Answers to your Questions about Digestive Health: Constipation in Young Children

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International Foundation for Gastrointestinal Disorders (www.iffgd.org)

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If you have a question about your digestive health, please contact us at IFFGD, 3015 Dunes West Blvd., Suite 512, Mt. Pleasant, SC 29466. This information is provided for general information and is not intended to replace your doctor's advice.

Question – My 2 ½ year old son is having some problems with constipation. He was born 2 months premature. When it was time to start introducing formula (about 1 week after birth), his system couldn't handle increasing the amount of formula and he had a disease called NEC. [Necrotizing enterocolitis (NEC) is an acute inflammatory disease of the intestines that occurs mainly in under-weight or premature infants.] With antibiotics, this was cured and all was fine. Could having constipation now do any damage to his bowel as a result of his having had this disease?

Answer – There are several conditions that may cause constipation following necrotizing enterocolitis, the inflammatory bowel disease of the newborn. Necrotizing enterocolitis may cause damage to the intestines. As damage heals there may be scaring that causes narrowing of the intestine, which is called a stricture. Solid waste builds up in front of the narrowing because strictures partially block the intestines, so that only liquids move through. When strictures cause constipation, associated symptoms may include abdominal distension, vomiting, and poor eating. Strictures are diagnosed by a barium enema x-ray study or colonoscopy. Strictures require surgical treatment. If your son is 2½ years old and constipation just started, it is unlikely to be caused by a stricture. Strictures cause problems beginning about 6 weeks after necrotizing enterocolitis.

Inflammation associated with necrotizing enterocolitis may impair nerves and muscles that move the intestinal contents. The effects of inflammation on intestinal nerve and muscle may last for months after necrotizing enterocolitis has resolved. Slow intestinal motility is treated with drugs. Often, slow motility improves with time, so at 2½ years of age, the constipation is not likely to be due to necrotizing enterocolitis.

Premature birth and necrotizing enterocolitis are both factors that increase the risk of cow and soy protein allergy. Food allergies are associated with intestinal inflammation, and that inflammation may cause either constipation or diarrhea. Breast milk is always best. If a child is at high risk for protein allergy like this one, and breast milk is not available, then a protein supplement (protein hydrolysate) is the best choice of formula. However, protein allergies cause problems in the first year of life, and most affected infants outgrow the problem before the age of 2. Therefore, food allergy is an unlikely cause for constipation.

The most common cause of constipation in 2½ year old toddlers is functional fecal retention (FFR). FFR is not a disease but a maladaptive learned behavior to painful defecation. When a 2½ year old puts his hand on a hot stove he thinks to himself, "Yikes! That hurt. I will remember to never do that again." Likewise, when a 2½ year old has a big hard stool that tears his bottom when it comes out and feels like a hot poker he thinks to himself, "Yikes! I'm never doing that again." The infant learns to hold back his stools, and to fear defecation.

Functional fecal retention is very common, and it is most likely the cause for constipation in your son. About 1 in 12 to 15 children gets it. It is diagnosed by symptoms only: 1) passage of large stools at infrequent intervals (less than twice a week), and 2) retentive posturing, attempts to hold back the stools to avoid defecation. No medical tests are necessary or desirable.

Treatment consists of educating the family about the problem so that they understand and stop worrying. Sometimes even a 2½ year old toddler understands enough of the explanation to feel better, too. Parents give the child polyethylene glycol to assure that all stools will be the consistency of soft serve ice cream. After weeks or months of no anal interventions and no painful stools, the toddler's fear resolves, and defecation patterns revert to normal.

Acquisition of toilet training must wait until FFR resolves. No child trains when he or she is afraid to defecate. Functional fecal retention is not dangerous, and it gets better when parents consistently assure painless defecation.

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Functional Fecal Retention

Functional fecal retention is the most common cause of childhood constipation. It is most often due to frightening or painful defecation experiences, which result in voluntary avoidance of passing stools. Children with functional fecal retention respond to an urge to defecate by contracting their anal sphincter and squeezing the buttocks together (gluteal muscles) causing retention of feces. Repeated retention of feces causes an increase in size of stools leading to more

painful defecation experiences and further attempts to avoid defecation.

The diagnostic criteria (symptom-based, Rome II) for functional fecal retention is defined in a person from infancy to 16 years of age by a history of at least 12 weeks of: 1) Passing large diameter stools at intervals less than 2 per week, and 2) Retentive posturing, avoiding defecation by purposefully contracting the pelvic floor. As pelvic floor muscles fatigue, the child uses the gluteal muscles, squeezing the buttocks together. Accompanying symptoms include soiling of the underclothes, irritability, abdominal cramps, and decreased appetite. These symptoms disappear immediately after passage of a large bowel movement.

A detailed history and thorough physical examination can differentiate functional fecal retention from disease in most cases. If the child meets the symptom-based criteria for functional fecal retention, no further workup is necessary.

Treatment

Treatment goals are to educate the child and family about the problem, to use medication to assure painless defecation, and to provide continuing availability for guidance and effective reassurance.

Medication helps to make the stools soft and take away the painful experiences. It takes repeated painless bowel movements before the patient loses the fear of defecation. As directed by a physician, non-stimulant softeners such as mineral oil, milk of magnesia, lactulose, and polyethylene glycol are appropriate for softening the bowel movements. The choice of medication depends on the ease of administering the medication to the child. The dose of medication needs to be adjusted to produce soft, narrower stools. By softening the stools, the child will experience painless defecation. Over time the fear resolves and the child learns to relax the pelvic floor. The fear of a painful bowel movement may last several months despite having soft stools. Also, relapses are common. It is important for parents to be consistent with giving daily medications because just one painful bowel movement may trigger a return to withholding.

Other interventions may benefit the patient, including: 1) A small reward for sitting on the toilet, or for informing the parents when they have the urge or a successful bowel movement. 2) Anorectal biofeedback for children who request it. 3) A brief trial of stimulant laxatives, to help train patients to recognize and respond to the urge to defecate. 4) Collaboration with a mental health professional when there are multiple behavioral problems or family problems.

When a child fails therapy, the family worries that something is being missed. Treatment failure can be due to non-compliance to the medication, chaotic family life, or the child's unwillingness to commit to a therapeutic alliance with his or her physician. Families sometimes either fail to notice or forget about the passage of large and painful bowel movements, withholding behavior, and the failure to administer and adjust the medications. Blaming the clinician and changing doctors leads to further workups, barium enemas, rectal biopsies, anorectal manometry, and transit studies with no conclusive explanation for the patient's persistent constipation problems.

[Source: IFFGD web page at www.aboutkidsgi.org/FecalRetention.html

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