Abdominal Wall Hernia in Pediatrics

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The Operative Review of Surgery. 2023; 1:224-227.

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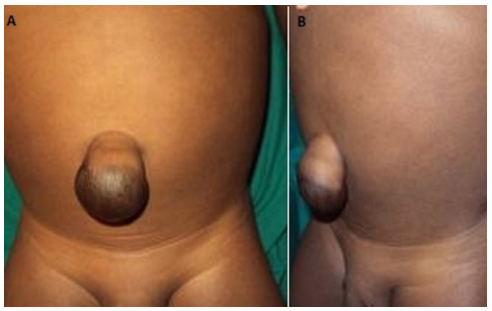
Umbilical Hernia

Natural History

- All Infants Have a Fascial Defect at Birth from Placental Vessels
- 10-30% Have a Hernia at Birth [1]
- Most (90%) Close Spontaneously by 4-5 Years Old [2]

Risk Factors [3-5]

- Black Race
- Premature or Low Birth Weight
- Ehlers-Danlos
- Beckwith-Wiedemann Syndrome
- Down Syndrome
- Trisomy 18
- Mucopolysaccharidoses
- Hypothyroidism



Proboscoid Umbilical Hernia [10]

Presentation

- Bulge at the Umbilicus
- The Vast Majority are Asymptomatic
- Can Interfere with Feeding
- Incarceration is Rare in Pediatrics (0.07-0.3%) [4,6,7]

Diagnosis

- Clinical Diagnosis
- Consider Abdominal US if Uncertain

Treatment

- General Treatment: Delay Surgical Repair Until **4-5 Years** Old (Before Entering School) [8]
  - *Do Not Use Mesh
- Indications for Early Repair:
  - Symptomatic
  - Large Defects > 2 cm (Tend to Enlarge with Risk for Developing a Large Proboscoid Hernia with Poor Cosmetic Outcome) [9]
  - Emergent Indications – Acute Incarceration or Strangulation

Umbilical Hernia in Adults

- *See Ventral Hernia

Inguinal Hernia

Incidence and Epidemiology

- 3-5% in Term Infants [11,12]
- 9-13% in Premature Infants [11,12]
- Most Common in Boys (6:1) [13]
- More Common on the Right – Later Descent of the Testicle and Obliteration of the Processus Vaginalis on the Right [14]
  - 60% are on the Right
  - 30% on the Left
  - 10% are Bilateral
- Almost All are Indirect Due to a Persistent Processus Vaginalis

Presentation

- Intermittent Bulge
- Most are Asymptomatic
- Higher Risk of Incarceration (14-31%) [4,15]

Diagnosis

- Often a Clinical Diagnosis
  - Inguinal Mass is Frequently Not Present on Examination [5]
  - May or May Not Transilluminate
  - "Silk Glove Sign" – Palpation of the Cord Resembles the Friction of Rubbing Pieces of Silk Together from the Opposing Peritoneal Membranes of the Empty Hernia Sac [16]
- Consider Scrotal US if Uncertain

Treatment

- Treatment: Reduce First, Then Surgical Repair [17]
  - *Reducible*: Elective Repair in **1-3 Days** (Allow Edema Dissipation)
  - *Incarcerated*: Emergent Repair
- Surgical Repair: **High Ligation** and Excision of the Hernia Sac/Processus Vaginalis
  - Laparoscopic Repair is Being Increasingly Used [18]
  - Consider Contralateral Exploration at the Same Time (Debated) [19]
  - *Do Not Use Mesh
- Sex Considerations:
  - *Males*: Examine the Scrotum and Palpate at the End of the Procedure – High Ligation Risks Pulling the Testicle into the Inguinal Canal
  - *Females*: Inspect the Proximal Sac for Sliding Contents – May Contain Fallopian Tube, Ovary, Uterus, Bowel, or Bladder [20]

Inguinal Hernia in Adults

- *See Inguinal Hernia

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