Constipation in Children

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Introduction

Constipation

- Symptoms suggesting constipation in infants and children include infrequent bowel evacuation, hard small feces, difficult or painful evacuation of large-diameter stools, and fecal incontinence.

- Constipation affects 10 to 30 percent of children and accounts for an estimated 3 to 5 percent of all visits to pediatricians

Normal Stooling Patterns

Infants

- In the full-term newborn infant, the first bowel movement usually occurs within 36 hours of birth, but may happen later in infants who are born prematurely.
- During the first week of life, infants pass a mean of four stools per day, although this is variable depending upon whether infants are breastfed or receiving formula.
- *Breastfed infants* pass a mean of three stools per day. Some normal breastfed newborns may stool with each feeding, or may not have a bowel movement any more often than every seven days.
- Formula-fed infants pass a mean of two stools per day, but there is variation between formulas

Toddlers

- By two years of age, the mean number of bowel movements has fallen to just under two per day.

Children

- After four years of age, the mean number of bowel movements is slightly more than one per day.

Differential diagnosis of straining in infants

Cause of straining	Clinical characteristics
Infant dyschezia	• Healthy infant 0 to 9 months of age • Soft stool passed after straining
Constipation	• Healthy infant • Stools are hard, large or pellet-like
Anal fissure	• Healthy infant • May or may not have history of constipation • Fissure identified on inspection of anus • Straining may be caused by voluntary stool withholding
Cow's milk intolerance	• Healthy infant • Diet contains cow's milk protein (breast- or formula-fed) • Normal or loose stools with gross or occult blood and/or mucus
Hirschsprung disease	• Newborn or infant • History of delayed passage of meconium (after 48 hours of life) • Well- or ill-appearing • Constipation or abdominal distension, occasionally diarrhea • Rectal examination may reveal tight sphincter, empty or narrow ampulla, and/or explosive squirt of stool on withdrawal of finger • Anorectal manometry demonstrates absence of rectosphincteric relaxation reflex • Ganglion cells absent on rectal biopsy
Internal anal sphincter achalasia	• Presentation and anorectal manometry similar to Hirschsprung disease, as described above • Ganglion cells present on rectal biopsy

Classification

- Recent-onset constipation
- symptoms have been present for eight weeks or less.
- These children often respond to a short-term intervention, such as administration of laxatives for several days or weeks, or a brief behavioral intervention, as described in the remainder of this topic review.

- Chronic constipation
- symptoms have been present for three months or more, which may include multiple episodes of symptoms.
- These children typically require longer treatment with laxatives and more intensive and sustained behavioral support.

Etiology of Constipation in Children

Constipation in children is divided into 2 main types:

- Organic (5%)
- Functional (95%)

Organic

The **most common organic causes** are:

- Cows milk or other dietary protein intolerance
- Drugs: Narcotics, anticholenergic, lead poisoning
- Structural: Anorectal malformations, anal stenosis, anal fissure
- Neuromuscular: Hirshprung disease, spina bifida, pseudo obstruction
- Intestinal: IBD, celiac, CF, tumors.
- Metabolic: hypokalemia, hypercalcemia, hypothyroidism, diabetes mellitus

Etiology of Constipation in Children

Functional

Children are prone to develop functional constipation during 3 periods:

- After the introduction of cereals and solid food
- During toilet training
- During the start of school

Each of these milestones has the potential to convert defecation into an unpleasant experience.

ROME IV DIAGNOSTIC CRITERIA

Infants and toddlers up to 4 years old
At least 2 of the following present for at least 1 month:
2 or fewer defecations per week
History of excessive stool retention
History of painful or hard bowel movements
History of large-diameter stools
Presence of a large fecal mass in the rectum
In toilet-trained children, the following additional criteria may be used:
At least 1 episode/week of incontinence after the acquisition of toileting skills
History of large-diameter stools that may obstruct the toilet

Children and adolescents (developmental age ≥4 years)
At least 2 of the following present at least once per week for at least 1 month:*
2 or fewer defecations in the toilet per week
At least 1 episode of fecal incontinence per week
History of retentive posturing or excessive volitional stool retention
History of painful or hard bowel movements
Presence of a large fecal mass in the rectum
History of large-diameter stools that may obstruct the toilet
The symptoms cannot be fully explained by another medical condition

Evaluation of Constipation in Children

Alarm symptoms in children

History

- Delayed passage of meconium
- Early onset (<1 month old)
- Positive family history for Hirschsprung's disease,
- celiac disease or hypothyroidism
- Blood in the stools
- Ribbon stools
- Fever
- Bilious vomiting
- Smearing of feces

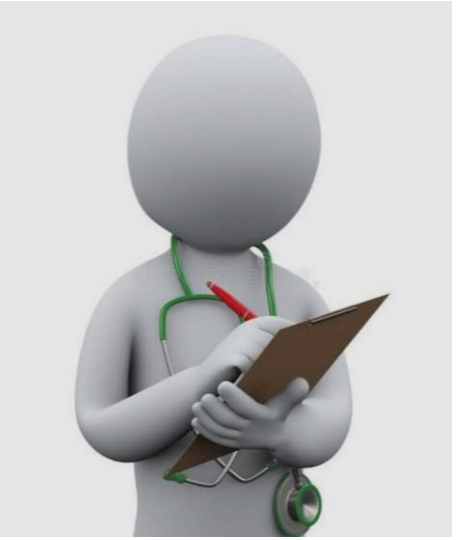
Physical examination

- Failure to thrive
- Severe abdominal distention
- Abnormal anal or cremasteric reflex
- Abnormal position of anus or gluteal cleft
- Extreme fear of anal exam
- Scars on anus
- Anal fissures or haematoma
- Abnormal neurological exam
- Hair tuft on spine
- Sacral dimple

Evaluation of Constipation in Children

History

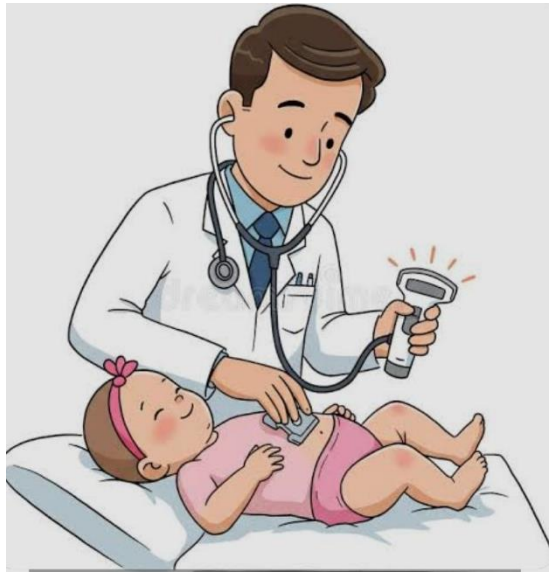
- Delayed passage of meconium within the first 24 to 48 hours of life
- Onset and duration of constipation, frequency and consistency of stools
- Psychosocial stressors
- Important associated symptoms include soiling (stool incontinence), discomfort during defecation, and blood on or in the stool.
- The composition of the diet, especially the amount of fluids and fiber
- Neurodevelopmental and other underlying disorders history
- Medical usage or lead exposure
- Bladder dysfunction
- Family history



Evaluation of Constipation in Children

Physical Examination

- General assessment
- Height and weight chart
- Abdomen and
- Perianal examination
- Neurologic and spine assessment
- Digital rectal examination : not routinely



Evaluation of Constipation in Children

For patients whose histories are consistent with functional constipation, no tests are needed unless there is no response to conventional treatment of constipation.

Evaluation of Constipation in Children

Tests for organic causes should be done based on the history and physical examination

- Barium enema, rectal manometry, and biopsy (Hirschsprung disease)
- Plain radiographs of lumbosacral spine; MRI considered
- Thyroid-stimulating hormone and thyroxine (hypothyroidism)
- Blood lead level (lead poisoning)
- Sweat test and genetic testing (cystic fibrosis)
- Calcium and other electrolytes (metabolic derangement)
- Serologic screening usually for IgA antibodies to tissue transglutaminase (celiac disease)

Treatment of Constipation in Children

Education
- Dietary changes
- Behavior modification

Medical Tx.
- Disimpaction
- Maintenance


THANKS FOR
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