Fetal Intestinal Obstruction:
*Prenatal Imaging with Postnatal Correlation*

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Proximal obstruction
- Esophageal atresia
- Duodenal atresia
- Jejunal atresia

Mid obstruction
- Jejunal atresia

Distal obstruction
- Ileal atresia
- Colonic atresia
- Hirschsprung
- Meconium ileus
- Anal atresia
• Stomach 14 weeks (or earlier)
• Fluid filled SB loops 3\textsuperscript{rd} trimester
• Meconium signal rectum 20 weeks
• Meconium signal below bladder base
• Meconium column diameter
• Amniotic fluid helps – can be normal – might not deliver
• Position of the bowel misleading
Proximal obstruction

Esophageal atresia

- Down s. ~ 50%
- 1: 3000 live births
- M > F

- Polyhydramnios
- Pouch / sloshing
- Renal/cardiac/extremity

- Other loops: normal
- Normal meconium
Proximal obstruction

Duodenal atresia

- Down syndrome ~ 30-40%
- 1: 5000 live births
- Polyhydramnios
- Double bubble
- Renal/cardiac/extremity
- Other loops: normal
- Normal meconium

- Born at 37 weeks
- Normal MatT21
- Final: Down **
Proximal-mid obstruction

- AFI = 37
- Dilated loops
- Meconium?
- Born 34 wks
- 6 atresias

Jejunal atresia

- Most sporadic
- 1: 4000 live births
- Amniotic fluid +/-
- Fluid filled loops
- Other bowel anomalies
  - Atresias
  - Malrotation
  - CF
- Meconium +/-
  - Signal
  - Passage
Jejunal atresia, proximal, isolated

- 34 ½ weeks
- AFI top normal
- Fluid filled loops
- No other anomalies
- Meconium signal poor
- Dilated distal bowel
- AFI normal
- Fluid filled loops, nl
- No other anomalies
- Abnl: no distal meconium

?
• Dilated distal bowel
• AFI normal
• Fluid filled loops, nl
• No other anomalies
• Abnl: no distal meconium

Jejunal volvulus, meconium/CF
Distal bowel obstruction, OEIS complex

- Rare
- 1: 400,000 live births
- Amniotic fluid normal
- Bowel +/- obstructed
- Complex spinal anomalies
- Meconium abnl
- Ambiguous genitalia
• Meconium signal key
• Amniotic fluid misleading
• Position of bowel interpreted with caution
Thank you!