

The Things We May Miss in the Second Trimester

Joanna Sichitiu
Clinical Fellow







Liberté • Égalité • Fraternité

RÉPUBLIQUE FRANÇAISE

COMITE NATIONAL TECHNIQUE de L'ECHOGRAPHIE DE DEPISTAGE PRENATAL

- First trimester: 11–14 weeks
- Second trimester: 20–25 weeks
- Third trimester: 30–35 weeks

Third trimester scan : the debate



BJOG Debate



AGAINST: Arguments for a routine third trimester ultrasound: What the meta-analysis does not show!

CAMILLE LE RAY, ASSISTANT PROFESSOR, FRANCE **GILLES GRANGÉ**, DOCTOR, FRANCE

BJOG
PERSPECTIVES

OBSTETRICS

Routine Third Trimester Ultrasound: What Is the Evidence?

**Camille Le Ray, MD, MSc,^{1,2} Maxime Lacerte, MD,¹ Marie-Hélène Iglesias, MD,¹
François Audibert, MD, MSc,¹ Lucie Morin, MD, FRCSC¹**

¹Department of Obstetrics and Gynecology, CHU Sainte Justine, University of Montreal, Montreal QC

²INSERM Unit 149, Epidemiological Research Unit on Perinatal Health and Women's Health, Paris, France

Third trimester : type of anomalies

1 in 300 women :

• Genitourinary	54.6 %
• Central nervous system	17.6 %
• Cardiac	14.0 %
• Gastrointestinal tract	4.4 %
• Skeletal	2.5 %
• Thorax	1.7 %
• Tumor	1.2 %
• Aneuploidy	0.1 %

Third trimester : type of anomalies

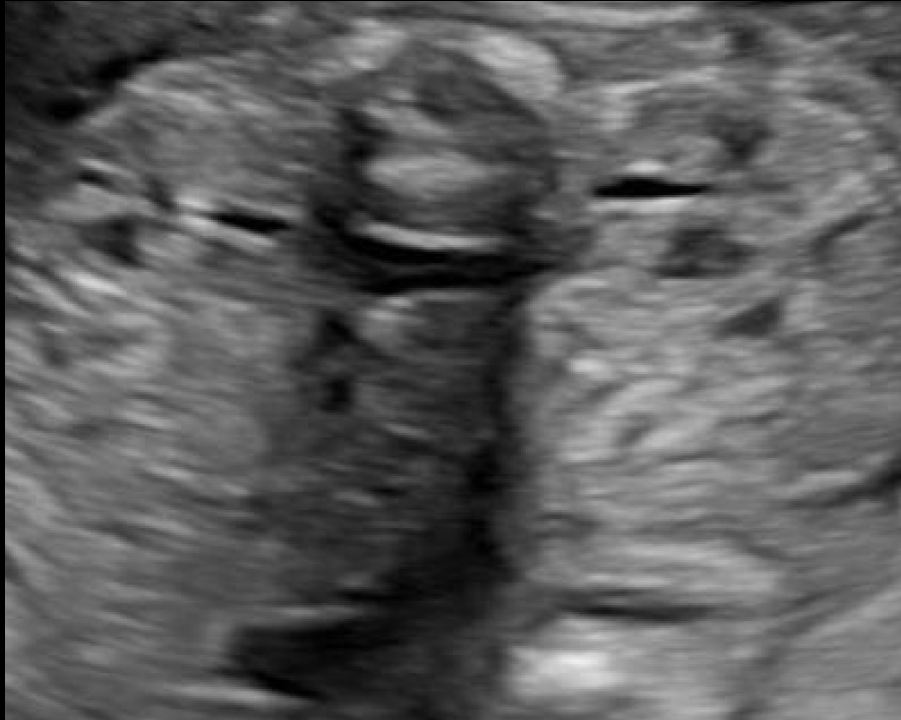
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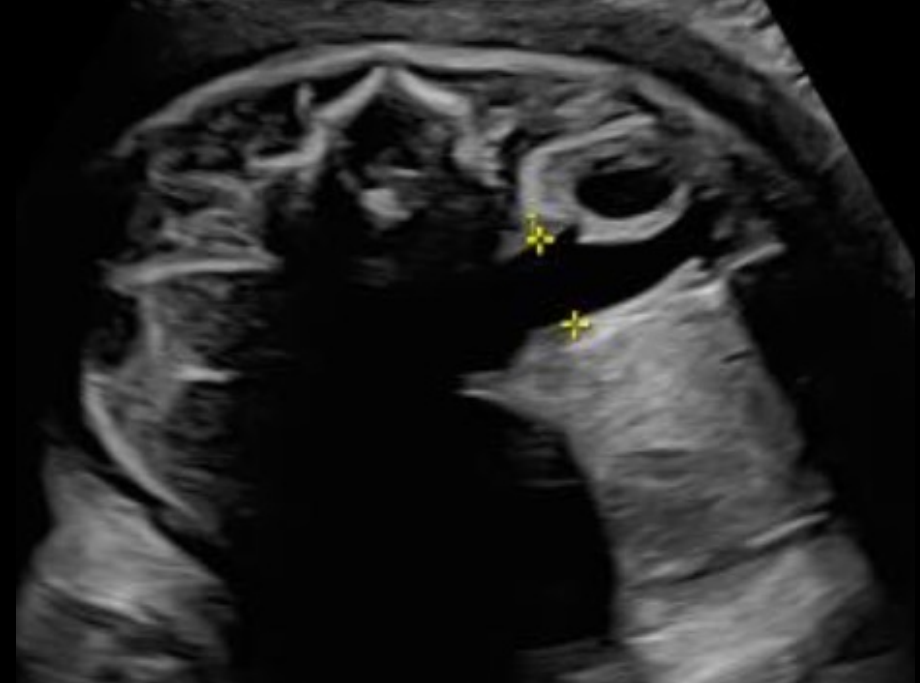
Third trimester : genitourinary

• Renal pelvic dilatation	57.8 %
• Ovarian cyst	9.4 %
• Unilateral renal agenesis	4.2 %
• Duplex kidneys	6.2 %
• Multicystic kidneys	1.9 %
• Ureteral dilatation	1.9 %
• Lower urinary tract obstruction	0.1 %
• Renal cyst	0.1 %
• Hydrometrocolpos	0.1 %

Renal Pelvic Dilatation

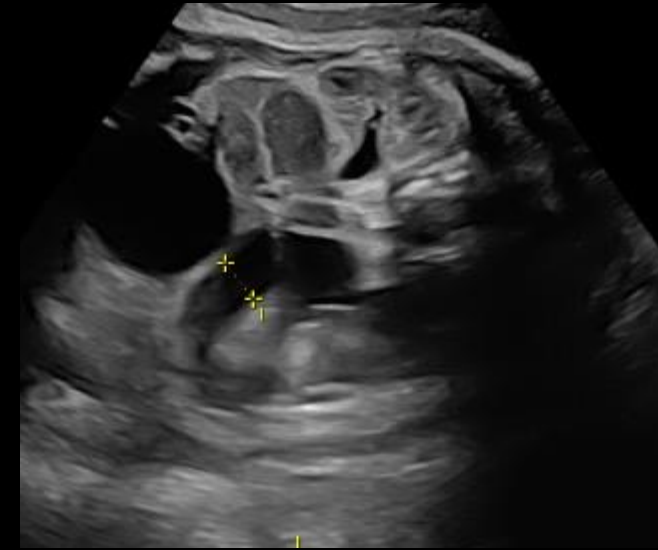
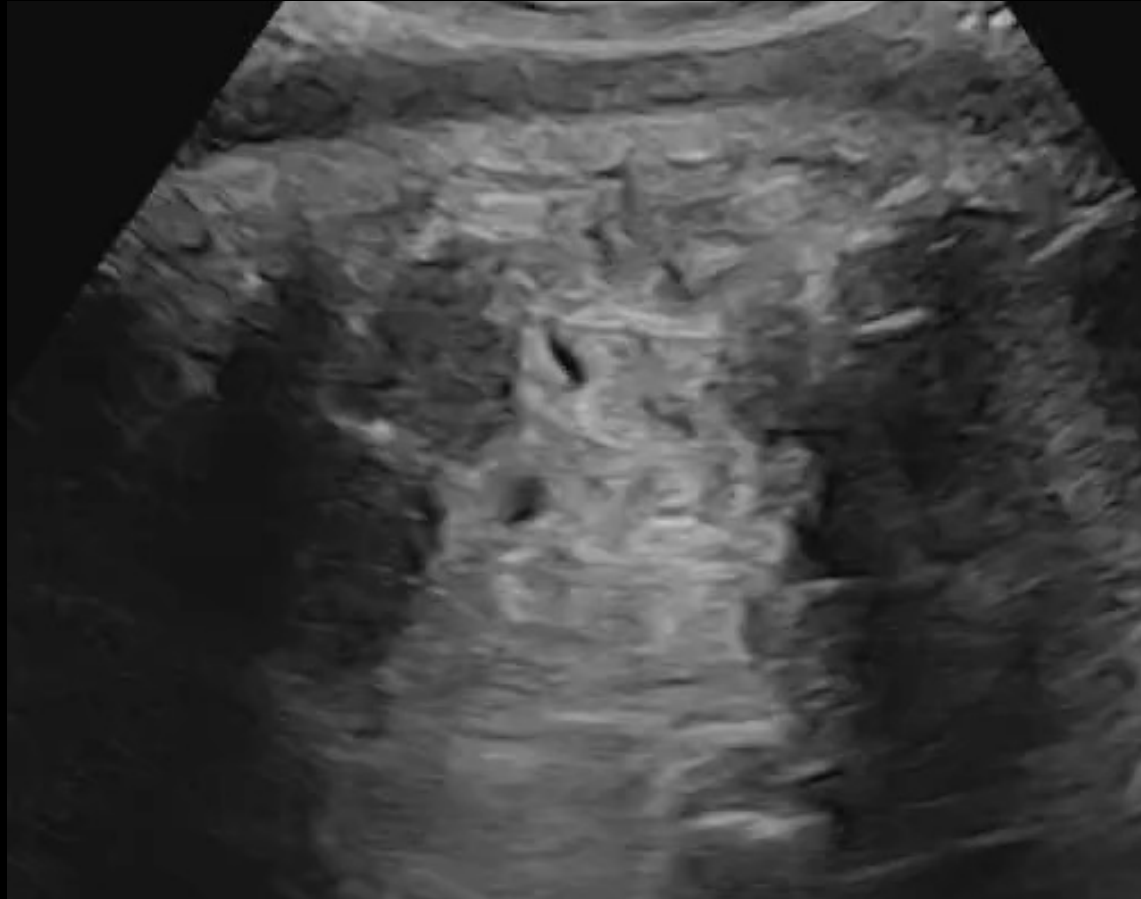


21 weeks



38 weeks

Renal Pelvic Dilatation



Renal Pelvic Dilatation

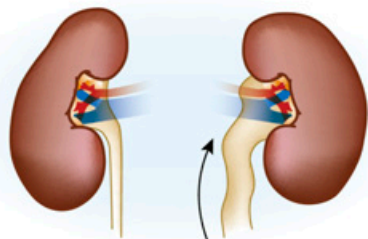


LT KIDNEY TRX

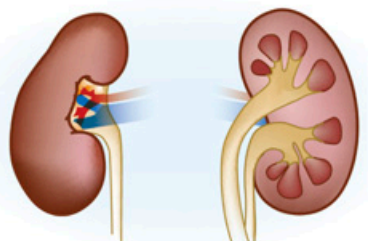
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Congenital anomalies of the kidney and urinary tract

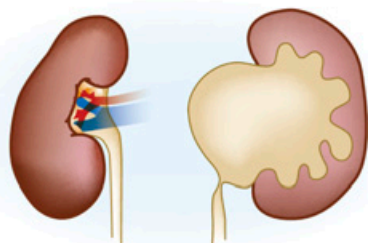
Ureteral abnormalities



Vesicoureteral reflux

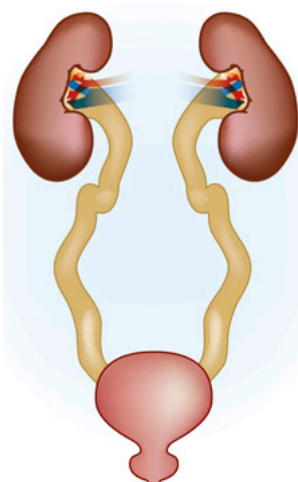


Duplex collecting system

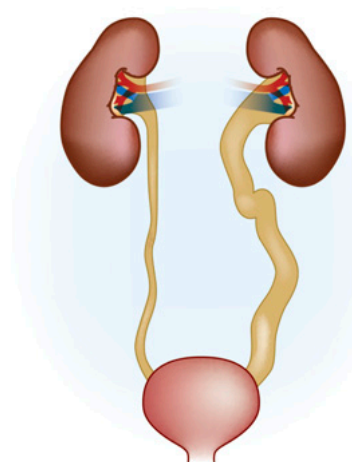


Ureteropelvic junction obstruction

Lower urinary tract abnormality



Posterior urethral valves



Primary megaureter

Table I. Renal anomalies diagnosed in 213 infants with antenatally diagnosed mild to moderate renal pelvis dilatation

Anomalies		No. patients (%)
Nonsignificant findings (n = 130)	None	81 (62)
	Transitory dilatation	33 (25)
	Noncomplicated renal duplication	10 (8)
	Mild idiopathic dilatation	6 (5)
	Total	130 (100)
Significant findings (n = 83)	Pelviureteric junction obstruction	27 (33)
	Primary vesicoureteral reflux	23 (28)
	Megaureter	15 (18)
	Complicated renal duplication	10 (12)
	Other pathologies	8 (10)
	Total	83 (100)

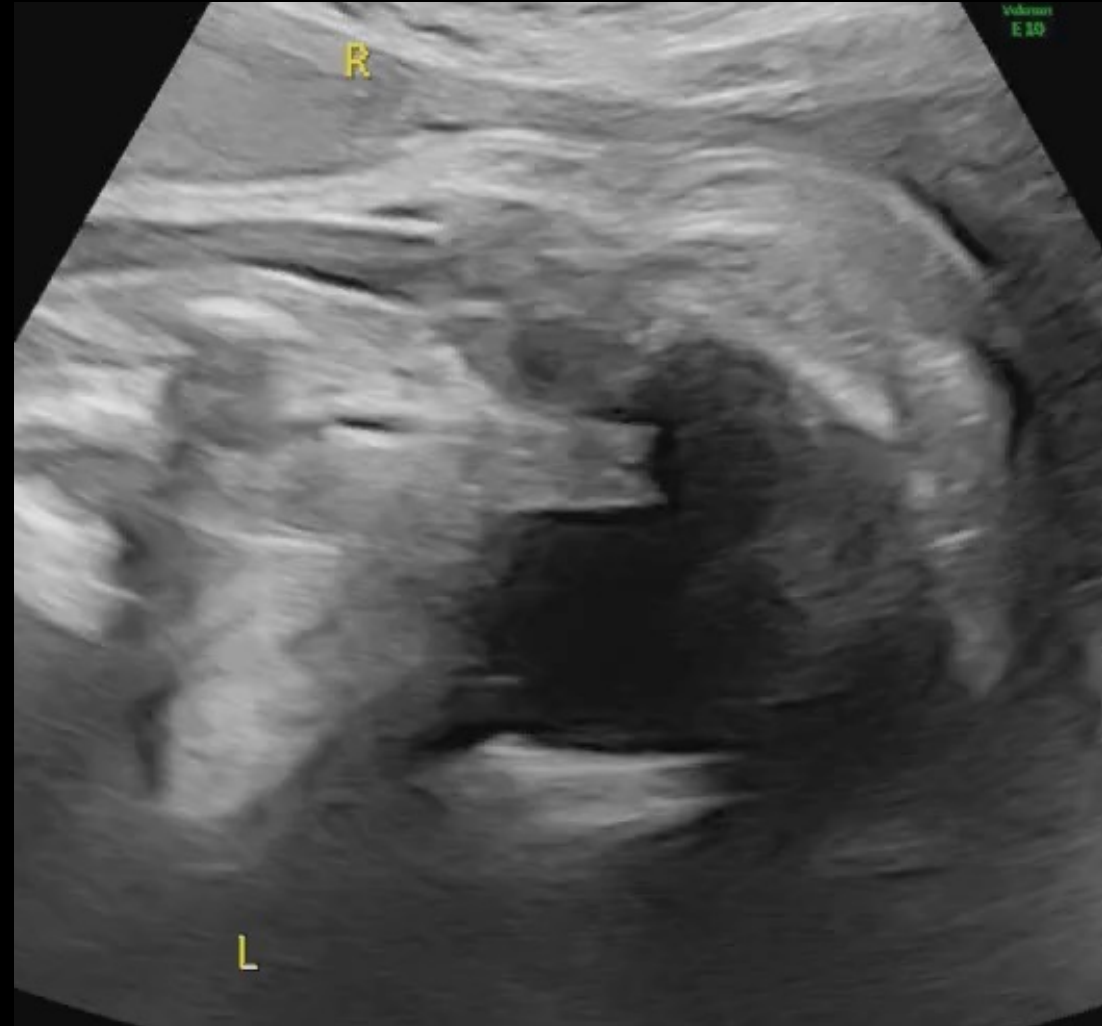
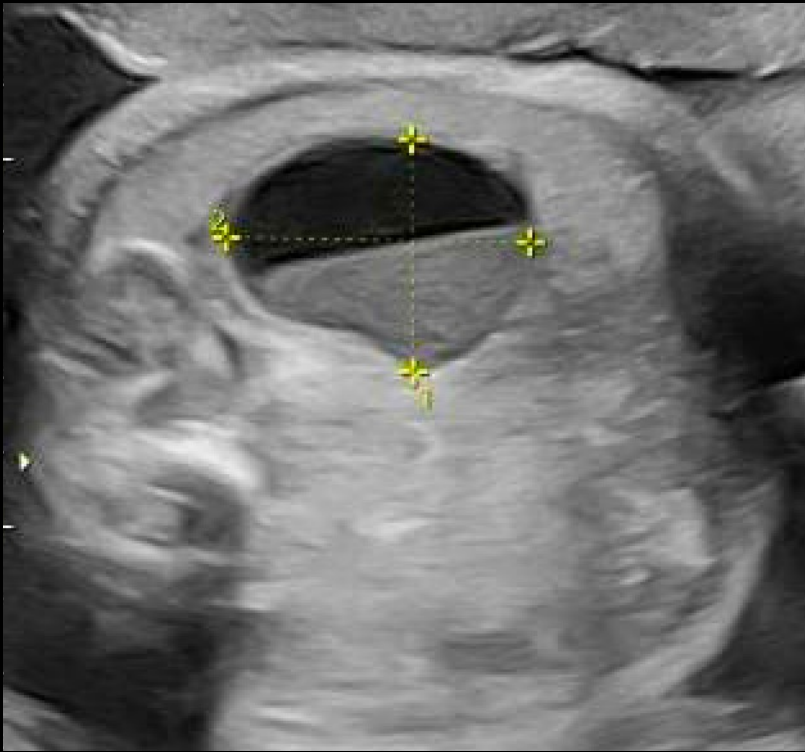
Congenital anomalies of the kidney and urinary tract

- Delivery location to be discussed with urologist
- Difficult to appreciate in utero the postnatal diagnosis
- Approx. 50 % normal postnatal ultrasound
- Prophylactic antibiotics to prevent infection at birth
- Postnatal ultrasound 48 hours to 7 days
- +/- voiding cystogram, nuclear scintigraphy

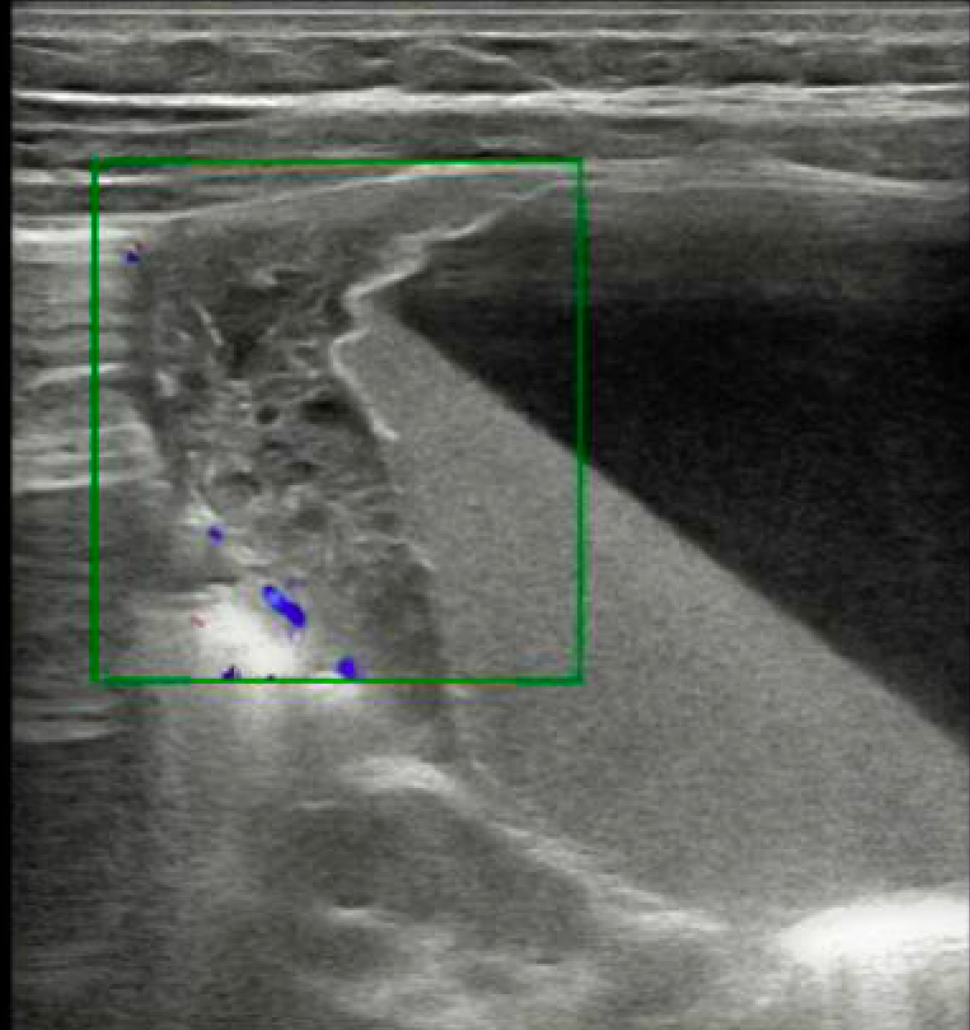
Ovarian cyst

- Third trimester diagnosis
- Most common intra-abdominal mass
- Incidence 1 in 2600
- Pathophysiology uncertain
- Categorized in two groups :
 - Simple
 - Complex

Ovarian cyst : prenatal



Ovarian cyst : postnatal



Ovarian cyst

- Majority regress during pregnancy or postnatally
- Fear of torsion and loss of ovary
- Higher risk of torsion if > 40 mm or complex
- *In utero* aspiration controversial
- Serial ultrasound follow-up
- Postnatal imaging

Hydrocolpos

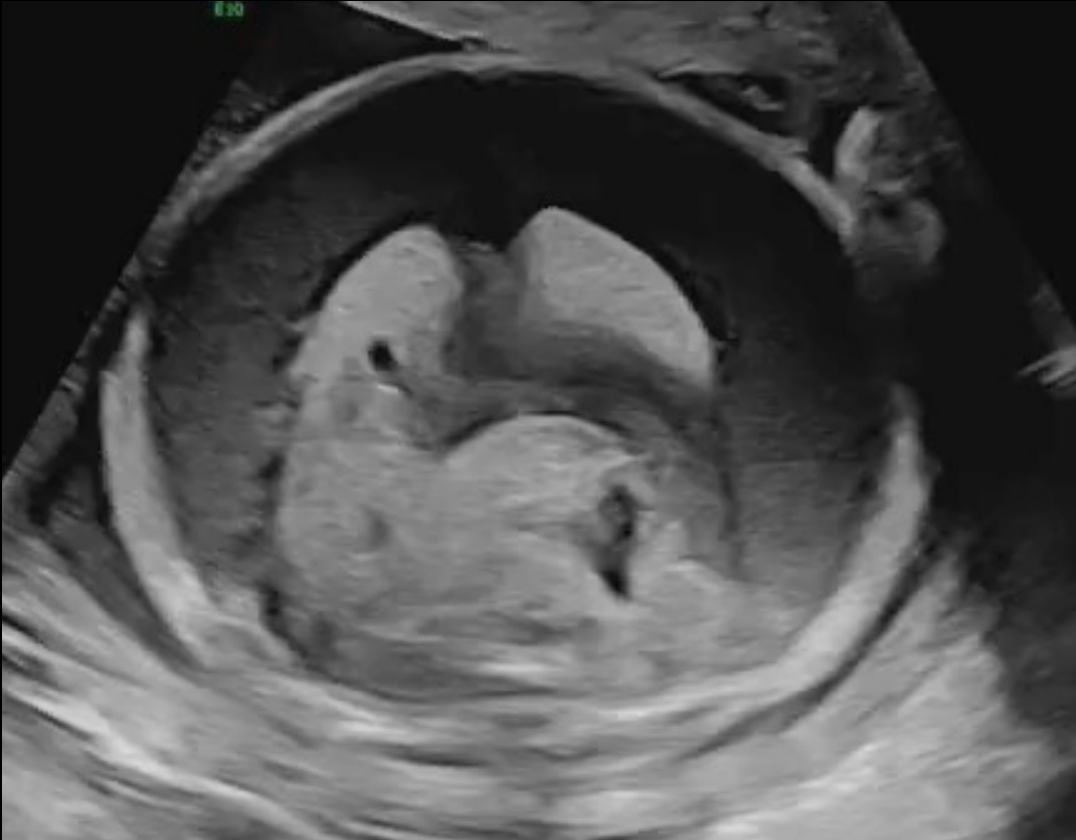


19 weeks

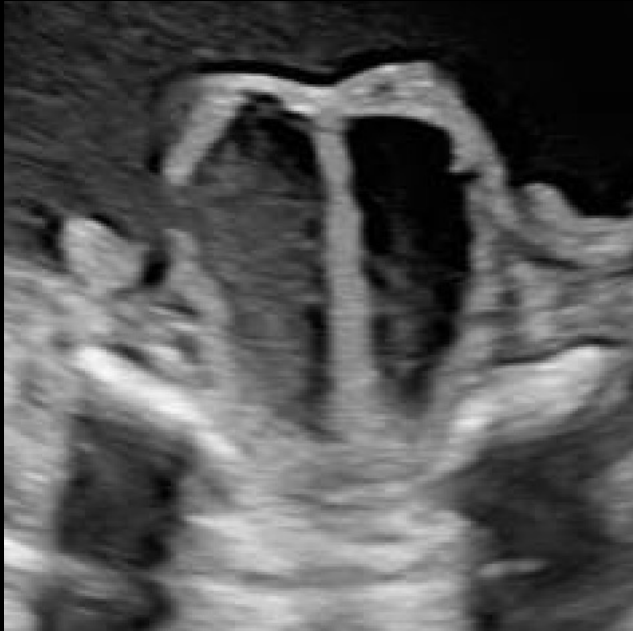


27 weeks

Hydrocolpos



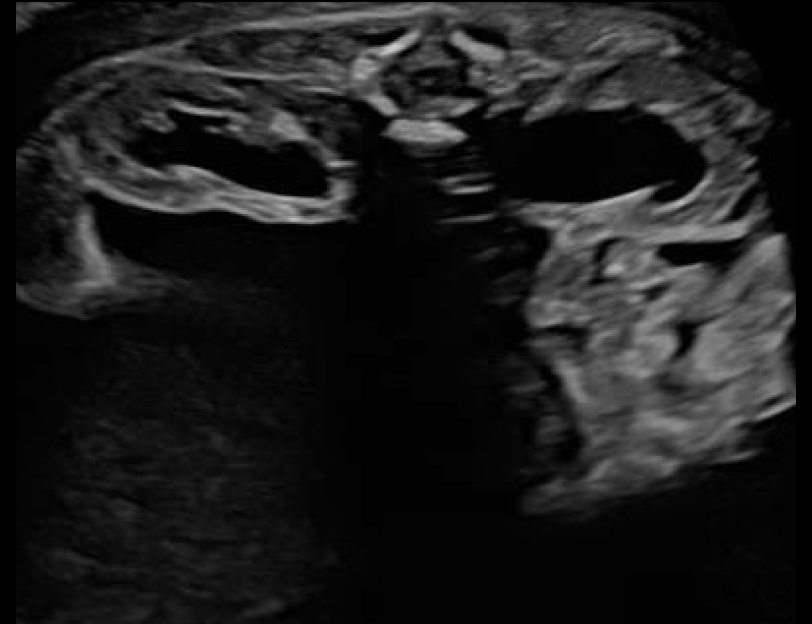
Hydrocolpos



Septated vagina

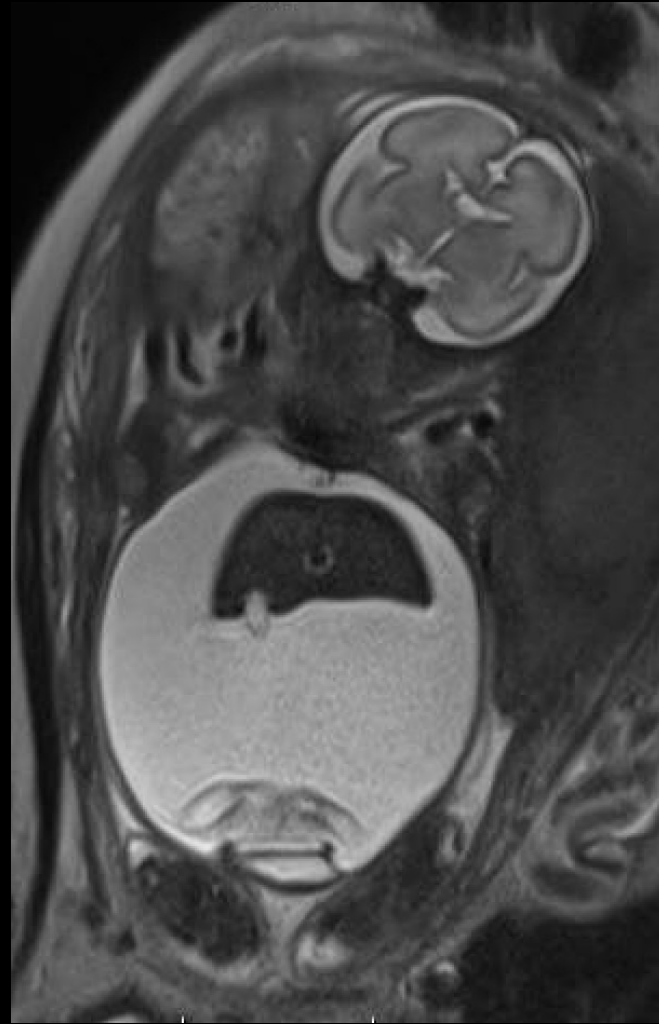
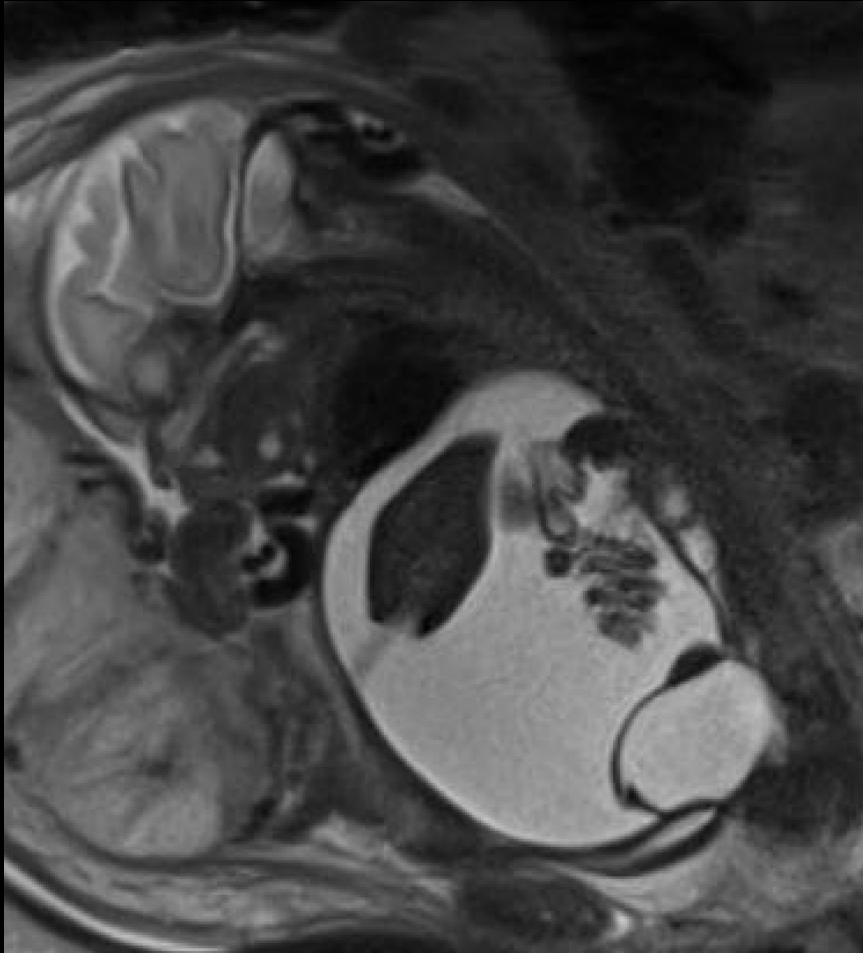


Didelphus uterus

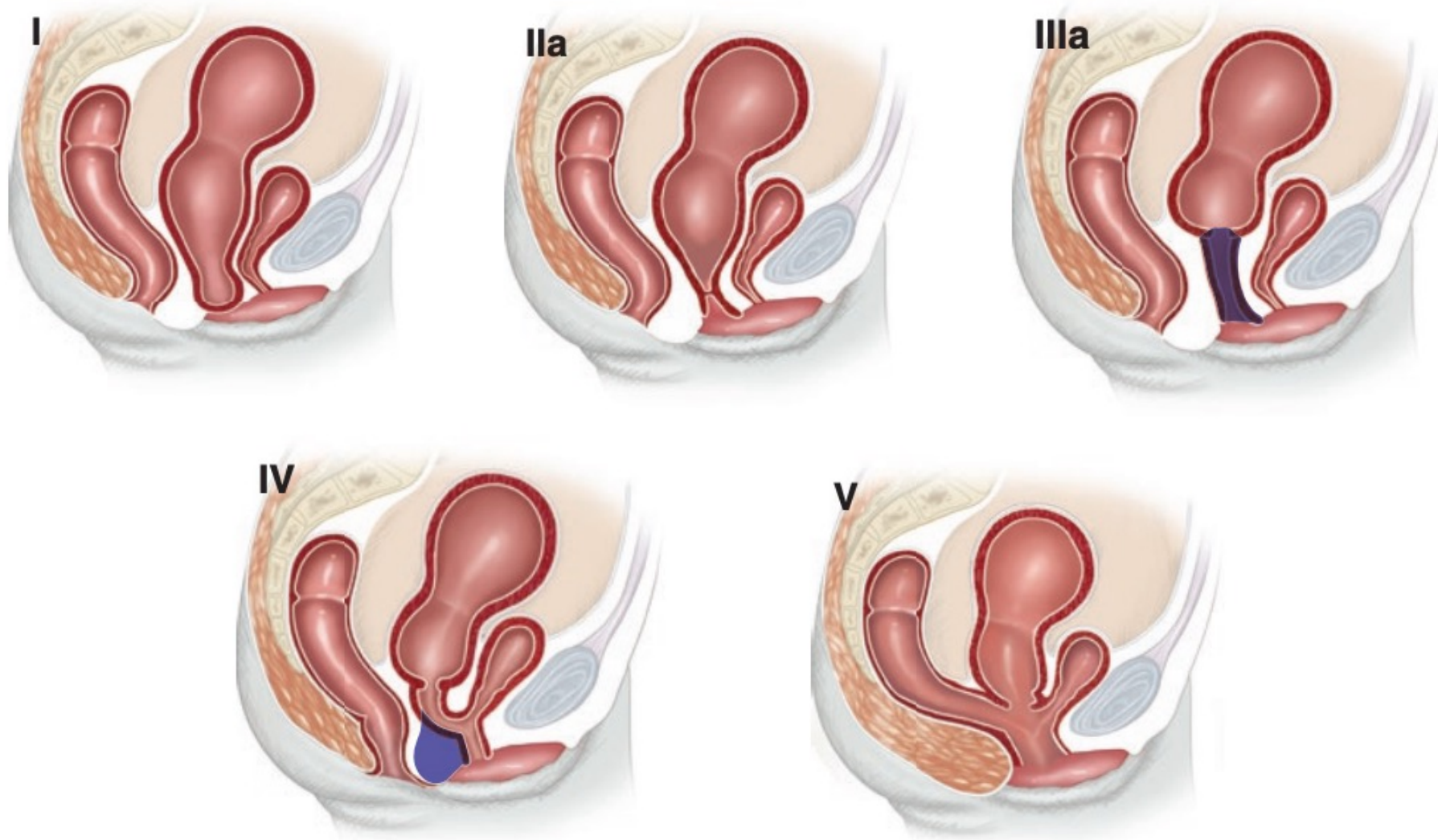


Hydronephrosis

Hydrocolpos

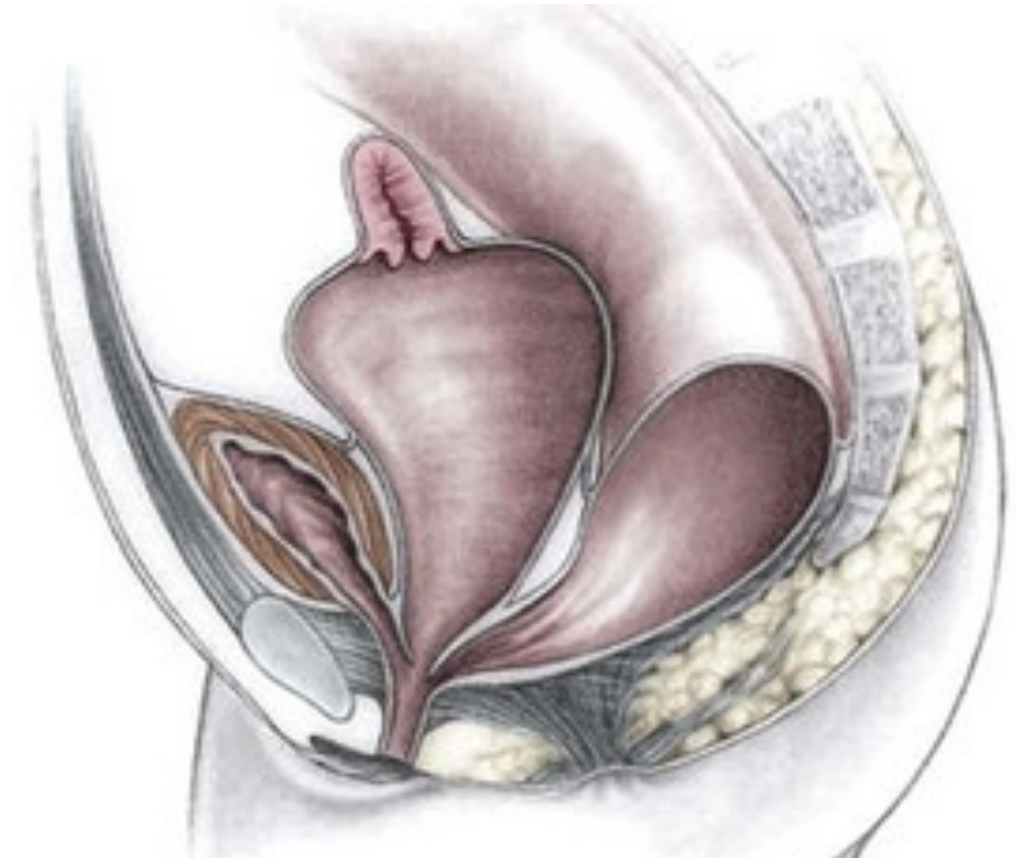


Hydrocolpos



Hydrocolpos

- Not uterine but **vaginal** dilatation
- Imperforated hymen :
hymenotomy
- Cloacal/urogenital sinus
malformations : multiple staged
surgery
- Vaginal atresia : vaginal pull
through operation
- Genetic association



Third trimester : gastrointestinal tract

- Small bowel obstruction / atresia 32.1 %
- Duplication cyst 39.2 %
- Esophageal atresia 10.7 %
- Meconium peritonitis 3.5 %

Third trimester GI tract



Duodenal atresia



Duodenal atresia



Duodenal atresia

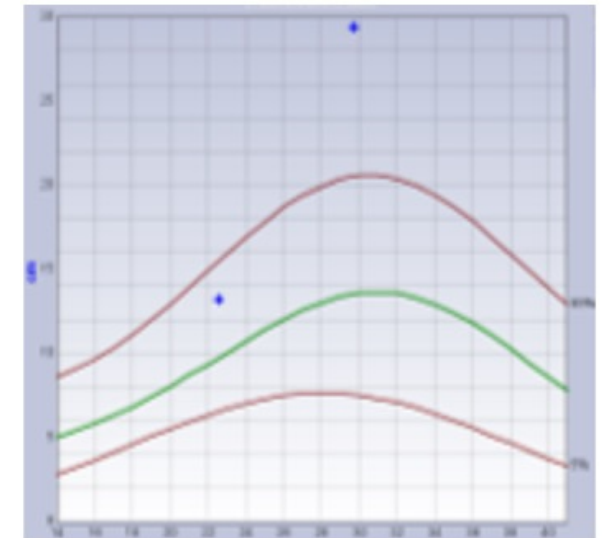


22 weeks



31 weeks

Amniotic fluid index

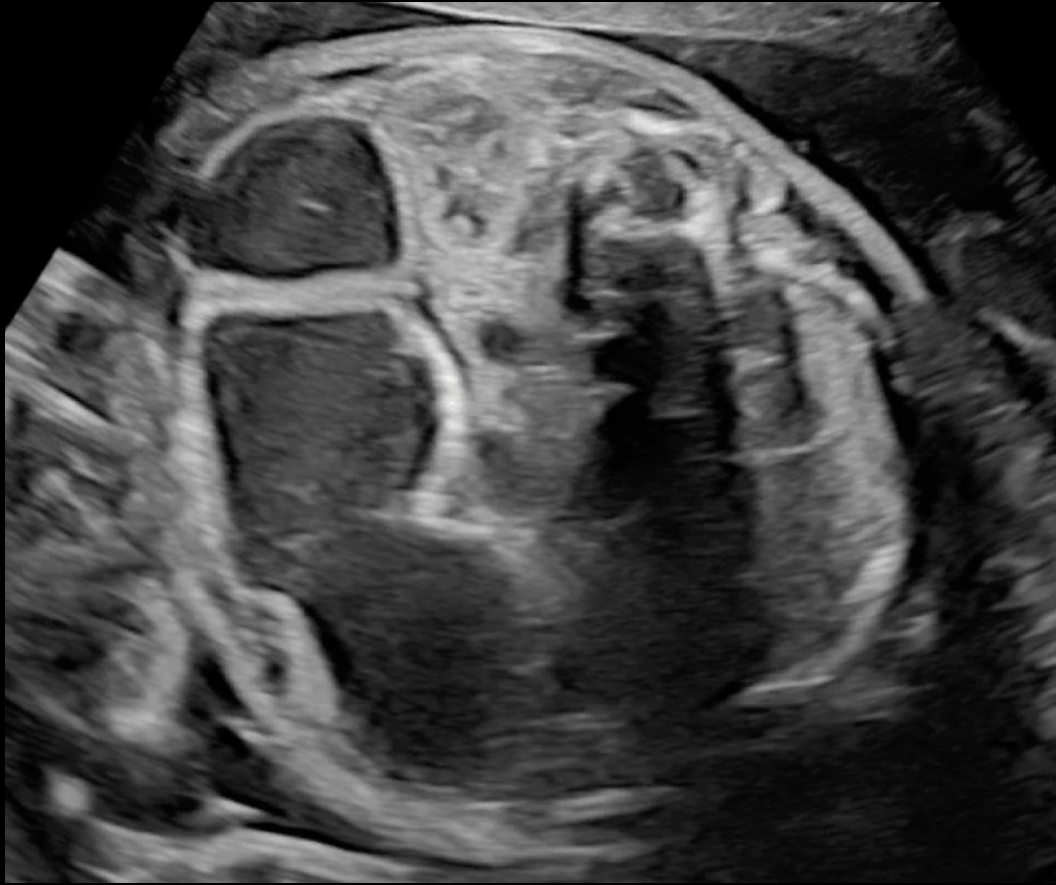


Duodenal atresia

Associated anomalies in
60 % of cases

Fetal Conditions Associated with Duodenal Atresia	
Associated Anomaly	% of Cases
Trisomy 21	31
Congenital heart disease	30
Bowel rotation	20
Annular pancreas	20
Esophageal atresia	10
Anorectal atresia	6
Genitourinary	5

Jejunal / ileal atresia



Jejunal / ileal atresia



Complex meconium peritonitis



Complex meconium peritonitis



Dilated bowel loops

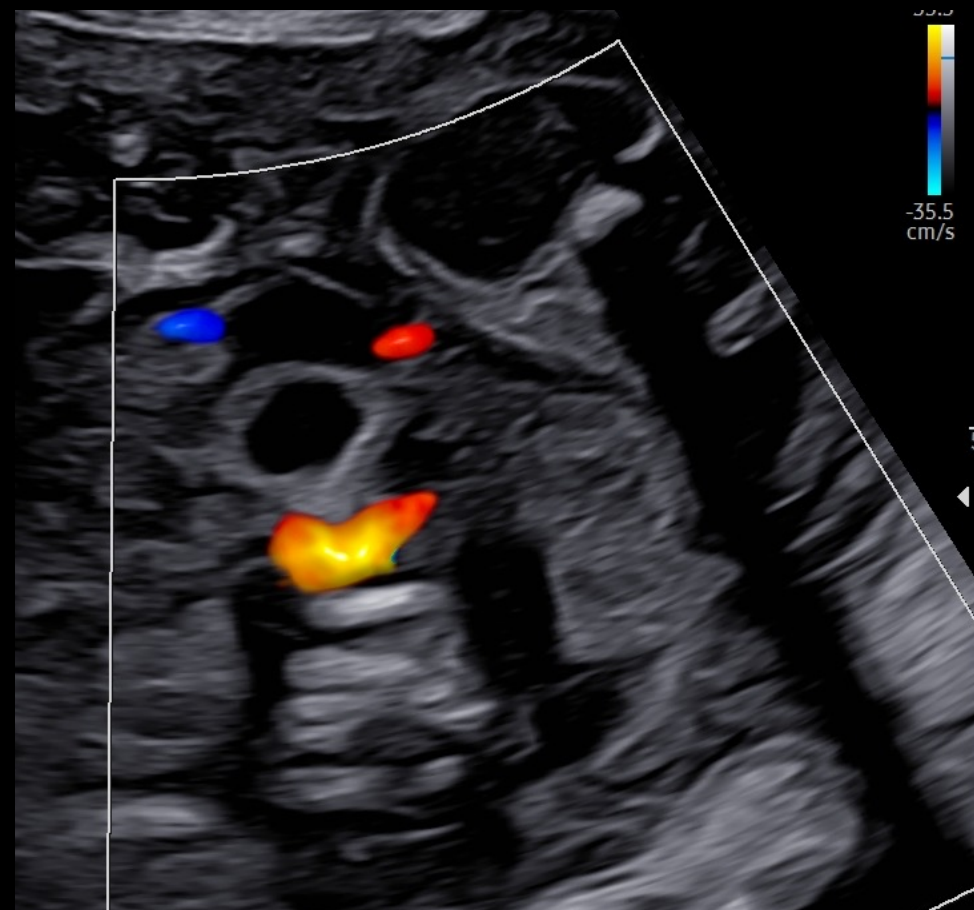
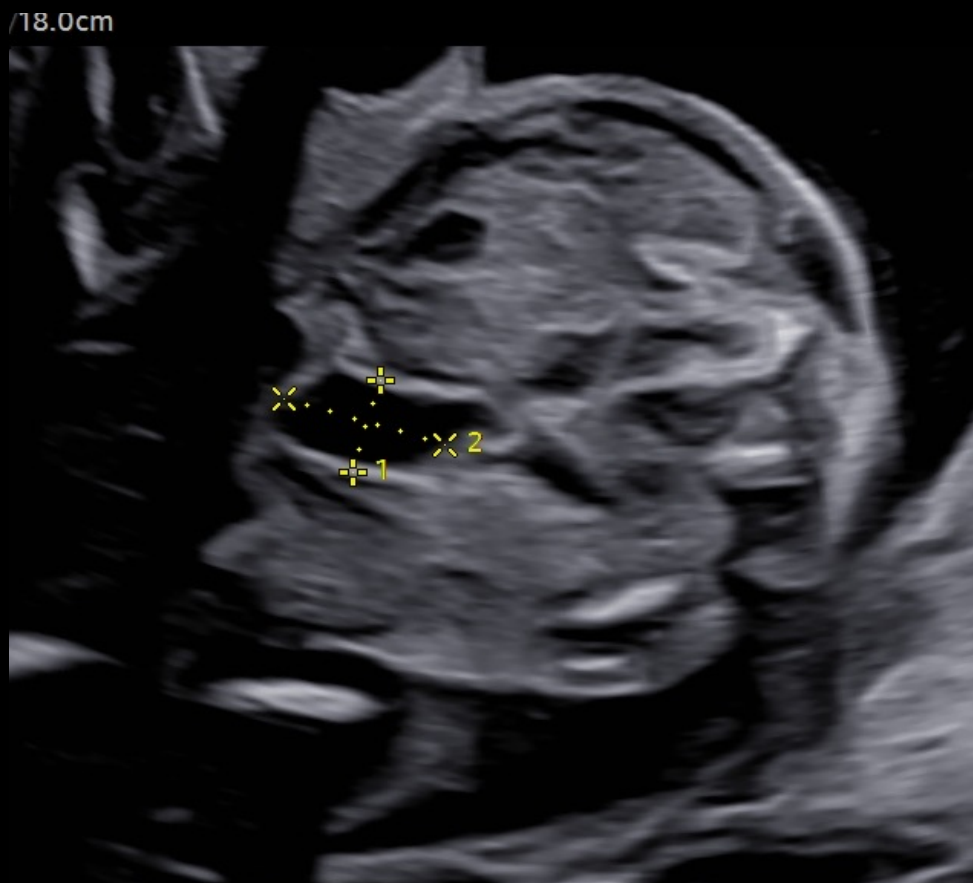


Meconium pseudocyst



Calcifications

Duplication cyst



Duplication cyst



Duplication cyst



Duplication cyst

- Anywhere in GI tract
- Associated anomalies in 1/3
- Traditionally elongated or spheric
- Complications :
 - Obstruction if colonic
 - Polyhydramnios
 - Ascites
 - Intracystic hemorrhage

Third trimester : skeletal

- Skeletal dysplasia 56.2 %
- Talipes 37.5 %
- Limb reduction 6.2 %

Skeletal dysplasia

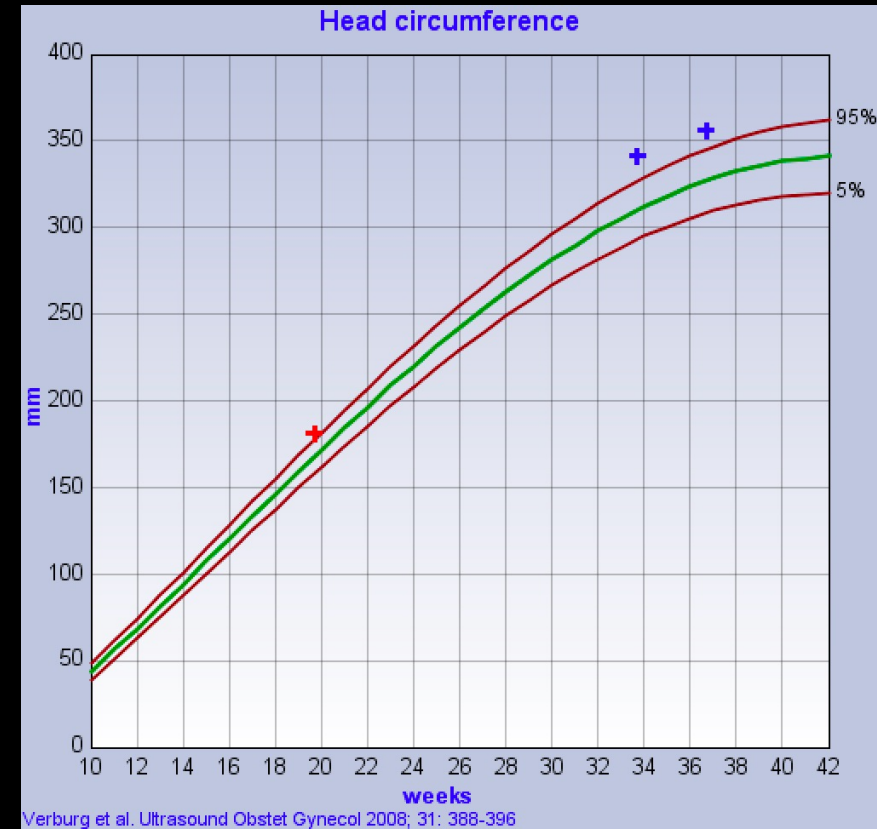
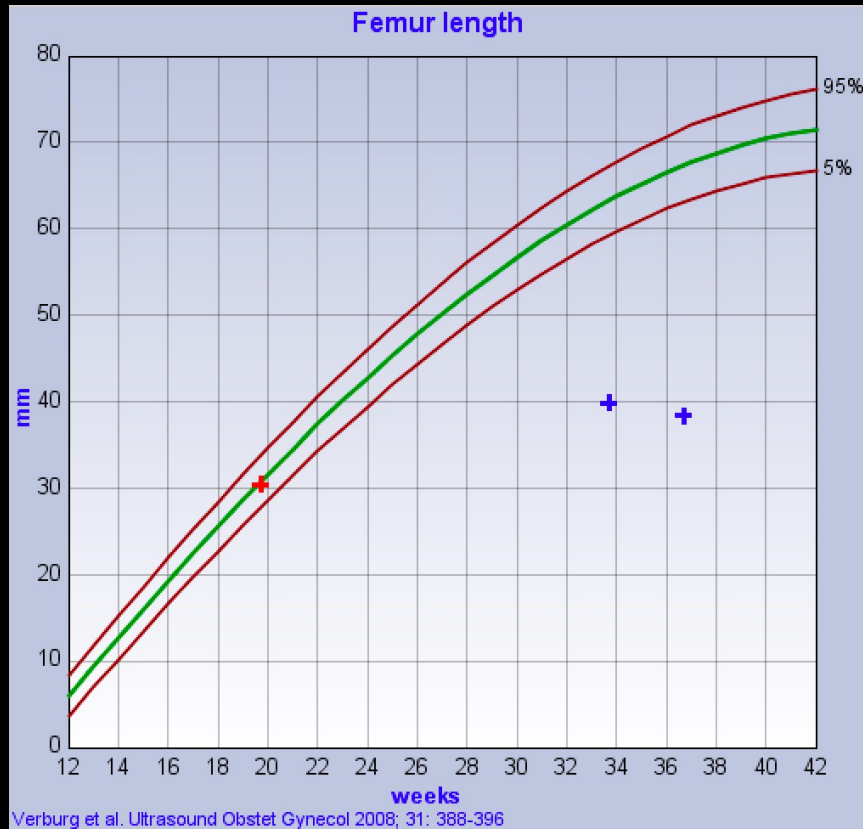


Femur length
19 weeks

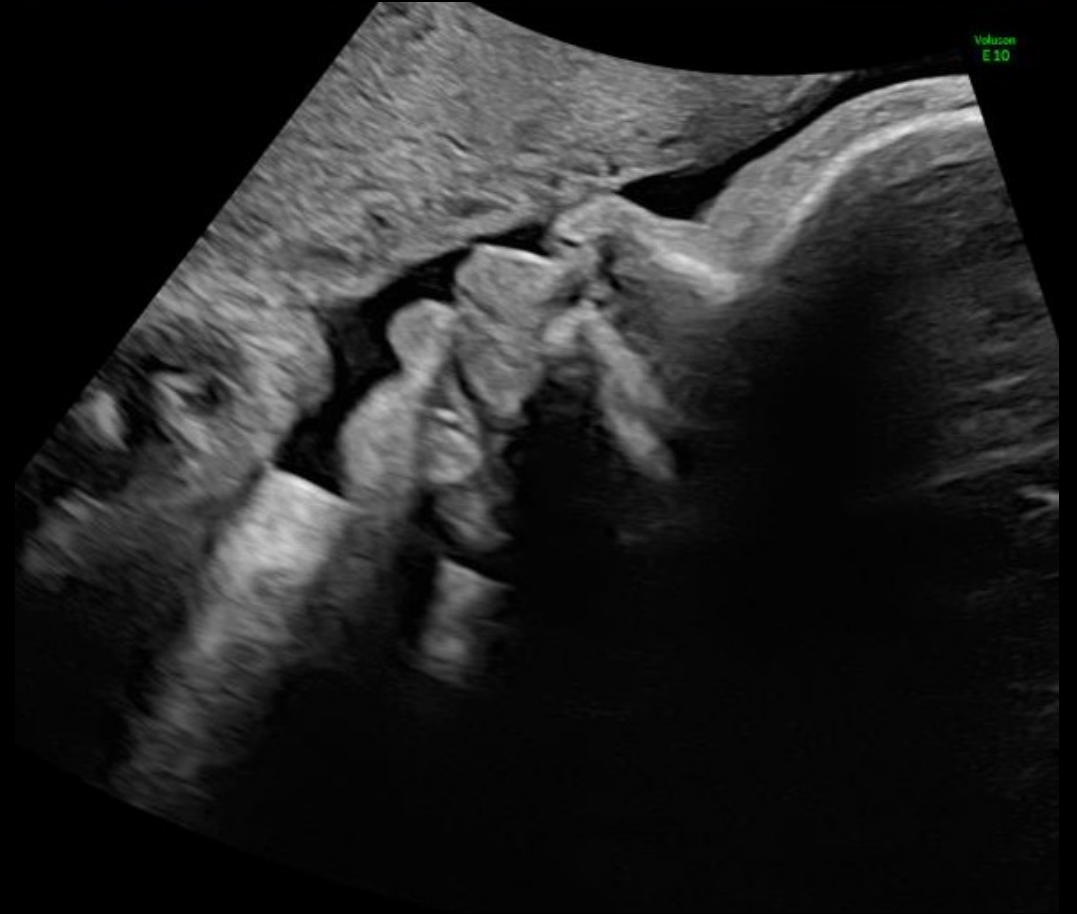


Profile
19 weeks

Skeletal dysplasia



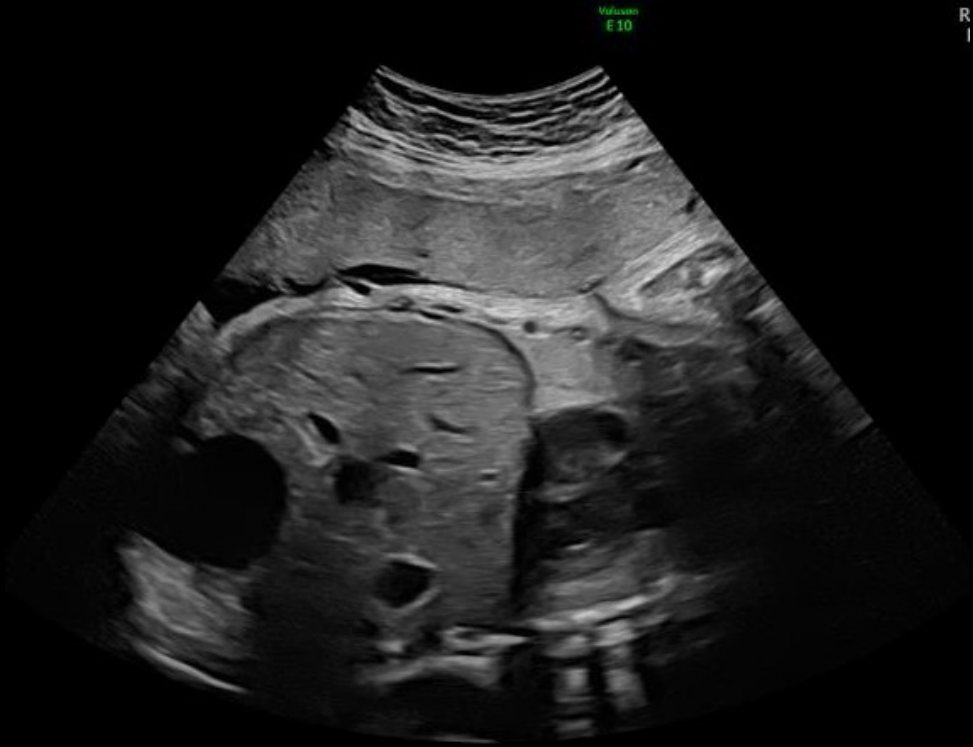
Skeletal dysplasia



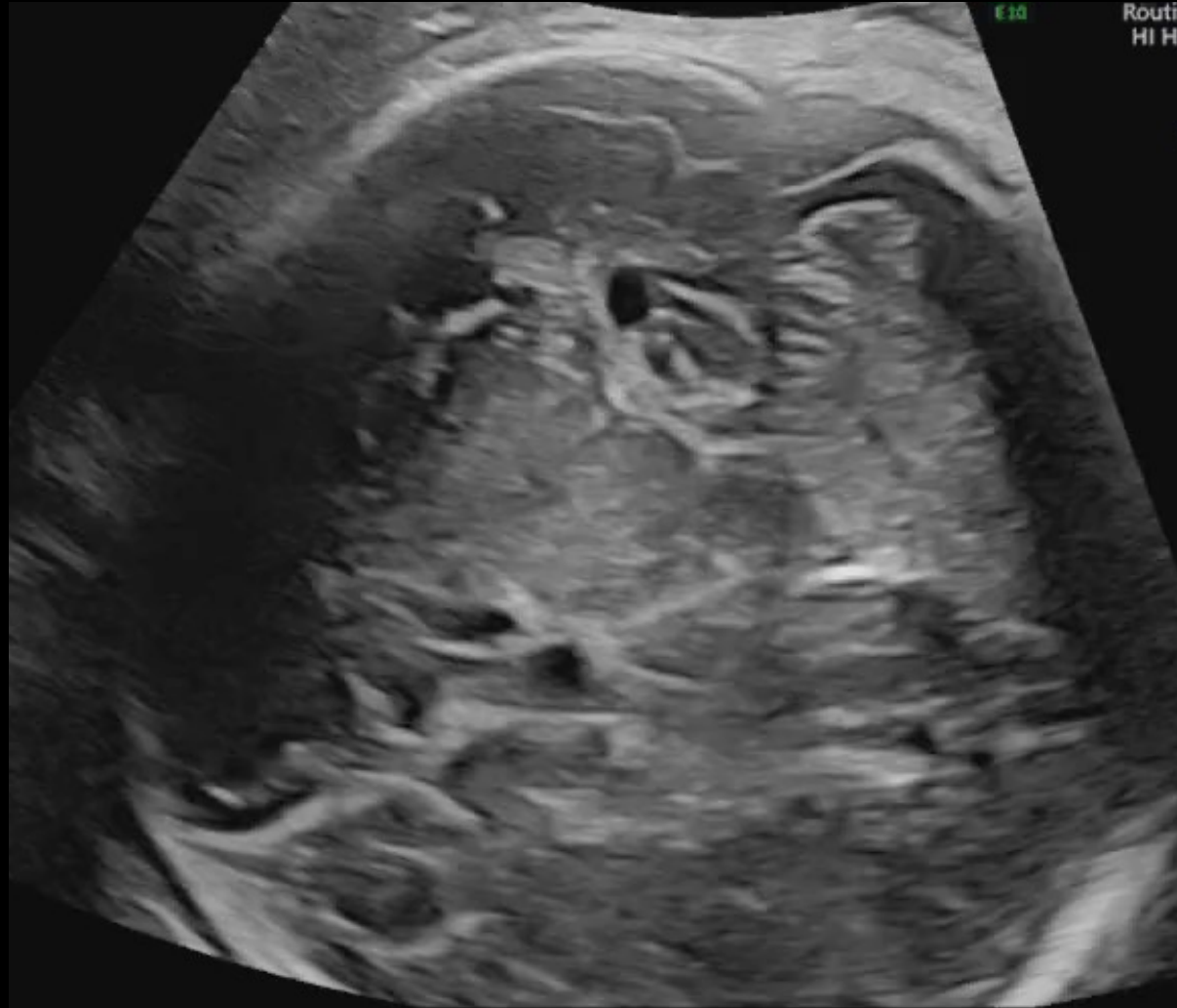
Skeletal dysplasia



Skeletal dysplasia

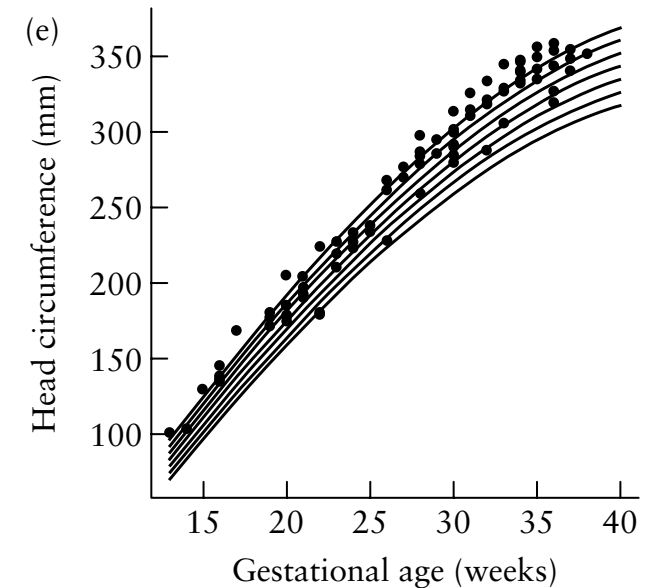
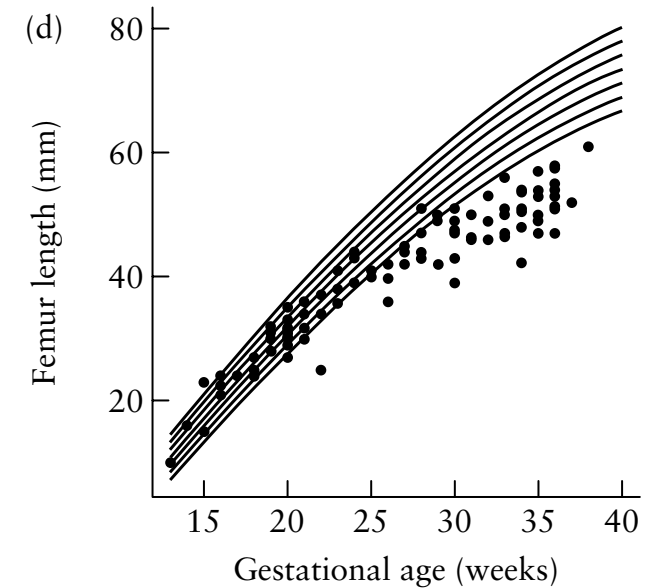


Skeletal dysplasia



Skeletal dysplasia

- Third trimester : non-lethal forms
- Short femur +/- other signs
- Achondroplasia
 - 3rd trimester diagnosis
 - Pattern of long bone growth chart
- Type II collagenopathies (COL2A1)



Merci

