Long Term Function after Pediatric Colorectal Surgery
March 7th, 2014

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Disclosures

- I have none to disclose

Pediatric Colorectal Conditions

- Hirschprung’s disease
  - Total Colonic aganglionosis
  - Ultrashort Hirschsprung’s
- Anorectal Malformations

Pediatric Colorectal Conditions

- Midgut Malrotation
- Small left colon syndrome
- Necrotising enterocolitis
- Meconium syndromes
- Intussusceptions

Unlikely to have continued consequences requiring evaluation as an adult
Surgery for Hirschprung’s

- B - Svenson Procedure
- C – Duhamel Procedure
- D – Suave Procedure

Surgery for Anorectal malformations

- Posterior Sagittal Anorectoplasty PSARP

What are the issues for adult clinicians?

- Specific problems with the various procedures have been identified
  - enterocolitis with the Swenson procedure,
  - diarrhea and incontinence with the Soave procedure
  - and constipation with the Duhamel procedure
- Ultra-Short segment Hirschprung’s if undiagnosed in infancy may be encountered in patients with lifelong outlet constipation
- Even after repair fecal Incontinence in 30 – 35% and severe fecal incontinence in 5-10%
ARM - Issues for adult clinicians

- Both Constipation and Fecal incontinence can occur after definitive repair of anorectal malformations – constipation is more likely
- Loss of rectal reservoir or worsening sphincter function may result in fecal incontinence
- Severe constipation may result in overflow incontinence
- Worse stooling behaviour correlates with poorer quality of life

Evaluation

- History and physical
  - Type of defect and nature of repair
  - Bowel movement and voiding pattern,
  - Type of perineum, location of rectal opening, presence of an anal dimple, and
  - Strength of sphincter contraction.
- Water-soluble enema or defecography,
- Sacral films, MRI with a rectal coil
- Manometry, anal ultrasound, and pudendal nerve latency tests

Rectoanal inhibitory reflex

- Rapid rectal distention with balloon (30 mL) induces a transient increase in rectal pressure, followed by a more prolonged reduction in anal pressure due to relaxation of the internal anal sphincter.

Evaluation

- Normal anal resting pressure and the presence of a RAI reflex, have been correlated with a good clinical outcome in both high and low anorectal malformations.
  - Preserved RAIR reflex in ~ 60% of patients after both PSARP, and LAARP for high imperforate anus
- Similarly Colonic Transit time may be of benefit in patients following Hirschprung’s surgery
**Management**

- “Group one” appears untrainable.
- They have a poor sacrum, flat perineum, poor muscles, no sensation, and poor bowel movement pattern and usually are incontinent to both urine and all types of stool.
- Good candidates for a bowel management program.
- A permanent stoma is usually best suited and truly appreciated by these patients.

**Management**

- “Group two” need revision
- Clinical & MRI evidence of a mislocated rectum with a good sacrum and well-developed muscles.
- They benefit from a secondary pull through procedure by an experienced surgeon with the aid of the Peña stimulator.
- A second pull-through procedure if loss of ganglion cells in the pulled segment (ischemia) results in severe obstruction

**Management**

- “Group three” has severe constipation
- A contrast enema may shows a severely dilated mega rectosigmoid in which case they benefit from a sigmoid resection.
- This may decrease the requirement of an enormous amounts of daily laxatives to keep their colons clean.
- A new pull-through operation should be avoided to preserve the rectal reservoir as its loss could lead to the worse problem of incontinence related to diarrhea.

**Management**

- “Group four” are patients of the good prognostic type and have a well-located rectum, good sacrum, and good muscles but are still incontinent or constipated.
- No obvious pathology is noted on imaging or biopsy
- They may benefit from biofeedback or other behavior modification programs to help them evacuate the rectum at controlled and predictable times.
Thank you

References