

CONSTIPATION

Pediatric GI Curriculum Lecture




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Pediatric Gastroenterology, Hepatology
and Nutrition




Agenda

- Causes of constipation
 - Pathophysiology
 - Treatment
 - “Red flags” in patients with constipation
 - Evaluation
 - Cases
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Causes

- What is the most common cause of constipation in the pediatric population?
 - ▣ Idiopathic or “functional” constipation
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Causes

- List some organic causes of constipation in the pediatric population
 - Hirschsprung's disease
 - Hypothyroidism
 - Celiac disease
 - Cystic fibrosis
 - Lead toxicity
 - Hypercalcemia
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Idiopathic Constipation

- Pathophysiology
 - The pain→withholding→pain→withholding cycle
- Treatment
 - Clean-out if necessary
 - Maintenance medication therapy
 - Dietary and behavioral modification
 - EDUCATION



Clean-out Regimens


- Rectal vs. Oral
 - Pros and cons
- Two most commonly used:
 - Enemas
 - High-dose Miralax (or other oral agent)

Maintenance Medication

- First-line (lubricant or osmotic laxatives)
 - Mineral oil
 - Miralax
 - Milk of Magnesia
 - Lactulose
- Adjuncts (stimulant laxatives)
 - Senna
 - Bisacodyl
- When do you wean/stop medication?




Dietary and Behavioral Modifications

- Dietary Recommendations
 - Increased fiber in diet (age +5)
 - Increased fluids and/or juices in diet
 - Behavioral Recommendations
 - AVOID WITHHOLDING
 - Scheduled time on the toilet after meals
 - Reward system
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Patient/Parent Education

- Absence of warning signals
 - Pathophysiology
 - Treatment regimen
 - Expectations with treatment/reasons to call
 - Follow-up
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Hirschsprung's Disease

- Pathophysiology
 - Absence of ganglion cells which results in sustained contraction of the affected area of colon
- Diagnosis
 - Rectal biopsy
- Treatment
 - Surgical
 - Monitor for signs of enterocolitis

“Red Flags” in the Constipated Child


- History
 - Delayed passage of meconium
 - Constipation beginning in the neonatal period
 - Abdominal distension
 - Poor growth/failure to thrive
 - Cold intolerance, decreased energy
 - Lower extremity weakness
 - Persistent symptoms despite adequate treatment
- What might each of these suggest?

“Red Flags” in the Constipated Child


- Physical Exam
 - Abdominal distension
 - Tight empty rectum with palpable abdominal mass
 - Gush of liquid stool/air upon withdrawal of finger
 - Tight anal canal or abnormal position of anus
 - Occult or gross blood in stool
 - Abnormal reflexes or tone in lower extremities
 - Abnormal growth parameters
- What might each of these suggest?


Evaluation

- When is an evaluation indicated?
 - When “red flags” are present
 - When a pt doesn’t respond to adequate treatment
- What should the evaluation include?
 - Work-up depends on which “red flags” present
 - Radiology: plain films, barium enema
 - Lab: BMP, lead, thyroid function, celiac panel, sweat chloride
 - Other: rectal biopsy, MRI spine, colonic manometry





A 4-month-old male infant presents with abdominal distension and difficulty stooling that began in the first few days of life. The mother thinks that he passed meconium at around 24 hours of age, but since the first week of life only passes a bowel movement once per week. He is formula fed. On exam he is markedly distended.

- Are there any “red flags” that suggest organic disease?
 - What is the most likely diagnosis?
 - Are there any tests that should be ordered?
 - How would you treat this patient?
- 





A 4-year-old male presents with constipation that began at 2 years of age. The symptoms began around the time of toilet training, and he now passes a large, hard bowel movement once per week. He does withhold stool. On exam, he has palpable stool in the abdomen and a fecal impaction on rectal exam.

- Are there any “red flags” that suggest organic disease?
 - What is the most likely diagnosis?
 - Are there any tests that should be ordered?
 - How would you treat this patient?
- 




A 9-year-old female presents with constipation that began at age 3. She is now having soiling. She has been on multiple medications that seem to work for a few weeks, but then the medication is stopped and the symptoms return. She has been off all medications for a few months. Exam is only remarkable for a fecal impaction.

- Are there any “red flags” that suggest organic disease?
 - What is the most likely diagnosis?
 - Are there any tests that should be ordered?
 - How would you treat this patient?
- 



A 5-year-old female presents with constipation for the past six months. She passed meconium on the first day of life and has had normal bowel movements until six months ago. Both height and weight have dropped from the 10th to < 3rd percentile over the past year. Exam is otherwise unremarkable, and she is not impacted.

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- Are there any “red flags” that suggest organic disease?
 - What is the most likely diagnosis?
 - Are there any tests that should be ordered?
 - How would you treat this patient?

A 1-week-old formula fed infant presents to the ER with marked abdominal distension. He passes one soft stool q 2 days. His KUB is shown below. What is in your differential diagnosis?



- DDX
 - Hirschsprung's disease
 - Anal stenosis
 - Ileus
- Rectal biopsy showed absence of ganglion cells
- If you see this X-ray in an infant, you must rule out Hirschsprung's disease



THE END





QUESTIONS?

