Dyssynergic Defecation (DD)

Impaired rectal evacuation with abnormal anorectal testing & recurring constipation

- Pathophysiology:
  - Inadequate rectal propulsive forces
  - Increased outlet resistance due to impaired relaxation or paradoxical contraction of the external anal sphincter and/or puborectalis muscle
  - Reduced rectal sensation
  - Structural deformities

- Associated Conditions: IBS, anxiety, depression, surgery, hospitalization, eating disorders, trauma, and physical or sexual abuse

- Clinical Features: hard stools, excessive straining, use of manual maneuvers to aid evacuation, and a sense of incomplete evacuation

Rectal Balloon Expulsion (BET)

Measures time required to evacuate a balloon filled with 50 mL warm water in the seated position.

- Upper limit of normal is 1 minute
- ~88% sensitive and specific

Anorectal Manometry (ARM)

Measures rectal sensation and anorectal pressures at rest, contraction, evacuation, and cough/Valsalva.

- Evacuation studies: incl. rectal & anal pressures, anal relaxation, and the rectoanal gradient

Barium / MR Defecography

Evaluates puborectalis relaxation (normal response) or contraction (abnormal response) using rectal injection of thickened barium or gel.

- Lateral images obtained at rest, contraction, and defecation with the angle measured between axes of the rectum and anal canal
- May identify other structural abnormalities

Anal EMG

Measures anal muscle response/electrical activity via electrodes mounted on an acrylic anal plug or taped to the perianal skin.

- Normal is a reduction of >20% in anal EMG activity during evacuation
- May be used to diagnose and as part of DD treatment during biofeedback

Treatment

Conservative:
- Eliminate exacerbating medications
- Soluble fiber/laxatives for hard stools
- Insoluble fiber for loose stools
- Regular toileting, use of a footstool
- 500 Kcal meals to induce gastrocolic response
- Meds: laxatives, secretory agents, serotonin 5HT₄ agonists

Anorectal biofeedback:
- Education on anatomy and dysynergia
- Correction of toileting position & behavior
- Abdominal breathing technique
- Manometric-based guiding of rectal pressure generation & anal relaxation with visual feedback from pressure tracings
- Balloon expulsion retraining for simulated defecation
- Sensory retraining with inflated balloon

Surgery:
- Consider if prior treatments are ineffective & a structural abnormality is seen on defecography
  ** Caution: structural abnormalities occur commonly in asymptomatic patients **
- Surgical restoration ≠ restoration of function
  - Exceptions:
    - Overt rectal prolapse
    - Symptomatic, sizeable, non-emptying rectocele
Evaluation for & Treatment of Dyssynergic Defecation

Symptoms suggestive of DD

Conservative management, especially with normalization of stool form

Inadequate response

Anorectal testing: BET, ARM, Defecography, and/or Anal EMG

Dyssynergia

Success

Anorectal Biofeedback

Continued conservative management

Failure

Manage symptomatically, review compliance

- Consider IBS dx
- Consider transit study

Good response

Not dysynergia

Success

Anorectal Biofeedback

Continued conservative management

Failure

Barium or MR Defecography

Structural abnormality

Consider surgery

Dyssynergia, no structural abnormality

Consider repeat biofeedback therapy

Normal

Continued conservative management
Recurring episodes of anorectal pain in the absence of other known causes of pain (e.g., chronic prostatitis-men or chronic pelvic pain syndrome-women)

Chronic proctalgia: pain lasting > 20 mins
- Pathophysiology: due to excessive tension on pelvic floor muscles
- Clinical Features: tenderness of the levator ani muscle on DRE may be present or absent
  - Levator ani syndrome
  - Chronic idiopathic proctalgia syndrome
- Treatment: ARM or BET for patients with levator ani syndrome to identify patients who may benefit from biofeedback therapy

Acute Proctalgia: pain lasting < 20 mins
- Pathophysiology: unknown
- Clinical features: normal DRE
- Treatment: explanation & reassurance

Anal Fissures
- Ulcer-like longitudinal tear in the midline of the anal canal distal to the dentate line
  - 90% posterior midline
  - Lateral position tear: consider Crohn’s, TB, Syphilis, HIV, Psoriasis, Anal cancer
- Clinical features: pain during & often after defecation
  - +/- minimal bright red blood on the toilet tissue
- Acute – simple tear in the endoderm
  - Treatment:
    - Sitz baths + fiber
    - +/- topical anesthetics or anti-inflammatory ointments
- Chronic – lasting > 8-12 weeks
  - Accompanying features: skin tag +/- hypertrophied anal papilla
  - Treatment:
    - Topical/oral CCB or topical nitrates
    - If refractory:
      - Botulinum A toxin
      - Lateral internal sphincterotomy
      - Pneumatic balloon dilation

Hemorrhoids
- Vascular tissue covered with anal mucosa – anal cushions – that enlarge and protrude into the anal canal
- Clinical features:
  - Internal: painless bleeding with BMs & an intermittent protrusion
  - External: painful swelling
  - Anal skin tags: painless, redundant skin from prior hemorrhoid
- Treatment:
  - Bowl management: 6-8 glasses of fluids/day, dietary fiber intake (20-30 g/day), avoid prolonged toilet sitting
  - Grade 1 and 2: rubber band ligation, infrared coagulation, bipolar coagulation, and sclerotherapy
  - Grade 3: ligation + hemorrhoidopexy / mucopexy or a stapled hemorrhoidectomy
  - Grade 4: hemorrhoidectomy
  - Thrombosed external hemorrhoids: surgical excision if seen within 4 days

Fecal Incontinence (FI)
- Involuntary loss of solid or liquid feces
- Diagnostic assessment:
  - Characterize BMs: bowel diary & Bristol stool scale
  - DRE: perform at anorectal rest, contraction, and evacuation
- Treatment:
  - Conservative:
    - Education
    - Antidiarrheal drugs
  - Pelvic floor exercises daily
  - Biofeedback:
    - Improve strength and coordination of the external anal sphincter without contracting abdominal wall muscles
    - Improve rectal sensation
  - If refractory to above:
    - Barrier devices: anal plugs, vaginal balloons
    - Injectable bulking agents
    - Sacral nerve stimulation
    - Anal sphincteroplasty
  - Severe FI refractory to ALL other therapy: end stoma