

## Motility disorders

András Tárnok

## What is GERD? - Facts

- Gastroesophageal Reflux (GER)
  - Reflux of gastric contents into esophagus
  - Normal physiologic process
  - 50% of infants 0-3 months of age
  - 25% of infants 3-6 months of age
  - 5% of infants 10-12 months of age
  - 20% of pH probe reflux episodes are visible reflux
  - Result of Transient LES relaxations

## GERD - Symptoms

- Weight loss or poor weight gain
- Irritability
- Frequent regurgitation
- Heartburn or Chest pain
- Hematemesis
- Dysphagia

## GERD - Findings

- Esophagitis
- Esophageal stricture
- Barrett's esophagus
- Laryngitis
- Hypoproteinemia
- Anemia

## GERD - Associations

- Reactive airway disease
- Recurrent stridor
- Chronic cough
- Recurrent pneumonia
- ALTE (apparent life-threatening event)
- SIDS

## GERD - Diagnosis

- Diagnosis
  - History and physical
- Diagnostic tools
  - barium esophagram
  - scintigraphy
  - esophageal pH monitoring
  - esophageal manometry
  - endoscopy

## GERD – Management

- 
1. Reassuring parents
  2. Positioning
  3. Thicken formula, solids
  4. Medication (motility↑, acid ↓)
  5. Surgery

## Achalasia

- clinical presentation
  - solid dysphagia 90-100% (75% also with dysphagia to liquids)
  - post-prandial regurgitation 60-90%
  - chest pain 33-50%
  - pyrosis 25-45%
  - weight loss
  - nocturnal cough and recurrent aspiration
- diagnosis
  - plain film (air-fluid level, wide mediastinum, absent gastric bubble, pulmonary infiltrates)
  - barium esophagram (dilated esophagus with taper at LES)
    - good screening test (95% accurate)
  - endoscopy (rule out other abnormality)
  - esophageal manometry (absent peristalsis, ↓ LES relaxation, & resting LES >45 mmHg)

## Achalasia

- treatment - *reduce LES pressure and increase emptying*
  - **nitrates and calcium channel blockers**
  - **botulinum toxin** (prevents ACH release at NM junction)
  - **pneumatic dilation** (disrupt circular muscle)
  - **surgical myotomy** (open or minimally-invasive)

## Constipation

- Difficulty, infrequent passage of stool
- < 3 per week
- Maybe associated with pain / discomfort
- Stools not necessarily hard
- Rectum usually full

## Soiling

- 'Overflow incontinence'
- Associated to constipation: Intermittent passage of small amount of faeces which stain the undergarments of the child
- Stool often loose and smelly
- Child does not feel it, involuntary action over which child has no control, can not prevent it.

## Encopresis

- Term first used in 1926 to suggest similarity with 'enuresis' for wetting
- Inappropriate passage of normal stool
  - Stool passed in pants or
  - deposited 'elsewhere' (where it can be found!)
- Normal innervation and sensation = No organic lesion
- Frequent association with other behavioral problems

## Constipation - Etiology

### ORGANIC CAUSE

### FUNCTIONAL ANOMALY

## Functional retention

- No anatomical abnormality
- 1-12 yrs of age
- Infrequent ( $\geq 1$  week), large amount and/or thick stool
- Consequence of withholding – special posture – frequently misidentified as difficulty in passing stool



## Symptoms

- History dates back to specific event
  - Febrile illness
  - Dietary change
  - School going
- Difficulty in passing stools
- Irregular bowel movements
- Passage of hard stool
- Crampy abdominal pain
- Soiling
- Failure to thrive

## Physical exam

- Short stature
- Thin built
- Anemic
- Abdomen – protrudent
- Palpable faecal mass in sigmoid colon

## 'Red Flags'

- Passage of meconium more than 48 hrs
- Abdo dystension AND FTT
- Abdo dystension AND empty rectum
- Infrequent, small amount of stool or ('ribbon stool')
- Constant leakage of stool AND urine
- Unsuccessful medical therapy

## Diagnosis

- History
- Physical exam
- Barium enema
- Rectal biopsy
- Anorectal manometry

## Management

- **EDUCATION**
- **EVACUATION**
- **MAINTENANCE**

## Evacuation

### Aim:

- Thorough cleaning of rectum
- Decompression of overstretched colon and rectum

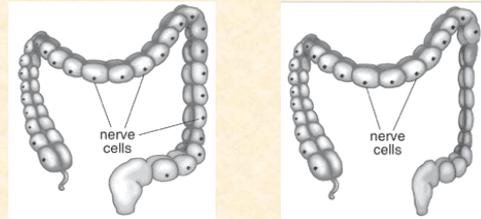
### Tool:

- Repeated enemas
- Manual evacuation, if necessary
- Laxatives

## Medication

- Need to treat any underlying constipation first
- Fine tune treatment to avoid constipation, but prevent diarrhoea
- Maintain for at least 6 months
- Then consider cautious dose reduction

## Hirschsprung's disease



Ganglionsejtek migrációs zavara

## Symptoms

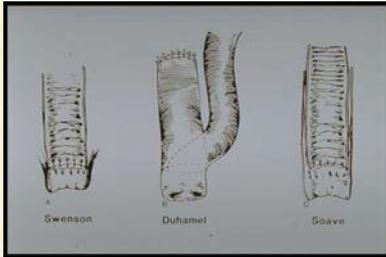
- Infancy: delay/failure to pass meconium
- Enterocolitis: explosive foul watery diarrhea/distension
- Older: constipation/distension/FTT
- Unusual: perforated appendix or intestine
- Does occur in premature, rare in micropremie

## Diagnosis

- Plain abdominal films
- Contrast enema
- Anorectal manometry
- Rectal suction biopsy  
( Full thickness biopsy )

## Surgical treatment

- Initially 3 stage operation:
  - colostomy / pullthrough / close colostomy



## Constipation vs. Hirsschprung's

	HD	Constipation
Age	Since birth or within 1 to 2 months of age	Starts after 1 year of age
Soiling	Unusual	Common
Straining at defecation	No straining	Present
Ability to pass large bulky stool	Unusual	Common
Pain and bleeding on defecation	Unusual	Present
Anal fissures	Absent	Present
Rectal exam	Rectum empty	Full of hard stool
Barium enema	Transitional zone	Dilatation from anal canal upwards
Rectal biopsy	Ganglion cells absent	Ganglion cells present