Encopresis

Description/Etiology

Encopresis is repeated involuntary or intentional passage of stool into clothing or in inappropriate places (e.g., on the floor). Encopresis can be primary (i.e., without previously-established fecal continence) or secondary (i.e., with previously-established fecal continence). Encopresis can be retentive (i.e., with constipation, in which fecal soiling is caused by liquid feces squeezing past a solid fecal mass) or non-retentive (i.e., without constipation). Encopresis is diagnosed in children with mental or chronological age ≥ 4 years and must occur at least once a month for 3 months.

The clinical presentation typically includes signs associated with constipation (e.g., abdominal pain, pain upon defecation, hard impacted stool, infrequent passage of stool [> 46 hours; normal frequency of bowel movements in children ranges from 3 times a day to once every other day]). Stool in children with encopresis is often poorly formed because of continuous leakage of liquid feces around a hardened, solid fecal mass formed when the child resists the urge to defecate and voluntarily pushes the mass from the rectal ampulla into the rectosigmoid colon by squeezing the external anal sphincter and gluteal and pelvic floor muscles. Because the function of the large intestine is to extract fluid and electrolytes, retained stool becomes larger and harder. The rectum becomes distended, making it difficult for the child to sense the normal urge to defecate. Encopresis in children is classified as organic (also called nonfunctional), which is related to an anatomic, neurologic, or metabolic cause, or nonorganic (also called functional), which is related to behavioral or psychological causes.

Causes of organic encopresis include post-surgical anal or rectal stricture, dehydration, megacolon, anorectal fissures or stenosis, laxative use, diarrhea, Hirschsprung disease (i.e., a congenital disorder of the colon that causes problems with passing stool), spina bifida, hypothyroidism, hypercalcemia, cerebral palsy, myelomeningocele, and adverse drug reactions. Nonorganic encopresis can be caused by ineffective bowel training and psychosocial stressors (e.g., new school, birth of a sibling). Some children with nonorganic encopresis avoid defecating appropriately (e.g., in a bathroom using the toilet) because of fear or anxiety; others intentionally defecate inappropriately because of a mental disorder (e.g., conduct disorder, oppositional defiant disorder).

Children with encopresis are often unaware of their incontinence. Both organic and nonorganic encopresis can produce low self-esteem, aggression, and acting out. Children can fear rejection and social isolation by their peers, and angry and punitive reactions from their parents. Diagnosis is usually made by complete history and physical examination, including a rectal exam. Initial treatment includes removal of impacted stool, if present, either manually under sedation, with enemas (e.g., sodium phosphate, normal saline), or with oral polyethylene glycol [PEG] solution. Maintenance therapy typically includes oral osmotic laxatives (e.g., PEG, milk of magnesia, lactulose, sorbitol) to regulate stool formation and passage; stimulant laxatives (e.g., senna, bisacodyl) are used short-term only. Good hydration and a high-fiber diet to aid effective gastrointestinal transit are important. Individual and/or family counseling can be helpful, particularly for nonorganic encopresis; behavior modification is often taught to the child in individual counseling, and biofeedback training can teach anal sphincter relaxation. Prognosis is generally good, and encopresis usually resolves with age. Most children improve with medical interventions, although
relapse rate is high because of noncompliance with maintenance therapy; ~ 30–50% of children still have encopresis after 5 years of treatment.

Facts and Figures
Nearly 80% of fecal incontinence is associated with overflow from chronic constipation, while 20% have no constipation (functional non-retentive fecal incontinence) (Heron et al., 2018). In the United States, encopresis affects about 1-2% of children < 10 years; it affects more boys than girls (approximately 3-6:1) and affects children 5–10 years of age more often than other age groups. Retentive encopresis is more common (80-95%) than non-retentive encopresis (5-20%). Approximately, 90% of encopresis cases are functional; 10% nonfunctional. In children, 80-95% of encopresis is due to constipation and/or painful defecation. Even with treatment, 30% of children remain symptomatic.

Risk Factors
See Description/Etiology, above.

Signs and Symptoms/Clinical Presentation
› Constipation, pain during defecation, and abdominal pain can be present
› Children with functional encopresis may be seen holding their legs together, thereby tightening anal sphincter and contracting muscles to hold stool inward instead of defecating
› Urinary tract infections (UTIs) can occur secondary to fecal bacteria ascending the urethra (more frequent in girls because of a shorter urethra)
› The child can appear withdrawn/shy or be aggressive and act out
› Bladder pressure from a dilated rectum can cause bladder spasms
› Soiling episodes usually occur during the day and rarely occur at night

Assessment
› Patient History
  • Ask about age at symptom onset, duration and frequency of symptoms, history of constipation, size and consistency of stool, dietary history, and family history (e.g., constipation in adults or children, Hirschsprung’s disease, thyroid or parathyroid disorders, celiac disease)
  • Ask about drugs the child may be taking, which may cause constipation (e.g., antacids, anticholinergics, tricyclic antidepressants, bismuth, opiates, phenobarbital, sympathomimetics)
  • Ask whether the child ever attained stool continence (primary versus secondary incontinence)
  • Assess risk factors (see Description/Etiology, above)
› Physical Findings of Particular Interest
  • The abdomen can be distended or tender upon examination
  • A rectal examination can reveal fecal impaction, anal fissures, and pelvic mass. The anal sphincter can be lax and appear enlarged
  • Stools can be normal, hard and dry, loose and watery, or bloody
› Laboratory Tests That May Be Ordered
  • Electrolytes (K+, Na+, Cl-, P+, Ca++) should be monitored for imbalance caused by treatment or to assess for an organic cause (e.g., hypercalcemia)
    – Testing for magnesium may be ordered if there is concern about laxative abuse
  • Urine culture to assess for the presence of urinary tract infections
  • Certain antibodies against celiac disease may be ordered to rule out celiac disease
  • Thyroid function tests may rule out hypothyroidism, which can cause constipation
› Other Diagnostic Tests/Studies
  • Abdominal ultrasound will identify the severity of impaction, if present
  • Anorectal manometry can be performed to evaluate internal/external anal sphincter activity and pressures and to evaluate for Hirschsprung disease
  • Radiographic images of the spine may be ordered to rule out spina bifida

Treatment Goals
› Reduce Constipation, if Present, and Promote Normal Stool Evacuation
• Assess for signs and symptoms of encopresis and evaluate level of severity
• Monitor vital signs, assess all physiologic systems, and review laboratory/diagnostic test results for underlying organic causes; immediately report abnormalities and administer prescribed treatment specific to an identified organic cause
• Request referral to other clinician specialists, as appropriate, including a gastroenterologist and behavioral or mental health clinician
• Administer prescribed treatment for constipation, if present, including
  – lubricant (e.g., mineral oil), stimulant, or osmotic laxatives (e.g., magnesium hydroxide)
  – stool softeners (e.g., docusate)
• Assist with disimpaction, if needed
• Monitor for adverse reactions to medications and other interventions (e.g., weakness, dizziness, abdominal cramps, perianal irritation)
• Provide adequate hydration and a high-fiber diet, as ordered; dietary recommendations include foods high in fiber (e.g., whole grains), raw fruits and vegetables (e.g., apples), and sorbitol-based juices (e.g., prune juice); avoid dairy, fats, spices, chocolate, and fried foods
• Administer multivitamins, if prescribed
• Maintain skin integrity and provide good perianal hygiene. Monitor for encopresis complications (e.g., colitis, perianal dermatitis, anal fissures)
• Document bowel movements, toileting routines, and provide positive reinforcement

Promote Emotional Well-Being and Educate
• Assess patient/family member anxiety level and coping ability; provide emotional support, educate, and encourage discussion about encopresis etiology, potential complications, treatment risks and benefits, relapse risk, and prognosis
• If appropriate, refer to mental health professional for biofeedback therapy or intensive behavioral therapy
• Emphasize the importance of continued medical surveillance for ≥ 1 year after successful treatment to prevent relapse
  – Returning a child to a normal pattern of defecation usually takes between 6 weeks and 12 months, with an average of 6 months

Food for Thought
• Hirschsprung’s disease is often considered the cause of fecal incontinence if timing of passage of meconium was greater than 48 hours after birth
• Children with attention deficit disorders (e.g., autism) have difficulty responding to behavioral strategies for toilet training because of a short attention span and impaired focus
• Enuresis and UTIs can exist concurrently in patients with encopresis
• There is no evidence to suggest that encopresis is primarily a behavioral or psychological disorder. The behavioral difficulties associated with encopresis are likely the result of the condition rather than its cause (Borowitz, 2016)
• Based on the results of a randomized controlled study on the positive effects of probiotics on constipation in children, researchers report that probiotics increase stool frequency and improve stool consistency in children with constipation (Huang et al., 2017)
• In a sample observational study that examined 8,435 participants with reported constipation for childhood constipation and soiling, researchers found that hard stools by 2.5 years of age increased the odds of constipation, while developmental delays at 18 months were associated with soiling and/or constipation with soiling, demonstrating that hard stools in early childhood can be a risk factor for later difficulties with constipation when the child becomes school age (Heron et al., 2018)

Red Flags
• Children with encopresis might be at risk for child abuse
• If a child is severely constipated, dietary fiber can make symptoms worse, so encourage whole grains, fruits, and vegetables as part of a balanced diet

What Do I Need to Tell the Patient/Patient’s Family?
• Emphasize the importance of being patient and not punishing or humiliating the child
• Educate about the importance of following the prescribed treatment regimen
  • Change diet to increase fiber intake (e.g., most fruits, vegetables, cereals) and liquids. Limit milk, apples, bananas, rice, and cheese
• Establish a toileting routine. Have the child sit on the toilet for at least 10–15 minutes twice a day and after meals; provide a foot support to aid with “bearing down” positioning; provide fun reading material or music while sitting on toilet
• Track and chart encopresis incidents with a diary or behavior chart. Provide rewards (e.g., tokens, stars) for avoiding encopresis; offer praise for “passing stool in the toilet” rather than for “not soiling” underwear
• Help the child feel in control by teaching him/her to change pajamas and bed linens after an event of encopresis; use a protective mattress, duvet, and pillow covers that do not make noise when child moves; provide pull-ups because they appear similar to underwear and are less noisy with movement than diapers; consider containment garments worn under swimsuit or swimwear with a built-in waterproof liner when engaging in swimming activities
• Inform school nurse or council so that they can help manage the child’s encopresis while at school; provide extra clothing and underwear along with soap, towels, and cleansing wipes when going to school; provide bottled water so child can replenish fluids throughout the day; establish a code word that the child can use to inform teachers of the need to leave the classroom without other students becoming aware
• Adhere to prescribed maintenance therapy, continued medical surveillance, and behavioral/psychiatric counseling, if ordered

References