

Gastroschisis

Definition:

- Isolated defect in the abdominal wall to the right of umbilical cord insertion site, resulting in herniation on intestines outside of the body¹

Diagnosis:

- Incidence has been increasing over last 25 years from 0.1-1:10,000 to 3-5: 10,000²

Associated risk factors:

- Most cases occur in **younger** women
 - Women under 20 have a four-fold increase in risk compared to women over 30
- Smoking, drug use (opiates, methamphetamines, cocaine), possibly pseudoephedrine³

Gastroschisis

Pathogenesis - three theories:

- Discrete insult disrupting differentiation in somatopleural mesenchyme ⁴
- In utero rupture of umbilical cord hernia before complete closure of umbilical ring ⁵
- Vascular disruption of right omphalomesenteric artery, connecting yolk sac to the dorsal aorta ⁶

Gastroschisis

Diagnosis:

- Variable amount of intestine seen in amniotic fluid
- Full thickness defect in the anterior abdominal wall which can't directly be seen
- Color Doppler demonstrates normal umbilical cord insertion site to left of intestinal mass
- Extracorporeal liver never seen
- MS AFP often greater than 2 MoM

Differential diagnosis:

- Omphalocele
- Ruptured Omphalocele
- Cystic or edematous umbilical cord
- Allantoic cyst
- Patent urachus
- Cloacal extrophy

Gastroschisis

Associated abnormalities:

- Other GI abnormalities (atresia, volvulus, obstruction)
- Cardiac
- Pulmonary
- Undescended testicles

Pregnancy complications:

- IUGR- present in 77% of fetuses
- Prematurity
- Preterm labor
- Polyhydramnios
- Stillbirth-as high as 12.5%

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Management:

- Frequent ultrasound to monitor
 - Growth, amniotic fluid volume
 - Check for bowel obstruction
 - Doppler evaluation of fetal circulation is helpful to screen for IUGR as extracorporeal bowel will decrease AC measurement
- Delivery in late preterm, early term period
- Cesarean delivery for usual obstetric indications
- Delivery in hospital with facilities to support neonate and perform surgery preferable to transport of baby

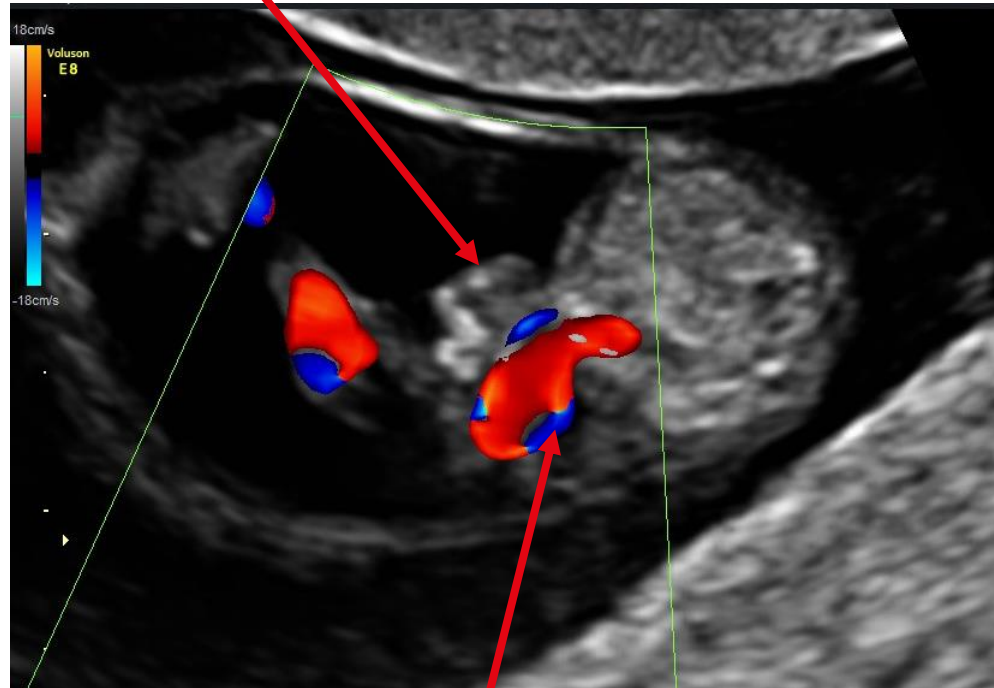
Prognosis:

- Excellent long term outcome with over 90% survival
- Atresias and other bowel malformations which are difficult to prenatally evaluate may complicate post-operative course and require additional surgeries

Gastroschisis

10 weeks

Bowel Loops



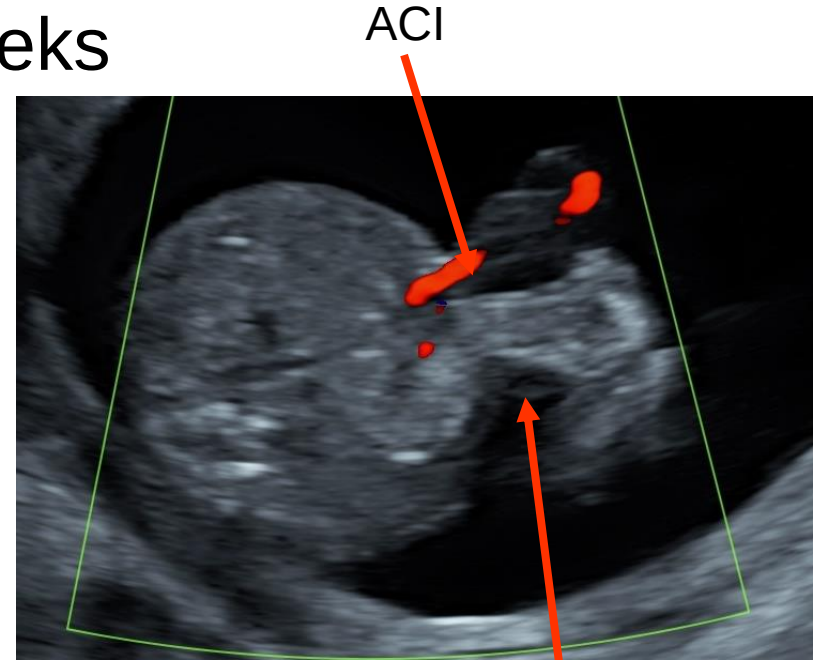
ACI

- Transverse section through abdominal cord insertion (ACI) site demonstrated with color Doppler

Gastroschisis

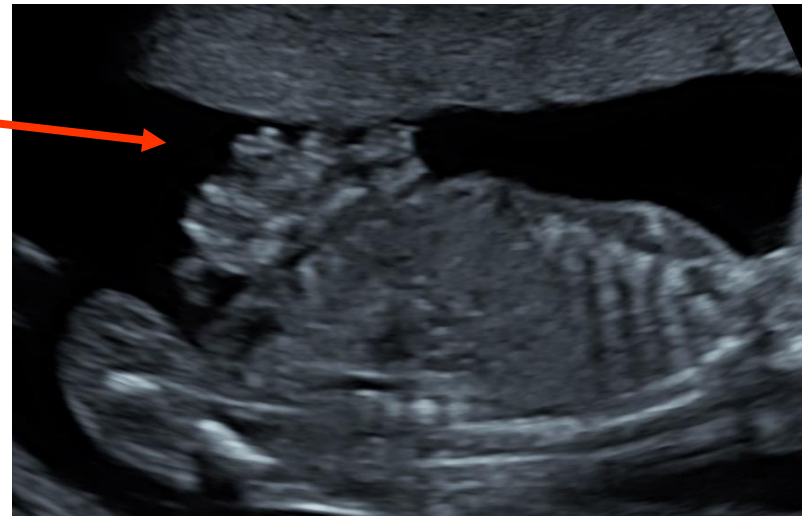
17 weeks

- Transverse section through abdominal cord insertion (ACI) site demonstrated with color Doppler



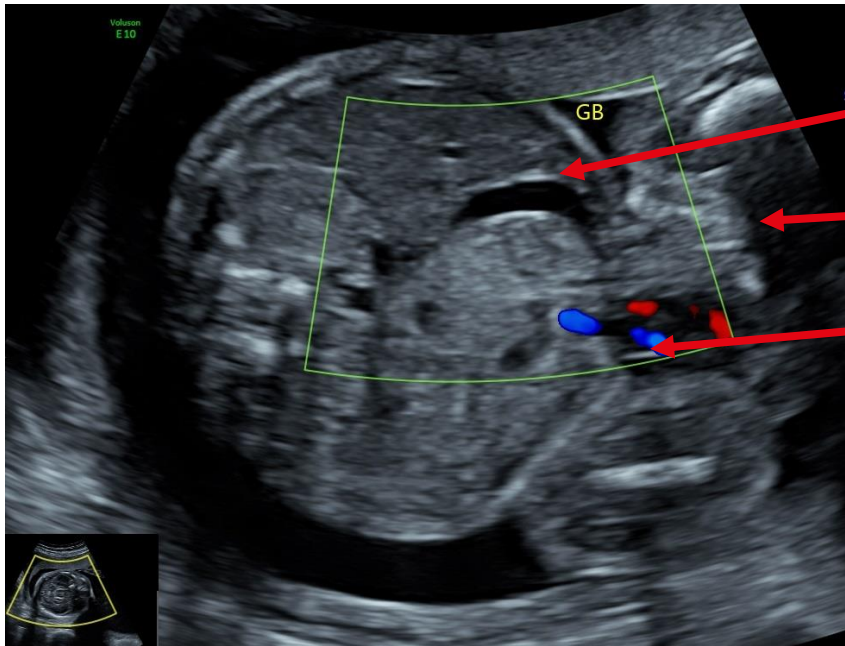
Bowel loops protruding through fetal abdomen

- Sagittal view
- Bowel loops in fluid



Gastroschisis

23 weeks



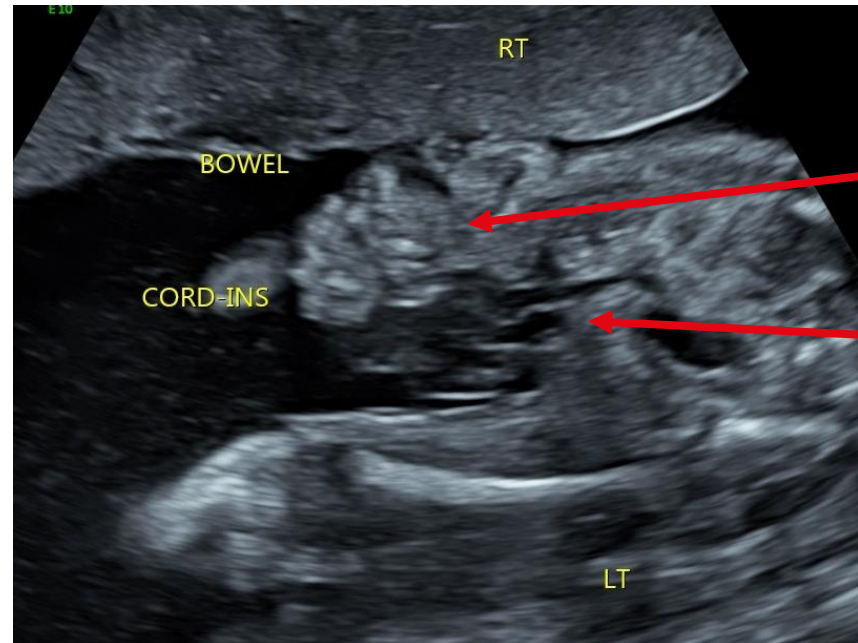
GB

Bowel

ACI

- Gallbladder seen
- Non-dilated bowel loops to right of ACI

- Non-dilated bowel loops in fluid to right of cord insertion site

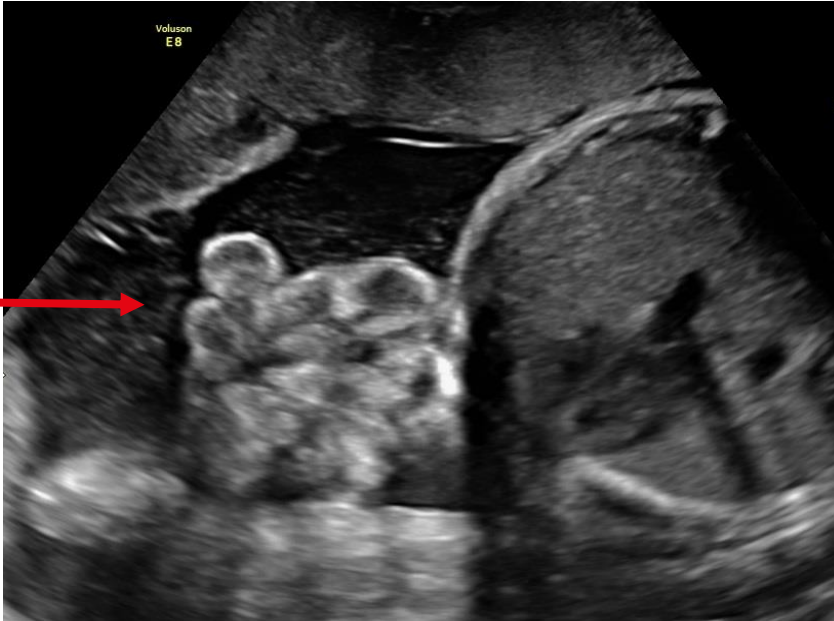


Bowel

ACI

Gastroschisis

34 weeks



- Most of bowel is not dilated

- Single loop of dilated bowel, measuring 2.0 cm

