Standardized Toolbox of Education for Pediatric Surgery

Intestinal Atresia

APSA Committee of Education
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Intestinal Atresia

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Peer Review Edits
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History

- Newborn female infant with abdominal distension and failure to pass stool.
History Discussion

- Full term birth
- Mild polyhydramnios on prenatal US
- ? dilated loop of bowel on prenatal US
- Increasing distension after birth
- Bilious emesis
Physical Exam

• Check vitals -> stable
• Appearance -> normal
• Cardiac evaluation -> normal
• Abdominal Evaluation
  – Soft
  – Distended
  – Decreased bowel sounds
• Inguinal evaluation -> normal
• Perineal evaluation -> normal
Differential Diagnosis

- Bilious emesis - Distension
- Bilious emesis - No Distension
- Non-Bilious emesis
Differential Diagnosis

• Duodenal
  – Arrest in development
  – Associated anomalies
  – Chromosomal anomalies

• Jejunal – Ileal
  – Vascular accident
  – Other anomalies rare
Differential Diagnosis

• Duodenal
  – Bilious emesis 75%
  – No distension
  – Rule out malrotation!

• Jejunal – Ileal
  – Bilious emesis 100%
  – Distension likely
Studies (Labs, Imaging)

• What labs needed?

• What Imaging Needed?
Studies - Duodenal Atresia
Studies - Jejunal Atresia
Figure 97.11. Anatomic forms of duodenal atresia (A–C) and webs (D,E). In particular, (E) demonstrates the unique windsock deformity. This lesion is important and potentially confusing because the point of obstruction is not at the apparent point of change in luminal diameter.
Duodenal Atresia - OR Findings
Duodenal Atresia - Repair
Duodenal Atresia - Repair
Small Bowel Atresia - Types

Type I: the proximal and distal ends are contigous
Small Bowel Atresia - Types

Type II: the proximal bowel is connected to the distal bowel by a fibrous strand.
Small Bowel Atresia - Types

Type III: there is discontinuity between the two ends with an associated gap in the mesentery.
Small Bowel Atresia - Types

Type IV: multiple intestinal atresias
Small Bowel Atresia - OR Findings
Small Bowel Atresia - Repair
Small Bowel Atresia - Tapering
Complications

Peri-operative

• Anastomotic leak
• Anastomotic stricture
• Infection
Complications

Long Term

• Delayed bowel function
• Malabsorption
• Short bowel syndrome
Post-operative Management

- NICU
- Await bowel function
- TPN
Post Lecture Questions
The most important differential diagnosis to duodenal atresia is:

A. Esophageal atresia
B. Malrotation / volvulus
C. Jejunal atresia
D. Ileal atresia
E. Anal atresia
Question 1

- The most important differential diagnosis to duodenal atresia is:
  A. Esophageal atresia
  B. Malrotation / volvulus
  C. Jejunal atresia
  D. Ileal atresia
  E. Anal atresia
Question 2

- The most common chromosomal defect associated with duodenal atresia is ____________.
Question 2

- The most common chromosomal defect associated with duodenal atresia is _______________.

Answer: Trisomy 21
Question 3

Which of the following statements is correct:

A. Duodenal atresia usually presents with non-bilious emesis.
B. Jejunal and ileal atresias are caused by an arrest in development.
C. Duodenal atresias occur due to a vascular accident.
D. Jejunal and ileal atresias usually do not have any associated other anomalies.
E. Patients with trisomy 21 often present with jejunal atresias.

Answer: D
Which of the following statements is correct:

A. Duodenal atresia usually presents with non-bilious emesis.

B. Jejunal and ileal atresias are caused by an arrest in development.

C. Duodenal atresias occur due to a vascular accident.

D. Jejunal and ileal atresias usually do not have any associated other anomalies.

E. Patients with trisomy 21 often present with jejunal atresias.
Final Discussion/Review

- **Duodenal Atresia:**
  - Bilious 75%
  - No distension -> cave malrotation!
  - Other anomalies

- **Jejunal - Ileal Atresia**
  - Always bilious
  - Distension likely
  - Other anomalies unlikely
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:

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