Standardized Toolbox of Education for Pediatric Surgery

Imperforate Anus

APSA Committee of Education
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Failure to Pass Stool

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Day of life 2 male infant with abdominal distension and failure to pass stool.
History Discussion

- Full term birth with no prenatal concerns
  - No Polyhydramnios
- Able to breast feed DOL 1
- Resistant to feed now on DOL 2
- Normal wet diapers
Physical Exam

- Check vitals
- Appearance
- Cardiac evaluation
- Abdominal Evaluation
- Inguinal evaluation
- Perineal evaluation
Studies (Labs, Imaging)

• What labs needed?

• What Imaging Needed?
Associated conditions

- V  vertebral anomalies
- A  anal (imperforate anus) anomalies
- C  cardiac anomalies
- TE trachoesophageal fistula
- R  renal anomalies
- L  limb (radius) anomalies
Identifying the Variant of IA:
Implications for management
Newborn Male – Anorectal Malformation

Perineal Inspection
(R/O Serious, Lethal Associated Defects)

- Perineal Fistula
  - Anoplasty

- Rectal gas below coccyx
  - No associated defects
    - Consider PSARP with or without colostomy

- Rectal gas above coccyx
  - Associated defects
    - Abnormal Sacrum
      - Flat Bottom
    - Colostomy
Male Presentations
Male Presentations
Male Presentations
Newborn Female – Anorectal Malformation

Perineal Inspection (R/O Serious, Lethal Associated Defects)

- Single perineal orifice
  - Cloaca
    - Colostomy
    - Drain hydrocolpos
    - Urinary Diversion (if necessary)
- Perineal Fistula
- Vestibular Fistula
  - Colostomy or Primary repair*
- No visible fistula
  - Cross table lateral X-ray
    - Rectum below coccyx
      - Colostomy or Primary Repair*
    - Rectum above coccyx
      - Colostomy
Female Presentations
Female Presentations
Female Presentations
Female Presentations
Female Presentations
Segregating Low- from High- Variant

• Focused Perineal Exam
  – Female: Introitus
  – Male: Perineal Raphe

• Lateral Pelvic film at 24 hrs
  – Prone positioning
Study Results
Diverting colostomy

• Divided Colostomy with mucous fistula
• Prevent distal fecal flow
• Proximal enough to avoid impact on distal reconstruction
Planning Staged Procedure

• Evaluation of Anatomy
  – VCUG
  – Antegrade colostogram via distal limb
Study Results
Operation—Tenants of Reconstruction

• Posterior approach
• Maintain midline dissection
• Low Variants: Division of perineum from site of fistula to anal musculature
• High Variants: Division of perineum from anal musculature to coccyx
• Placement of rectum within identified anal sphincter complex
Operation—Tenants of Reconstruction

- Separation of common rectal and vaginal wall (female)
- Closure of urethral fistula (male)
- Combined perineal and abdominal approach required for higher variants
- Colonic diversion reversed once perineum healed
Complications

Peri-operative

• Infection
  – Avoidance of urinary system fecal contamination
  – Perioperative antibiotics
  – Delay in enteral feeding for primary reconstructions

• Urinary Tract Injury
Complications

• Long Term
  – Anal stenosis
  – Fecal incontinence
Post-operative Management

• Routine followup at 3 weeks
  – Initiation of rectal dilation regimen

• Reversal of diverting colostomy, if applicable
Question 1

The following landmark determines severity of IA variant:

A. Anal sphincter complex position
B. Variability of sacral anomaly
C. Level of descent of rectum
D. Formation of pelvis
Question 1

The following landmark determines severity of IA variant:

A. Anal sphincter complex position
B. Variability of sacral anomaly
C. Level of descent of rectum
D. Formation of pelvis
Question 2

• Reconstruction is advised to proceed from a posterior, _________ approach.
Reconstruction is advised to proceed from a posterior, **MIDLINE** approach.
The greatest impact on the ability to achieve fecal continence is which of the following:

A. Severity of malformation
B. Technical expertise
C. Compliance in dilation program
Question 3

• The greatest impact on the ability to achieve fecal continence is which of the following:

A. Severity of malformation
B. Technical expertise
C. Compliance in dilation program
Final Discussion/Review

- Thorough inspection of perineum for fistula location, esp. in female infants
- Inverted cross-table radiograph for assessment of distal rectum
- VACTERL associations in assessment
- Appropriate timing of interventions
- Continuing ongoing followup until verification of fecal continence.
Acknowledgement Slide

The preceding educational materials were made available through the American Pediatric Surgical Association.

In order to improve our educational materials we welcome your comments/suggestions:

www.eapsa.org