation, PEG 3350 appears to be superior to other osmotic agents in palatability and acceptance by children. Preliminary clinical data in 12 infants suggest that administration of PEG 3350 to infants is effective with no adverse effects noted. Further safety studies need to be done before widespread use can be recommended in infants.

Cisapride

For most children with constipation, the benefits of cisapride do not outweigh the risks (19–22). The committee does not recommend its use.

Biofeedback

Since 1997, 6 publications (23–28) on biofeedback, including 1 review in the Cochrane Database of Systematic Reviews (24), failed to show long-term efficacy for biofeedback. In 1 study (23), 49 children, with mean age of 8 years, with chronic idiopathic constipation, were randomized to receive biofeedback or conventional therapy. During a short observation time (3 months), the children in the biofeedback group improved more than the children in the conventional therapy group. The committee reaffirmed its original recommendation that biofeedback therapy can be an effective short-term treatment of intractable constipation in a small subgroup of patients.

Cow's Milk

Four (29–32) studies were published on the relationship between cow's milk and constipation. Two of the studies (29,30) showed that a subgroup of constipated children improved on a diet without cow's milk and relapsed when challenged with cow's milk. Another study (31) suggested that constipation may be a delayed clinical reaction to cow's milk in children intolerant to cow's milk. The most recent study found that constipation and anal fissures were more likely to occur in infants and

toddlers consuming a larger amount of cow's milk. The children who had improvement of constipation on a diet without cow's milk were more likely to have a personal or family history of atopy, and many of the patients had anal fissures and perianal erythema. Children with constipation and anal fissures had more cutaneous and respiratory symptoms. The children enrolled in these studies were mostly patients referred to pediatric gastroenterology clinics, and how generalizable these findings are to primary care physicians or other pediatric gastroenterology clinics is uncertain. In children unresponsive to conventional medical and behavioral management, consideration may be given to a time-limited trial of cow's milk-free diet.

CONCLUSIONS

Based on this review the recommendations of the original NASPGHAN guideline on constipation were reaffirmed, with several being modified according to the new evidence. The complete updated guideline is available in its entirety.¹

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¹On www.NASPGHAN.org and e-JPGN.

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