

# 2025 SDMS Annual Conference

## Non-Fetal Findings in Maternal Fetal Medicine

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## Objectives

Ultrasound Findings

Pregnancy Management

Imaging methods/ etc.

Differential Diagnoses



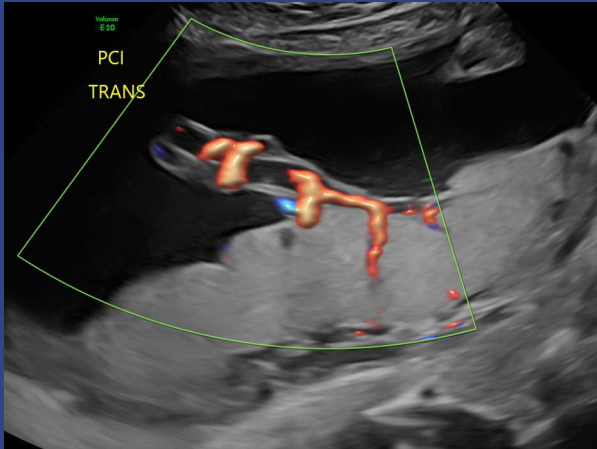
3

## Umbilical Cord



4

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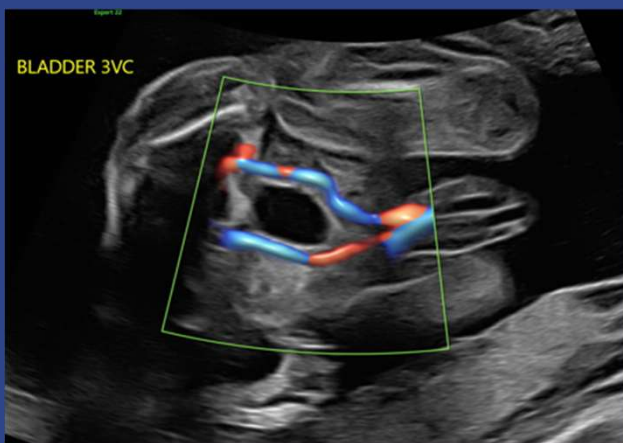
Placental Cord Insert



Abdominal Cord Insert

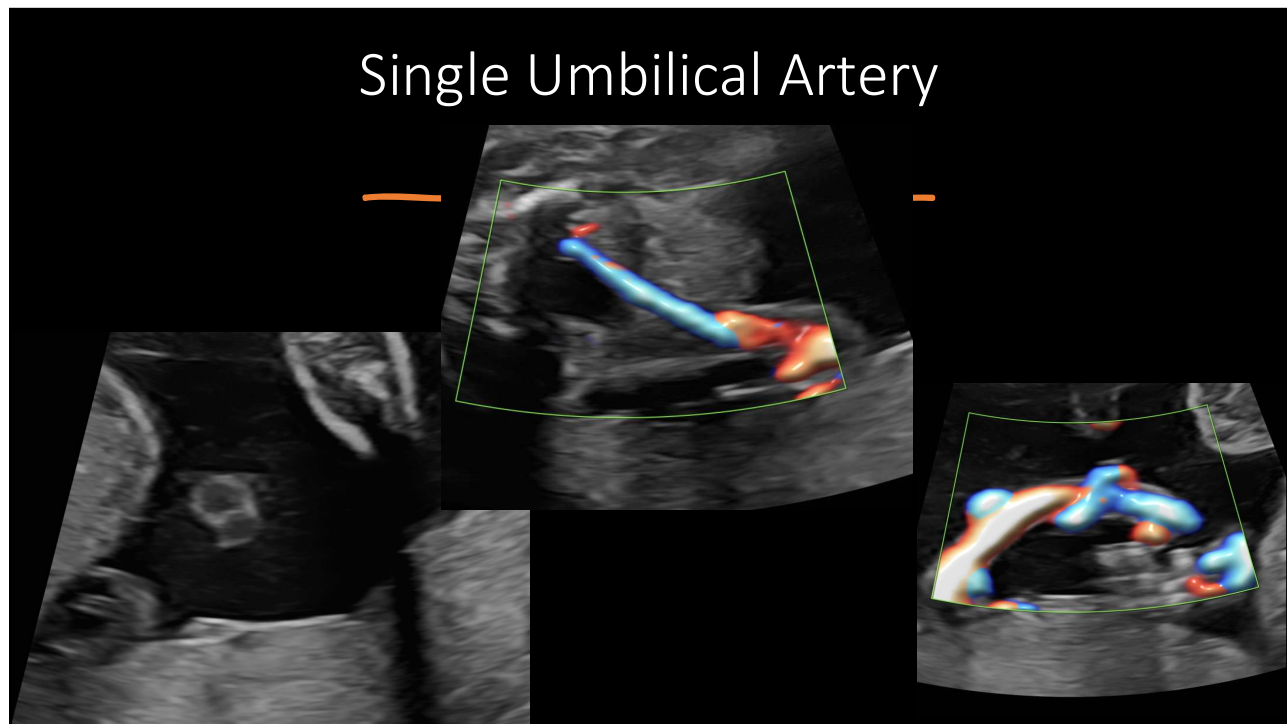
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## 3 Vessel Cord

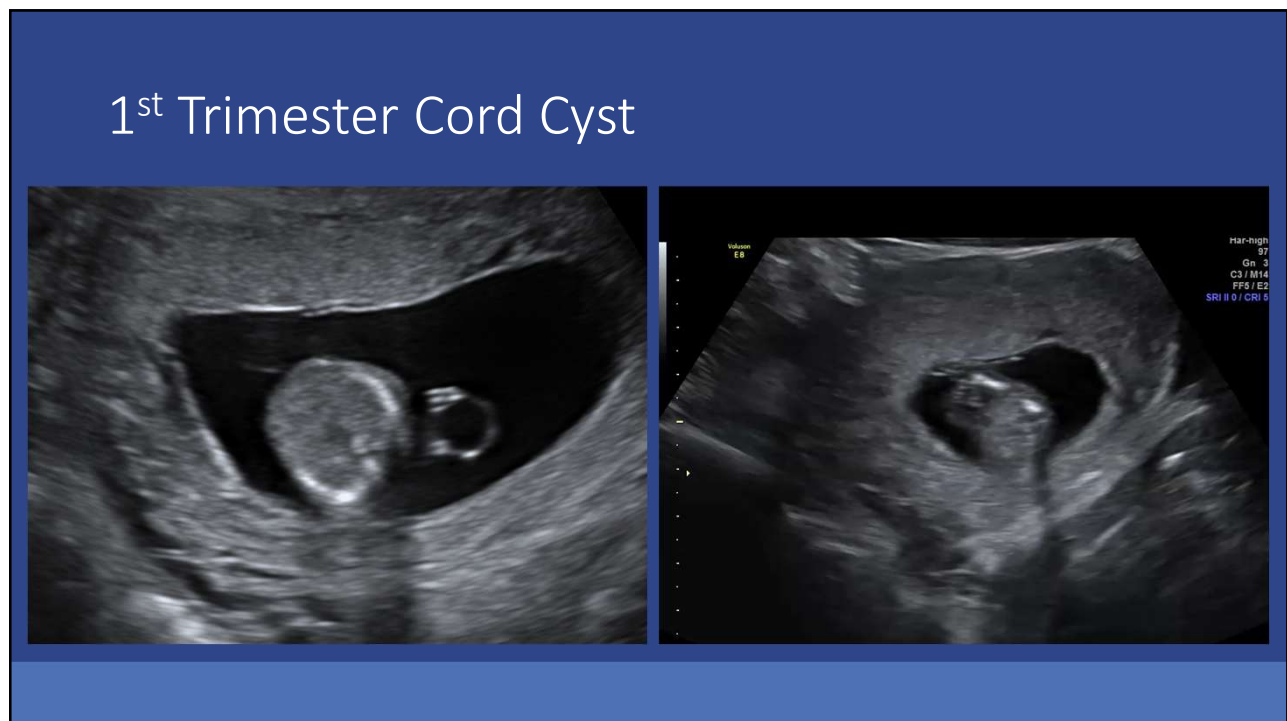


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## Hypocoiled Cord

- Umbilical coiling index
- Protocols for F/U
  - None
  - Growth
  - Antenatal testing
  - Delivery timing 39 weeks unless FGR is present



de Laat MW, Franx A, Bots ML, Visser GH, Nikkels PG.  
Umbilical coiling index in normal and complicated  
pregnancies. *Obstet Gynecol.* 2006 May;107(5):1049-55. doi:  
10.1097/01.AOG.0000209197.84185.15. PMID: 16648410.

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## Hypocoiled Cord



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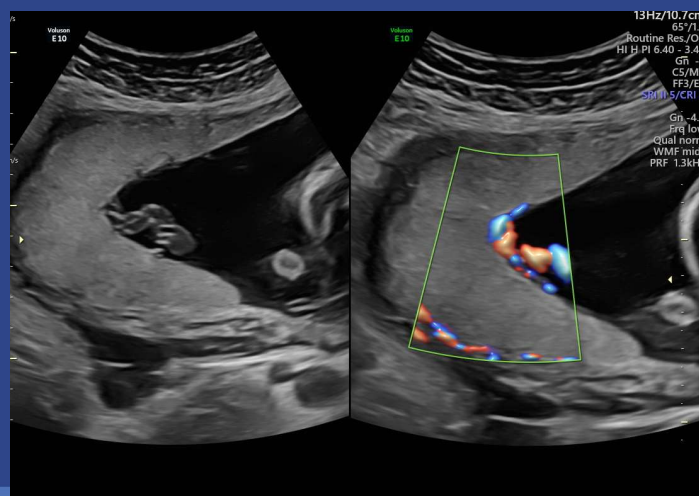
## Hypocoiled Cord



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## Placental Cord Insertion

Normal

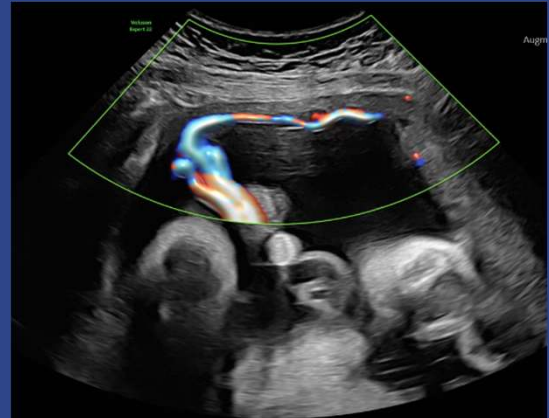
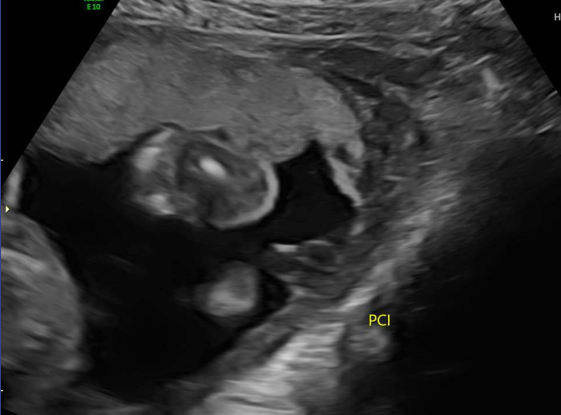


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## Placental Cord Insertion

Velamentous



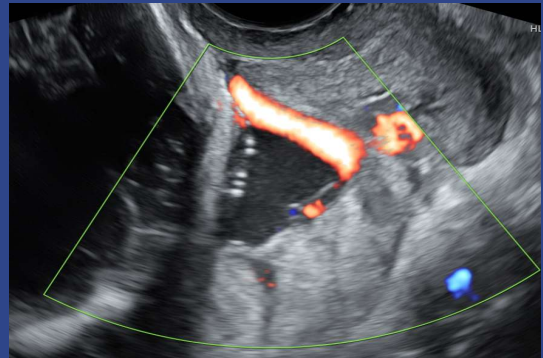
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## Vasa Previa

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## Vasa Previa

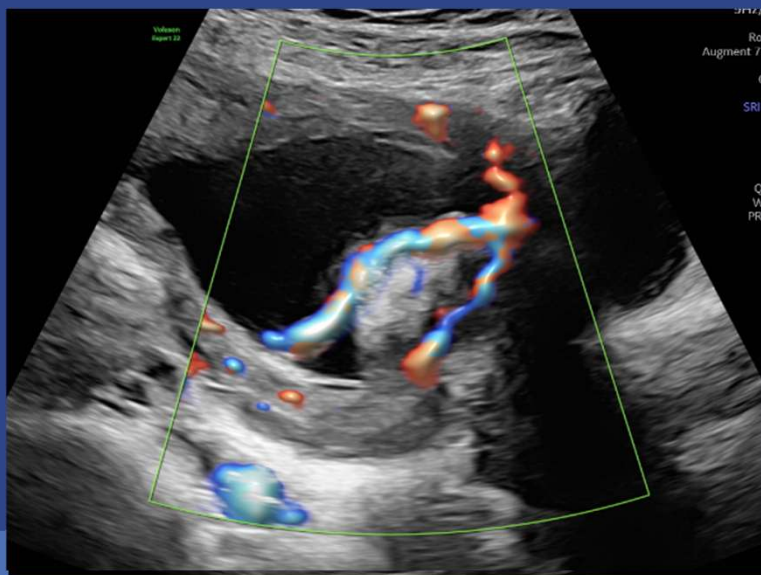


Incidence: 1 in 1,200 to 1-2,500 births

Oyelese Y, Javitsani A, Shamshiriz AA. Vasa Previa. Obstet Gynecol. 2023 Sep 1;142(3):503-518. doi: 10.1097/AOG.0000000000005287. Epub 2023 Aug 3. PMID: 37590981; PMCID: PMC10424826.

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## Vasa Previa Case



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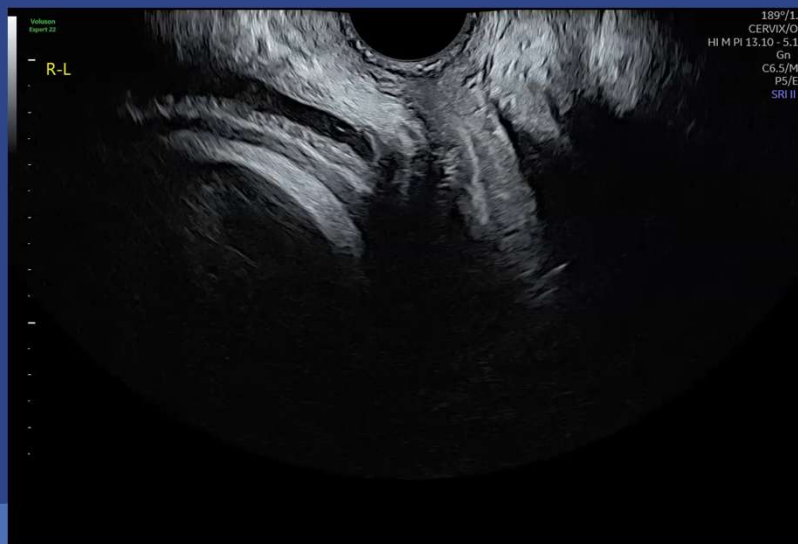
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## Vasa Previa Case



17

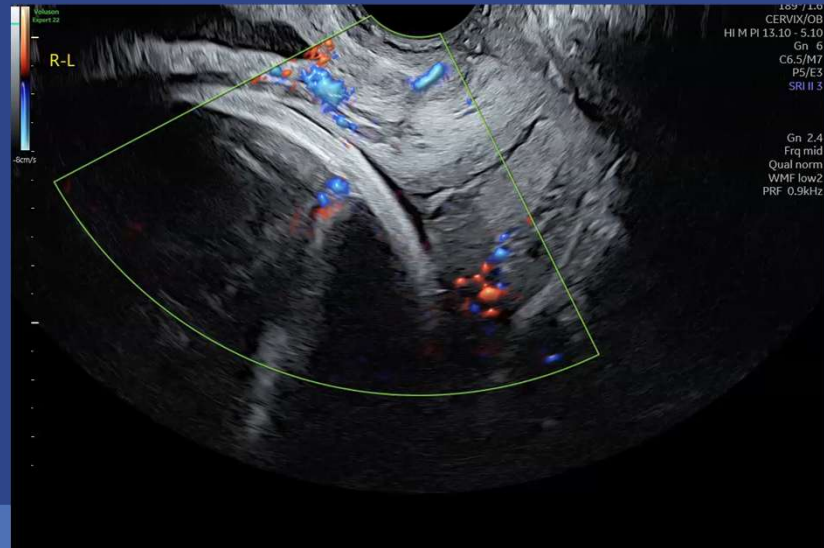
## Vasa Previa Case



18

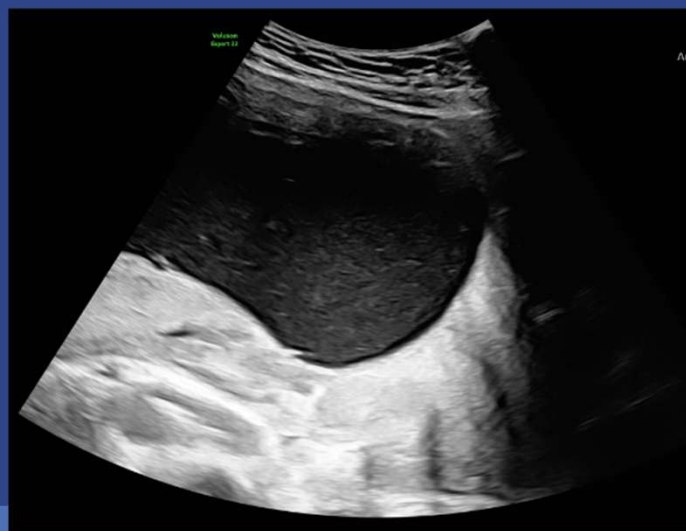
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## Vasa Previa Case



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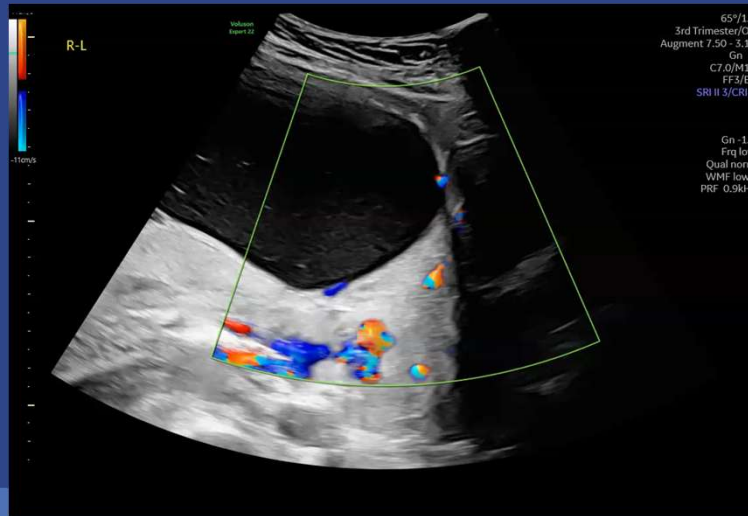
## Vasa Previa Case 2



20

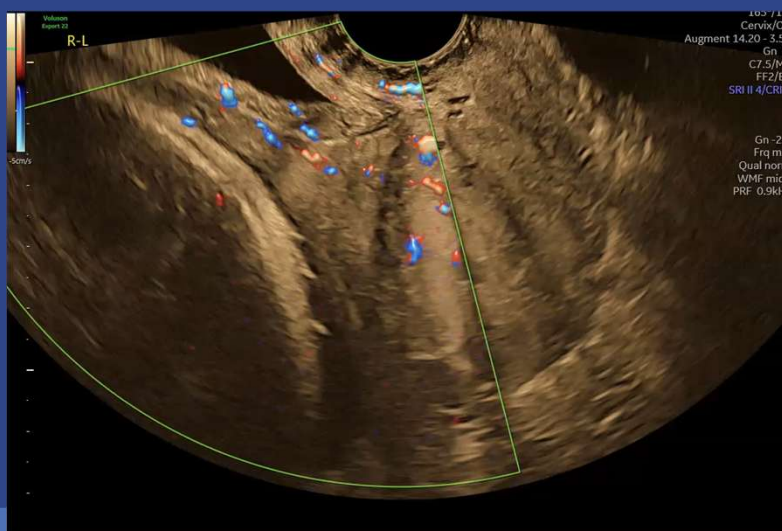
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## Vasa Previa Case 2



21

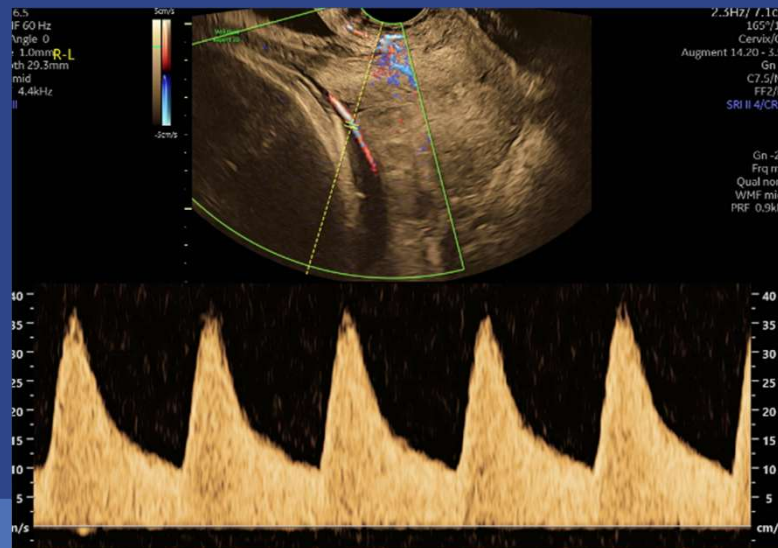
## Vasa Previa Case 2



22

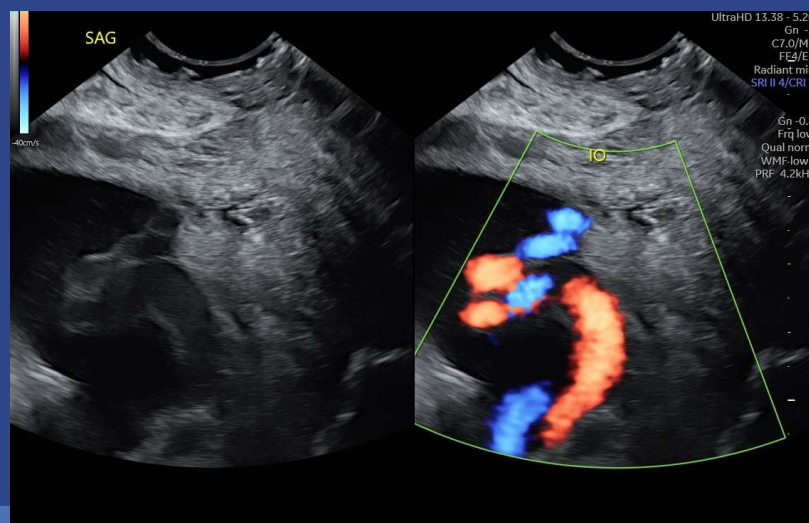
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## Vasa Previa Case 2



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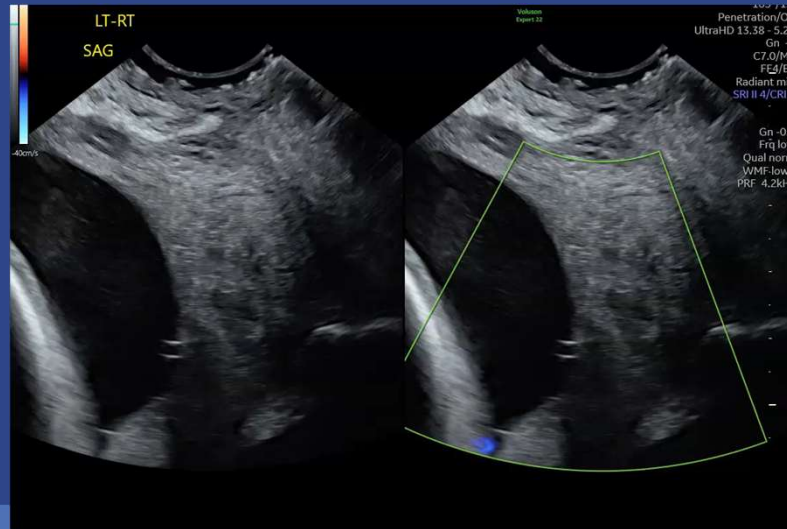
## PCI Case



24

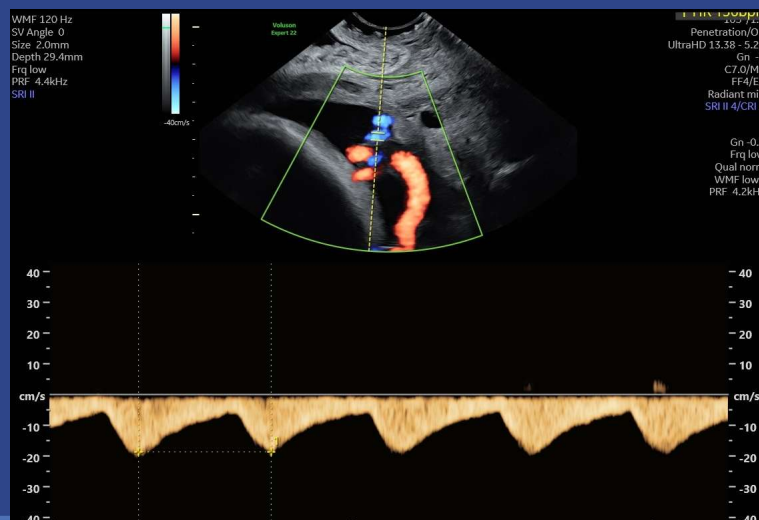
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## PCI Case



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## PCI Case



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## Delivery

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- 34-37 weeks
- C-section



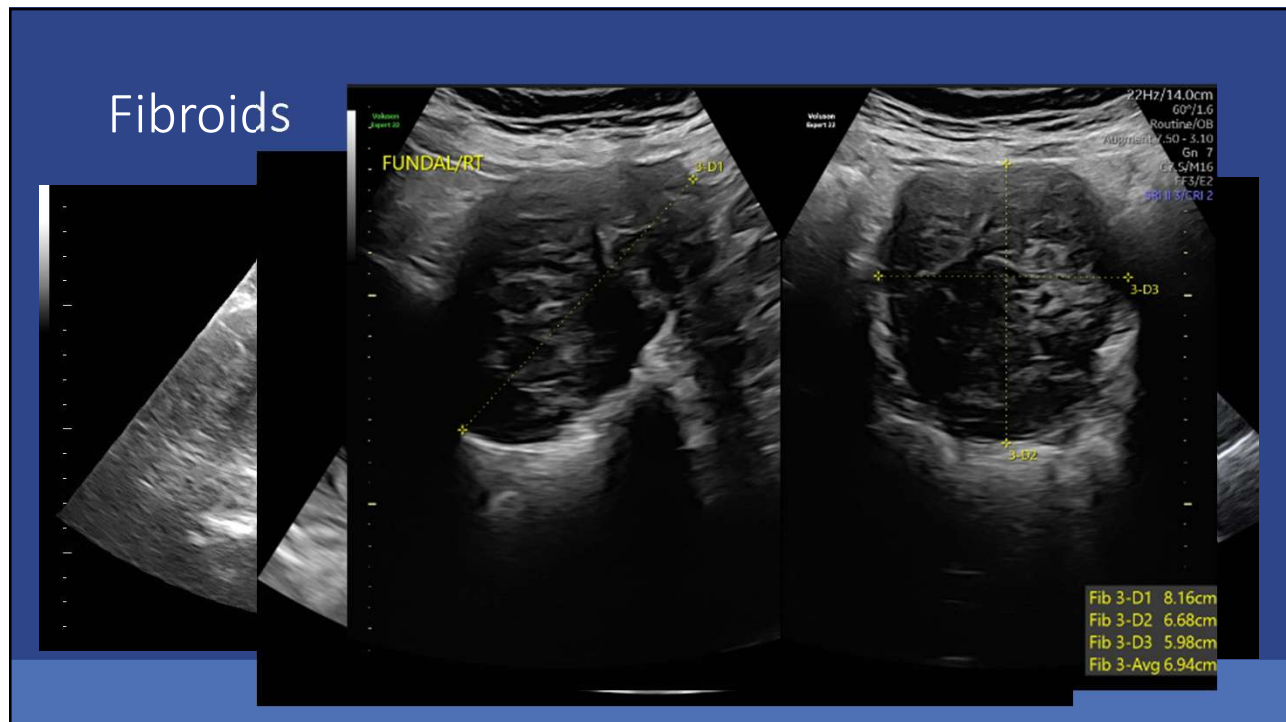
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## Uterus

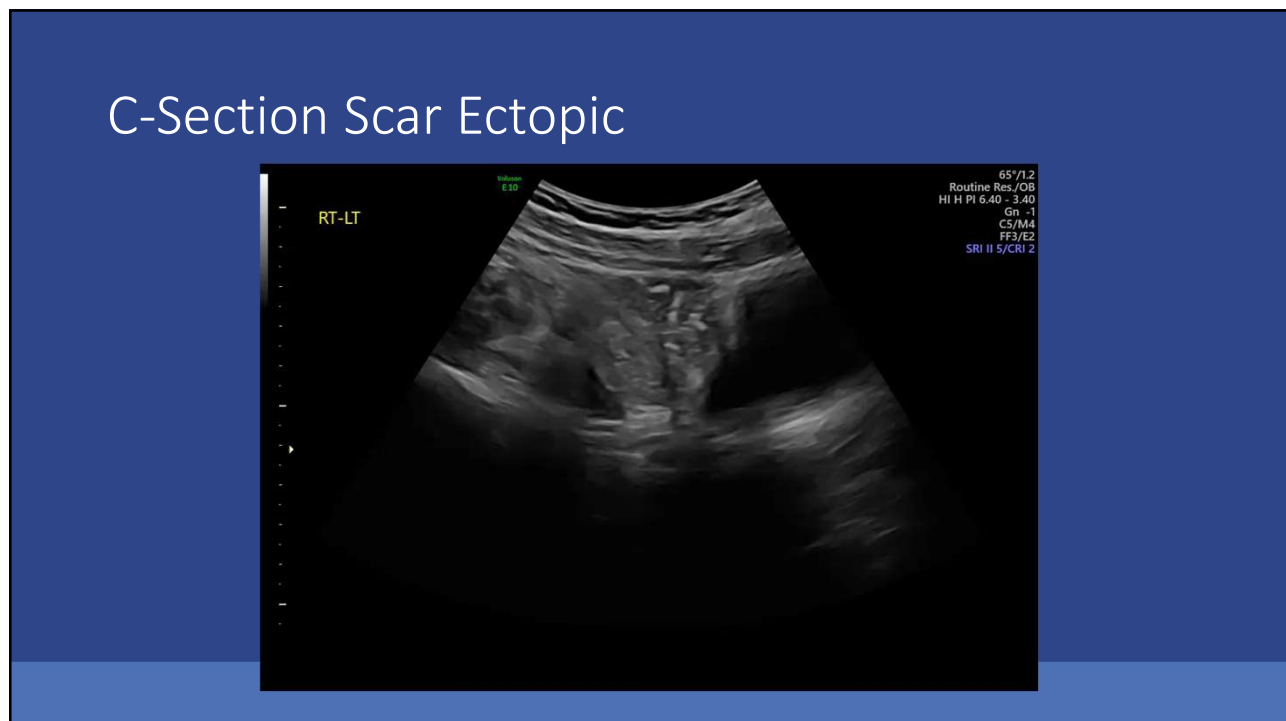


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## C-Section Scar Ectopic



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## Cervix

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Transabdominal- 20 weeks

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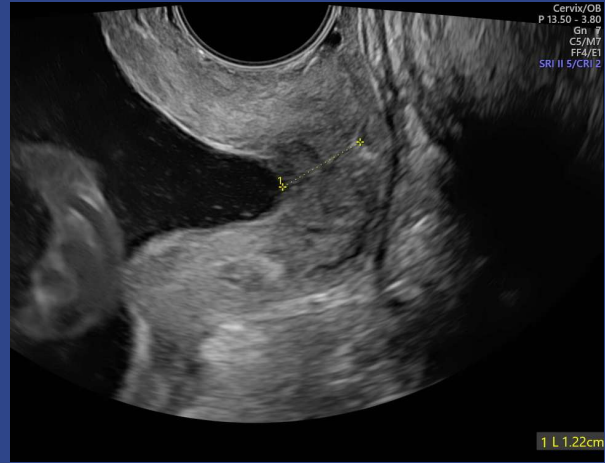
Transvaginal- 20 weeks

34

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Transabdominal to screen



Transvaginal to diagnose

35



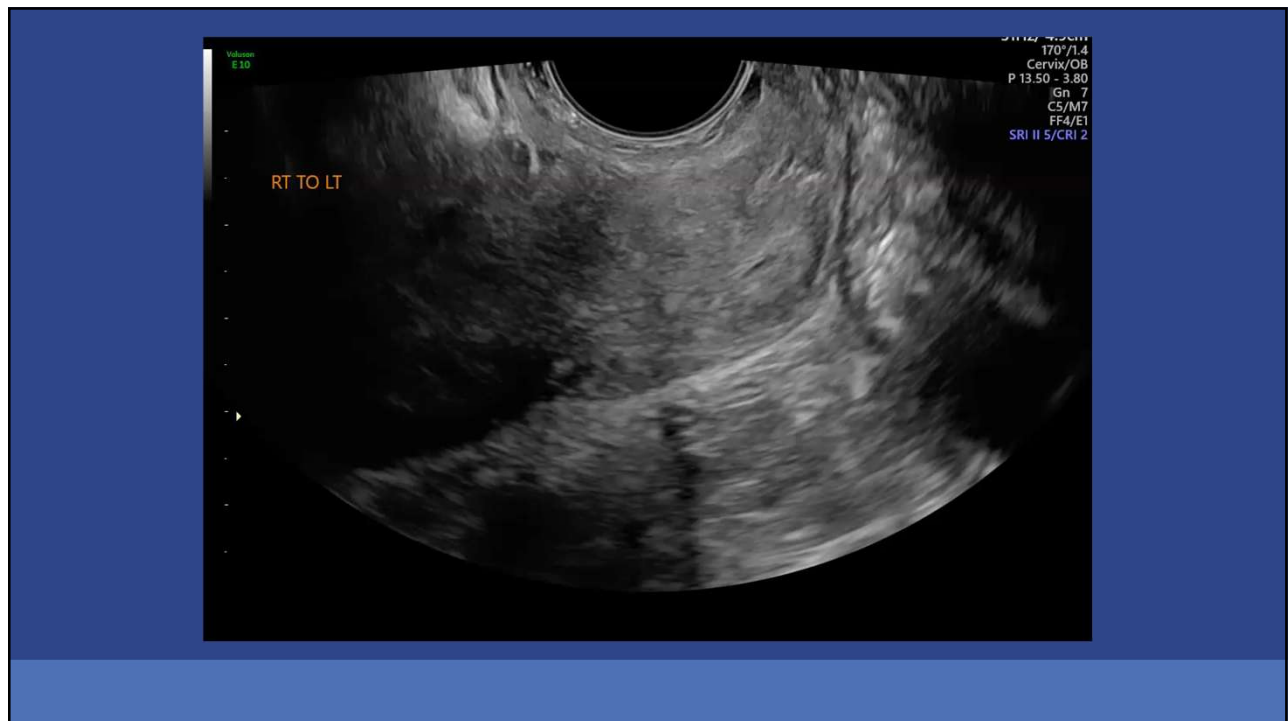
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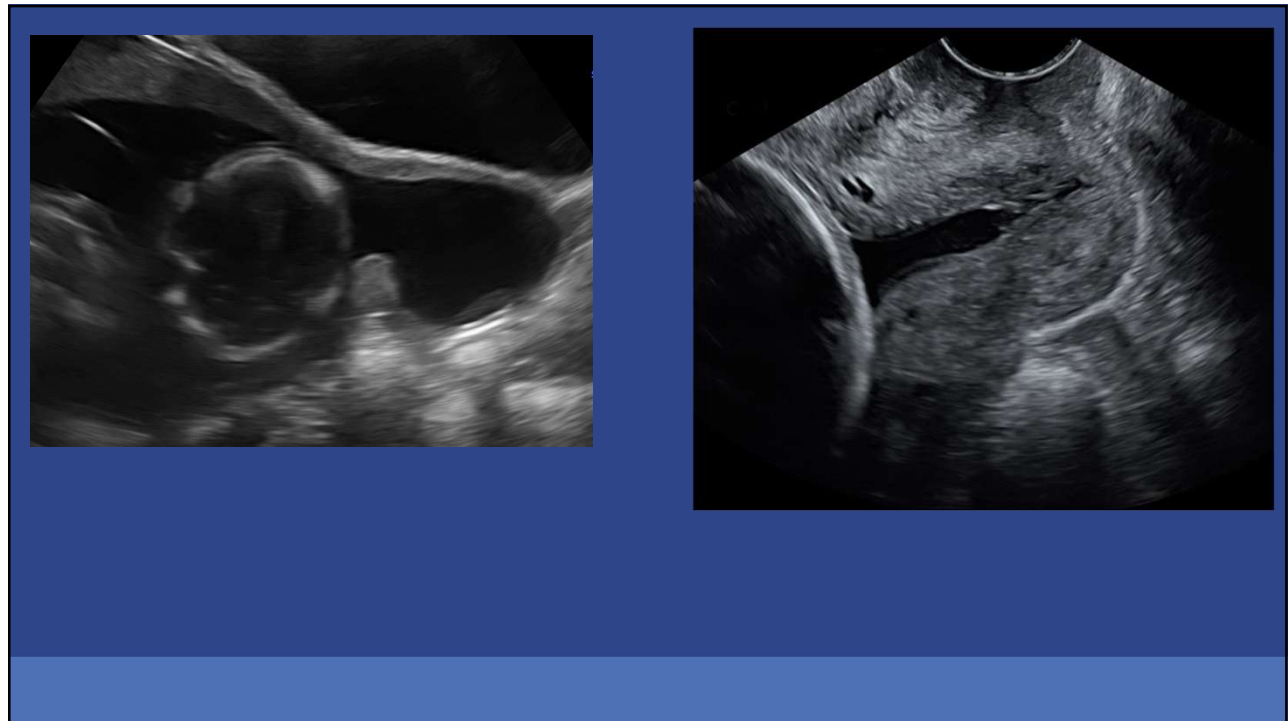


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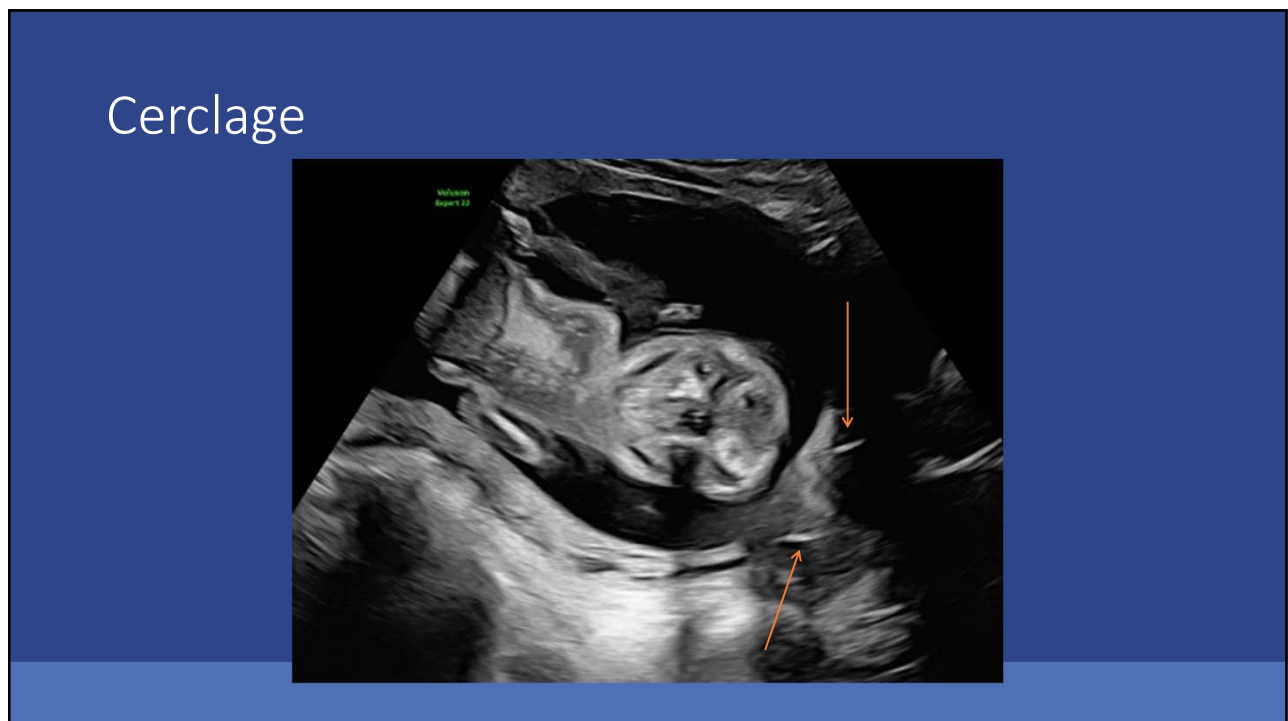


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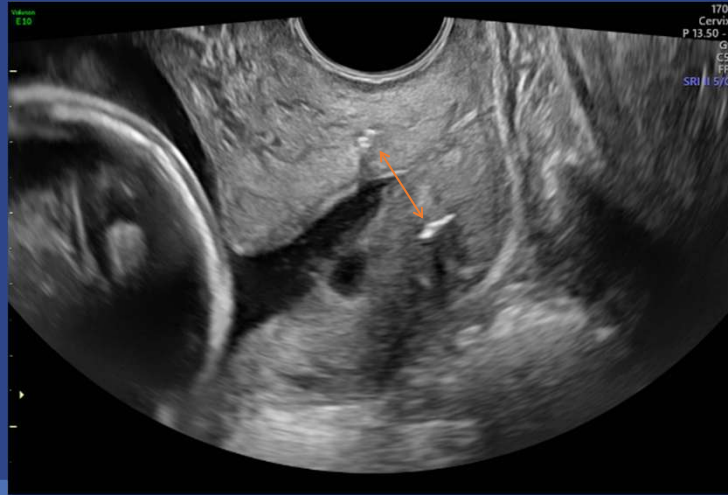
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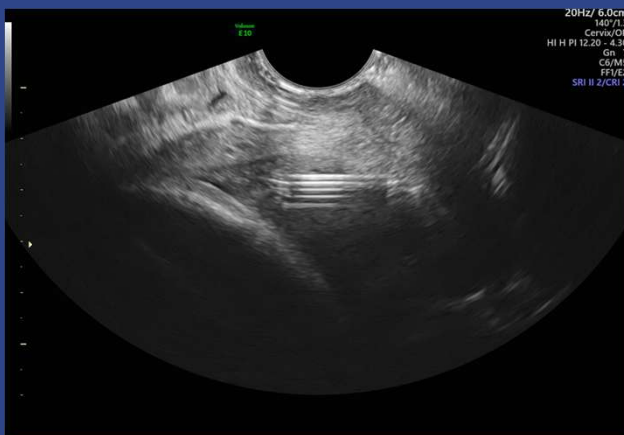
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## Cerclage



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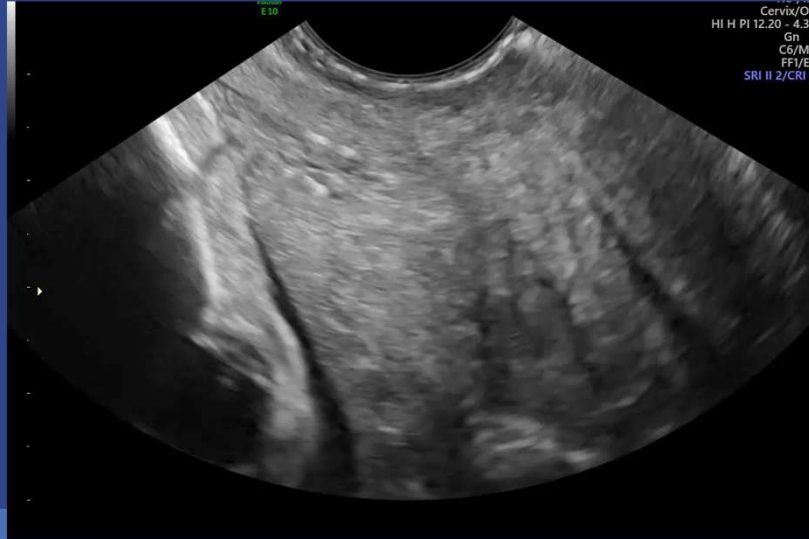
## IUD



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IUD



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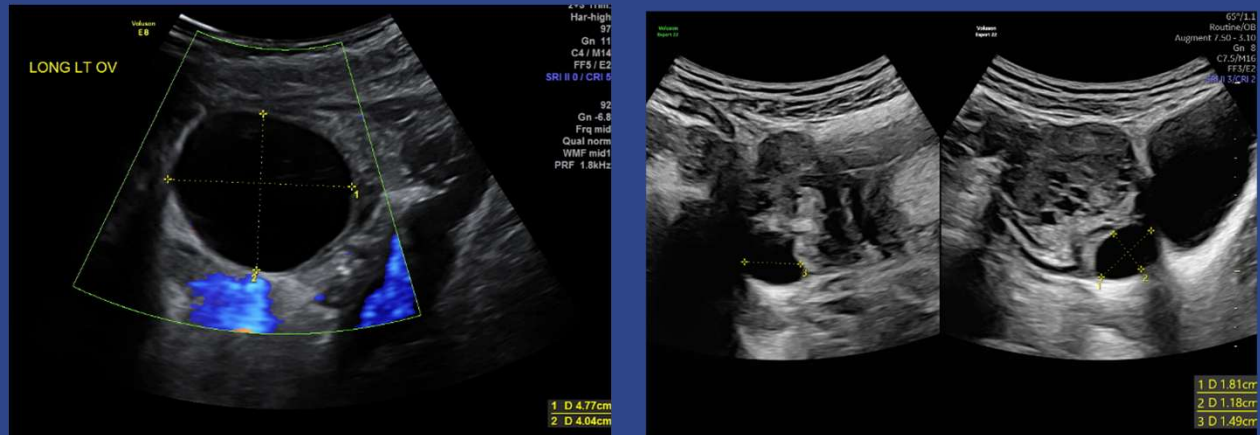
Ovaries



44

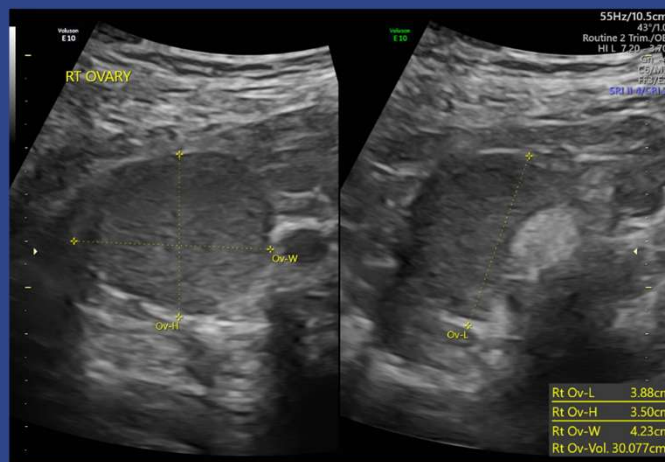
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## Simple Cysts



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## Hemorrhagic Cyst

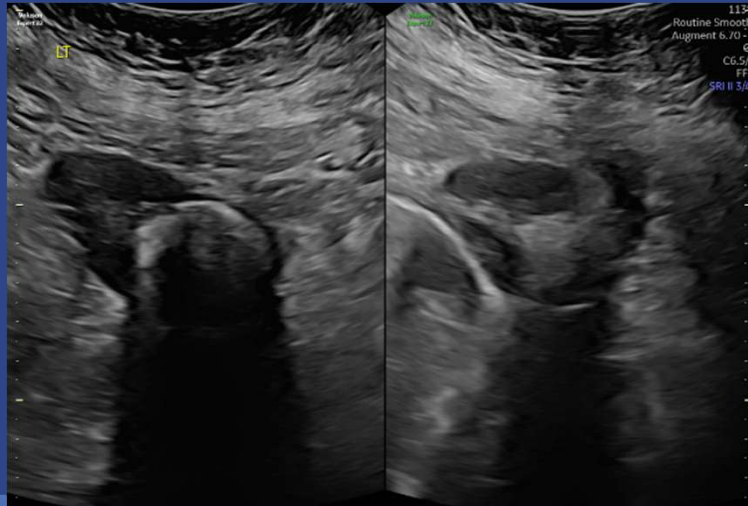


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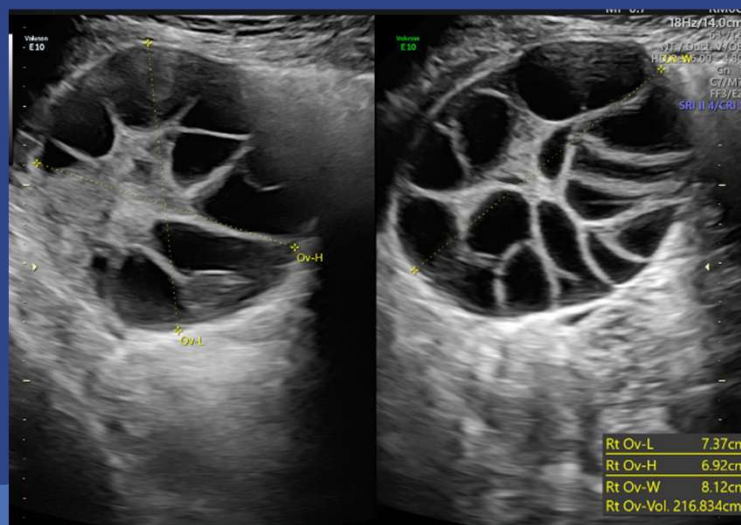
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## Dermoid



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## Theca Luteal Cysts



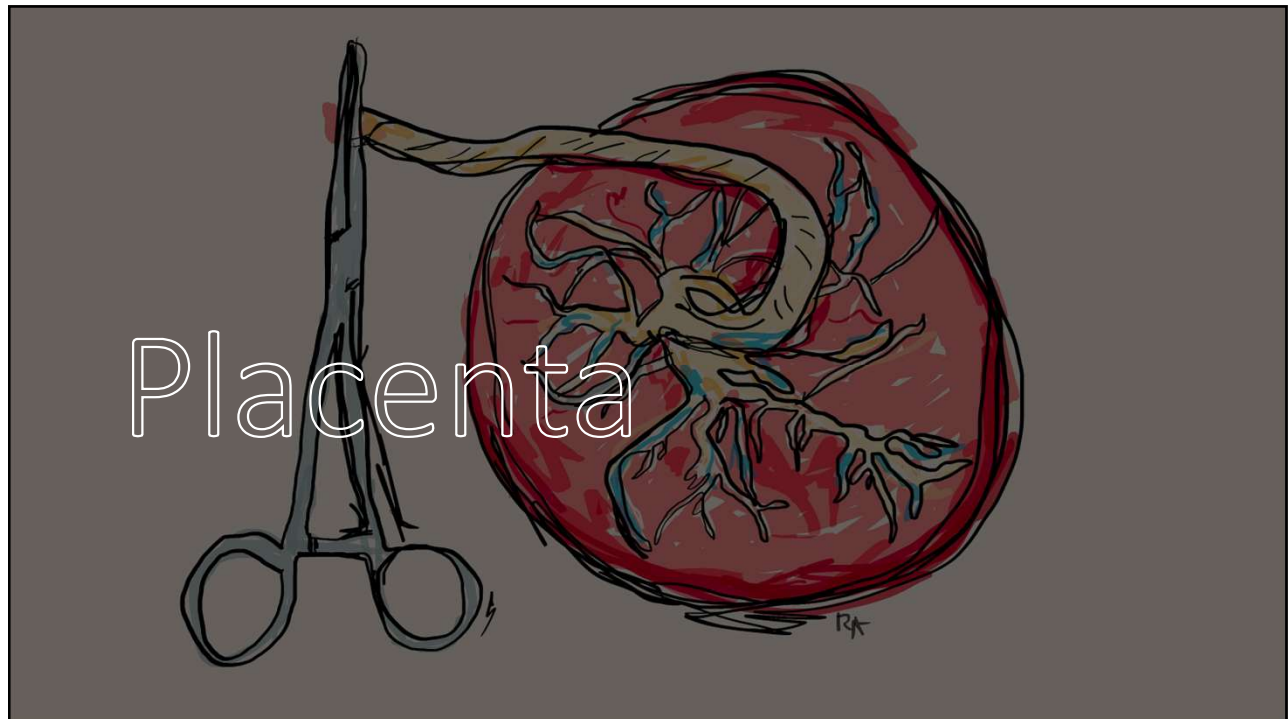
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## Theca Luteal Cysts



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## Structure

### A) Fetal surface

- Chorionic/smooth
- Umbilical cord and vessels

### B) Maternal surface

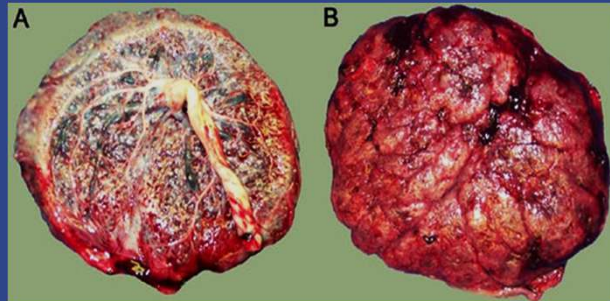
- Decidual/rough
- Cotyledons

- Grows throughout pregnancy

- Average term placenta

- 20-22 cm- diameter
- 2-2.5 cm- thickness
- 500 gm- weight

- No longer “grade” by ultrasound

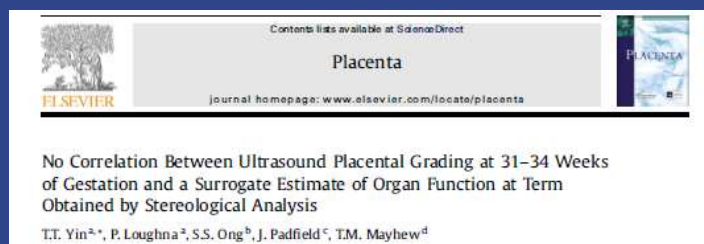


[https://www.bmg.com/images/search?view=detail&id=443378&id=70544C96C871291390232CE57&id=OP.uucVufRbZVNWVFP9Hghz0R&mediaurl=http://334x179x276placenta.files.wordpress.com/2011/02/0929placenta\\_fm.jpg&exph=237&expw=537&q=Maternal+Side+of+Placenta&selectedindex=1&ajaxhist=0&vt=0&rm=0.1.3.6](https://www.bmg.com/images/search?view=detail&id=443378&id=70544C96C871291390232CE57&id=OP.uucVufRbZVNWVFP9Hghz0R&mediaurl=http://334x179x276placenta.files.wordpress.com/2011/02/0929placenta_fm.jpg&exph=237&expw=537&q=Maternal+Side+of+Placenta&selectedindex=1&ajaxhist=0&vt=0&rm=0.1.3.6)

Yin TT, Loughna P, Ong SS, Padfield J, Mayhew TM. No correlation between ultrasound placental grading at 31-34 weeks of gestation and a surrogate estimate of organ function at term obtained by stereological analysis. *Placenta*. 2009 Aug;30(8):726-30. doi: 10.1016/j.placenta.2009.05.002. Epub 2009 Jun 12. PMID: 19523684.

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## Placental Grading

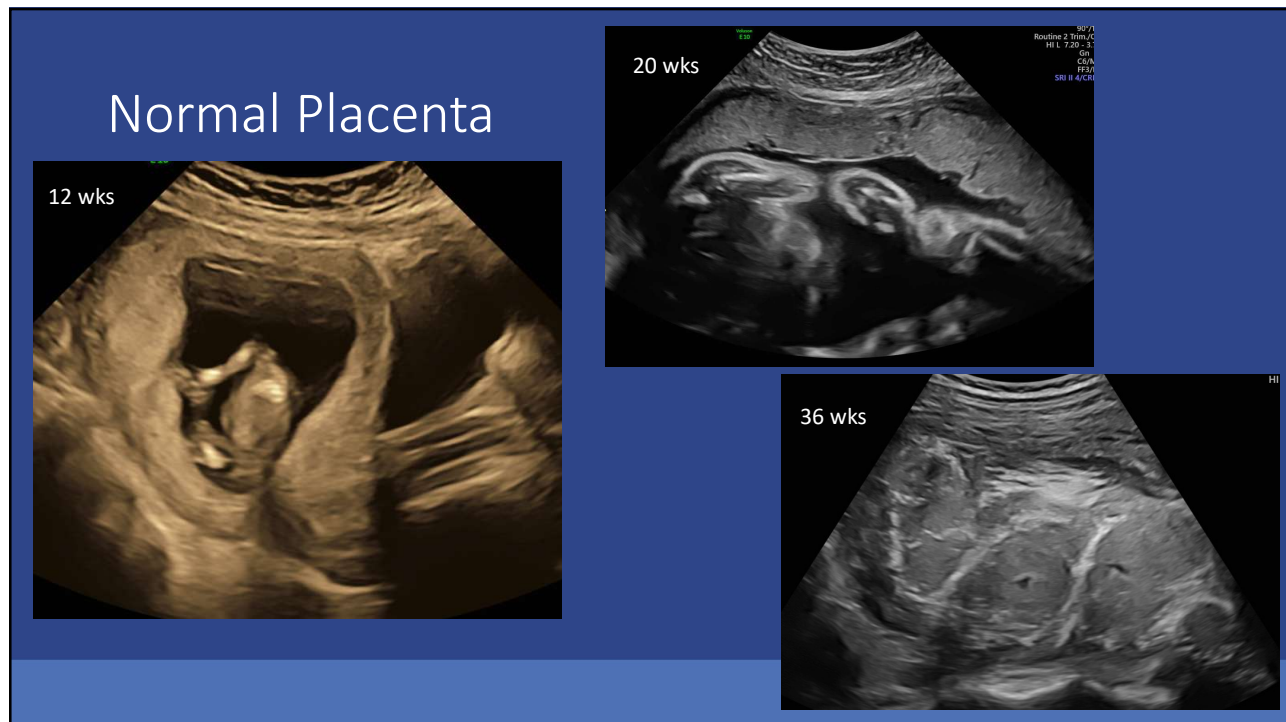


“The early appearance of a high-grade placenta appears not to act as a reliable predictor of pregnancy outcome or pregnancy complications. It seems reasonable to conclude that the use of placental grading as a means of monitoring placental function is, as yet, unproven in general and requires further investigation.”

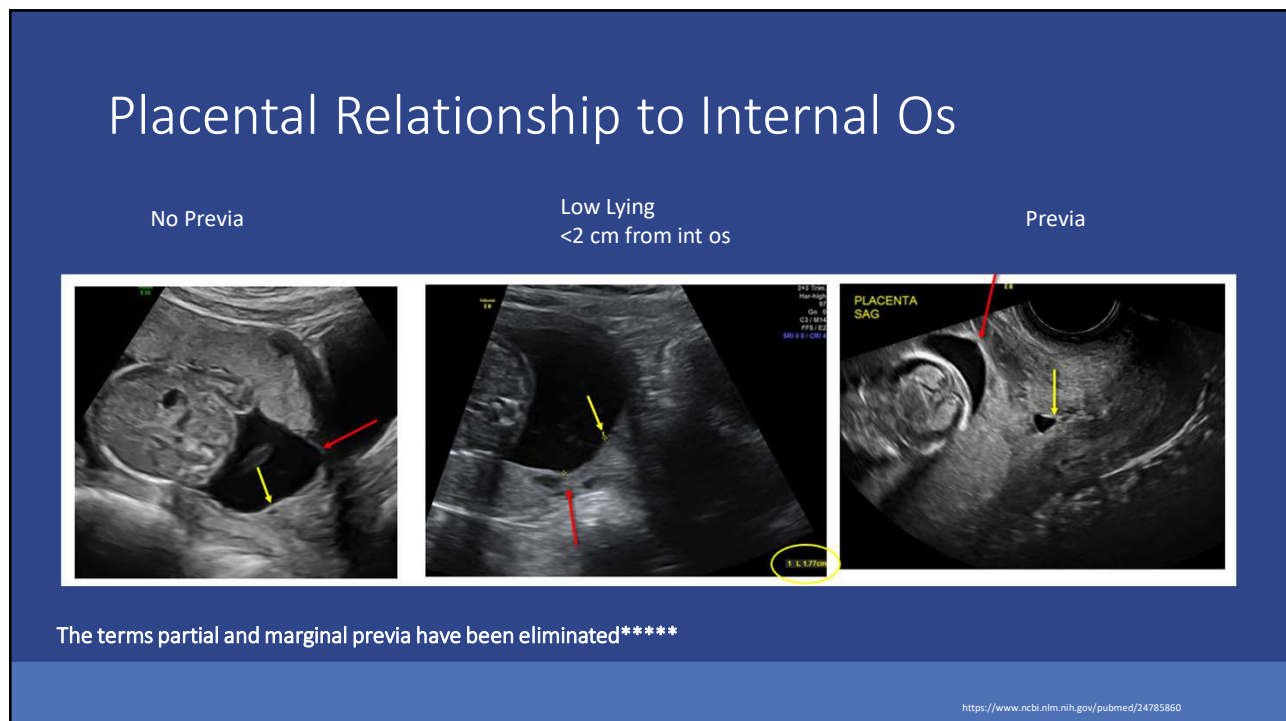
Yin TT, Loughna P, Ong SS, Padfield J, Mayhew TM. No correlation between ultrasound placental grading at 31-34 weeks of gestation and a surrogate estimate of organ function at term obtained by stereological analysis. *Placenta*. 2009 Aug;30(8):726-30. doi: 10.1016/j.placenta.2009.05.002. Epub 2009 Jun 12. PMID: 19523684.

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## Low-lying Placenta



20 weeks

Image by Barbara Trampe BS, RN, RDMS



28 weeks

As the uterus grows, the placenta grows with it and moves with that surface area.

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## Succenturiate Placenta

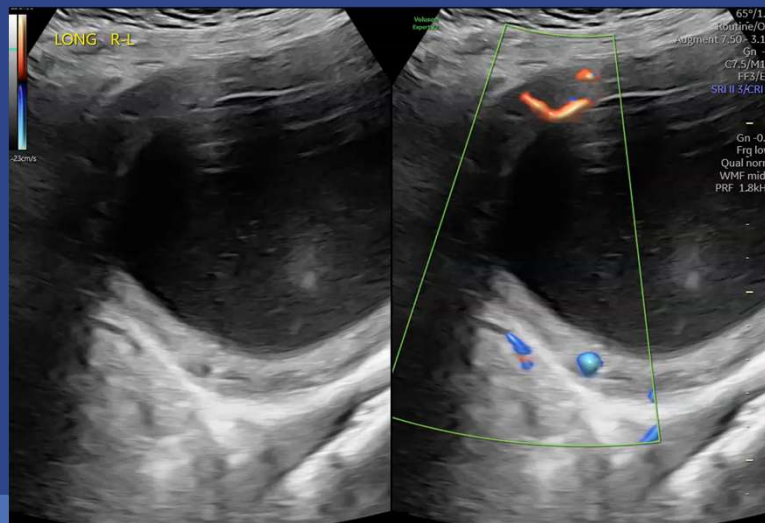


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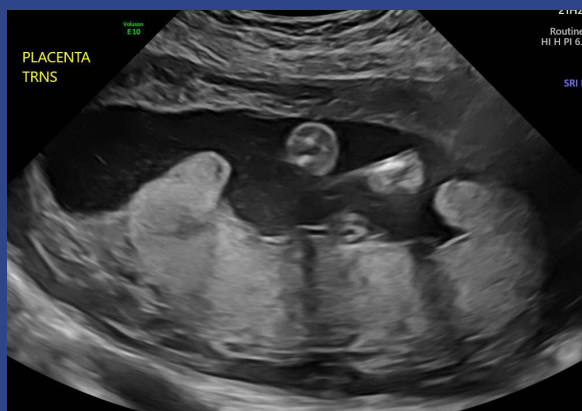
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## Succenturiate Placenta



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## Circumvallate Placenta



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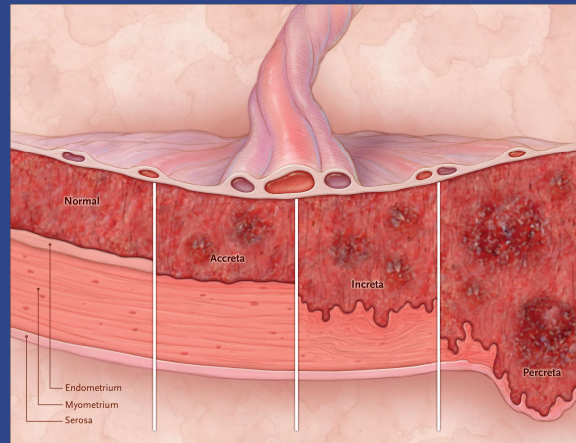
## Circumvallate Placenta



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## Placenta Accreta Spectrum

Accreta  
Increta  
Percreta

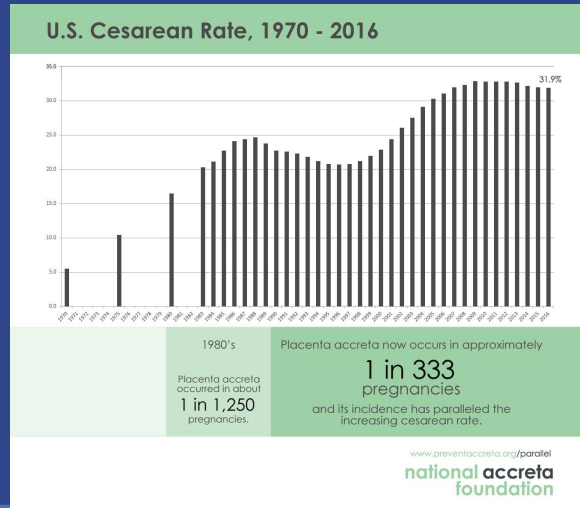


<https://www.nejm.org/doi/full/10.1056/NEJMcp1709324>

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## Incidence



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## Ultrasound Findings

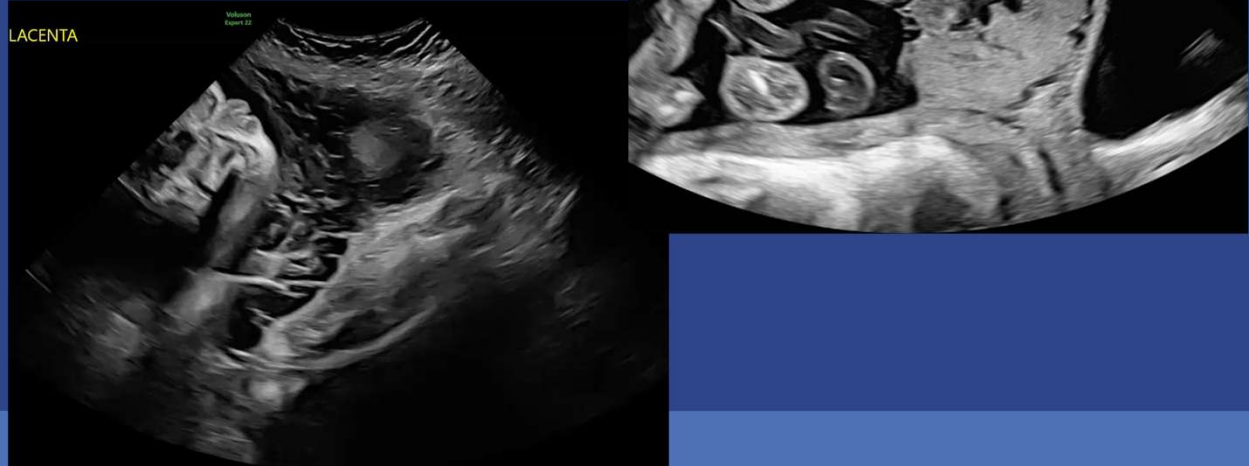
- Placental lacunae
- Loss of clear zone
  - Decidua basalis
- Thin myometrial wall
- Increased vascularity
- Placental bulge into bladder



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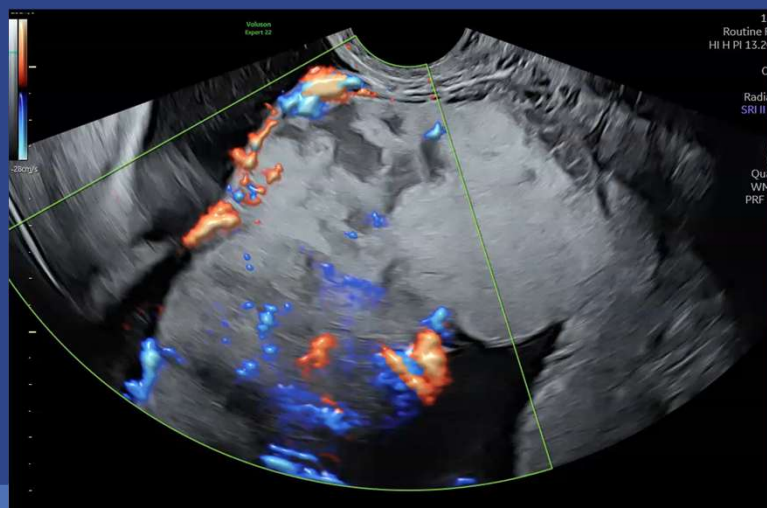
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## Placental Lacunae



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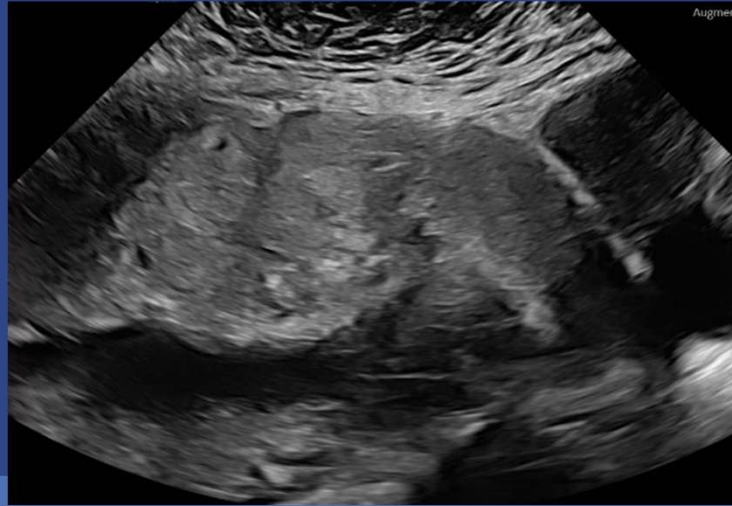
## Increased Vascularity



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## Loss of Clear Zone



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## Loss of Clear Zone

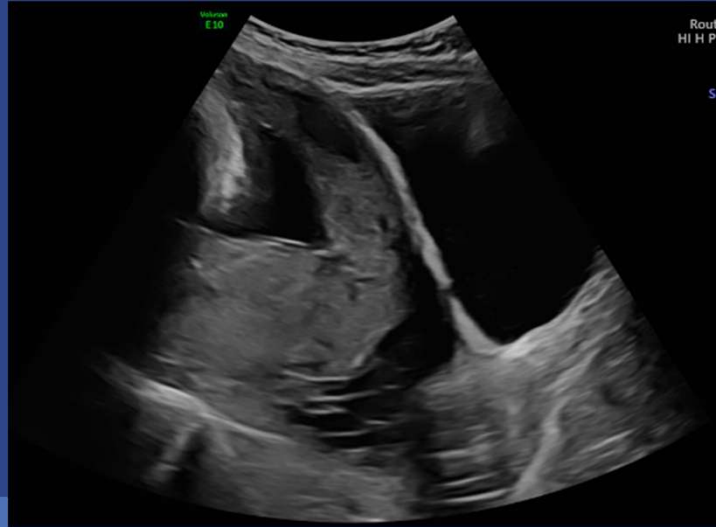


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## Thin Myometrial Wall



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## Placental Bulge into Bladder



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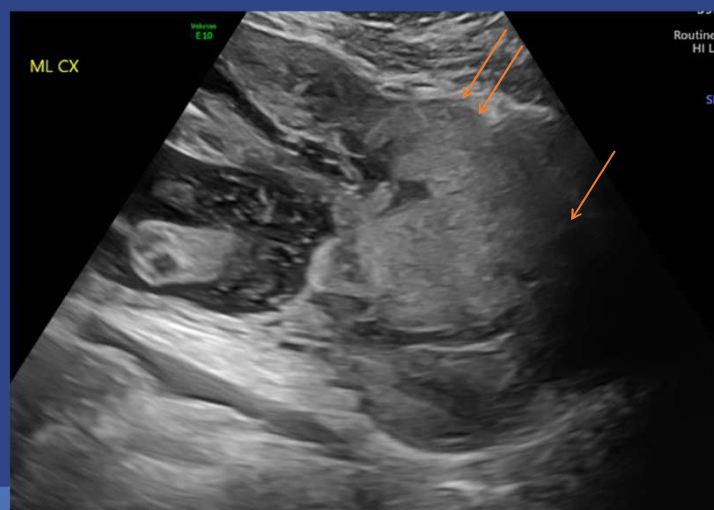
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## Accreta Case



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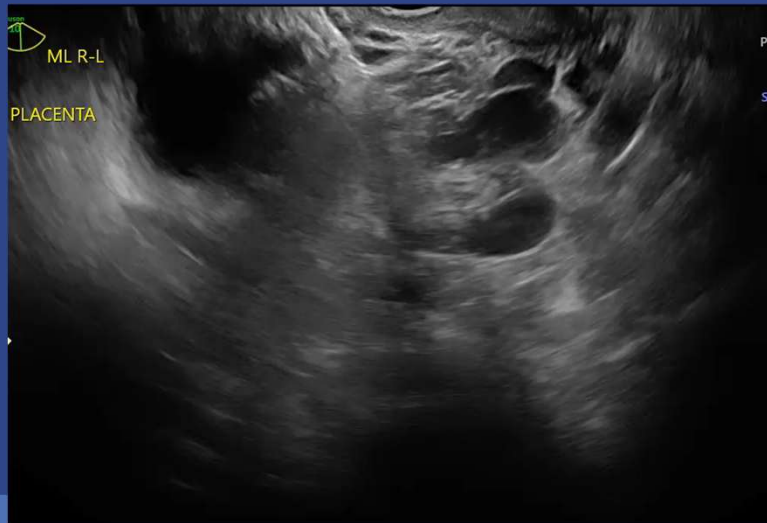
## Accreta Case



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## Accreta Case



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## Accreta Case



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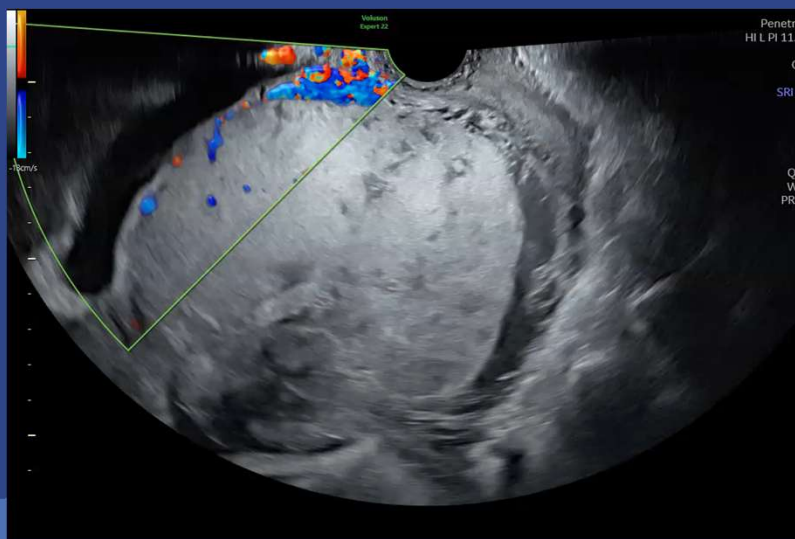
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## Accreta Case



73

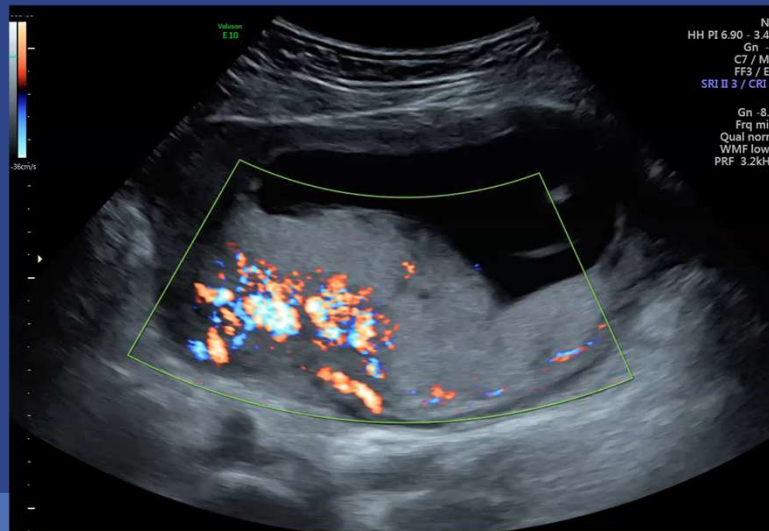
## Accreta Case



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## Placental Lakes



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## Placental Lakes



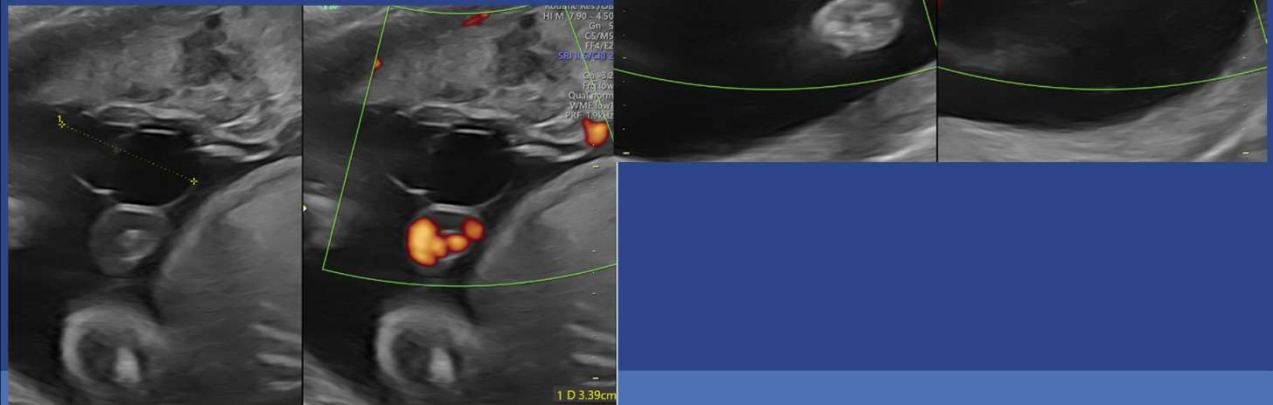
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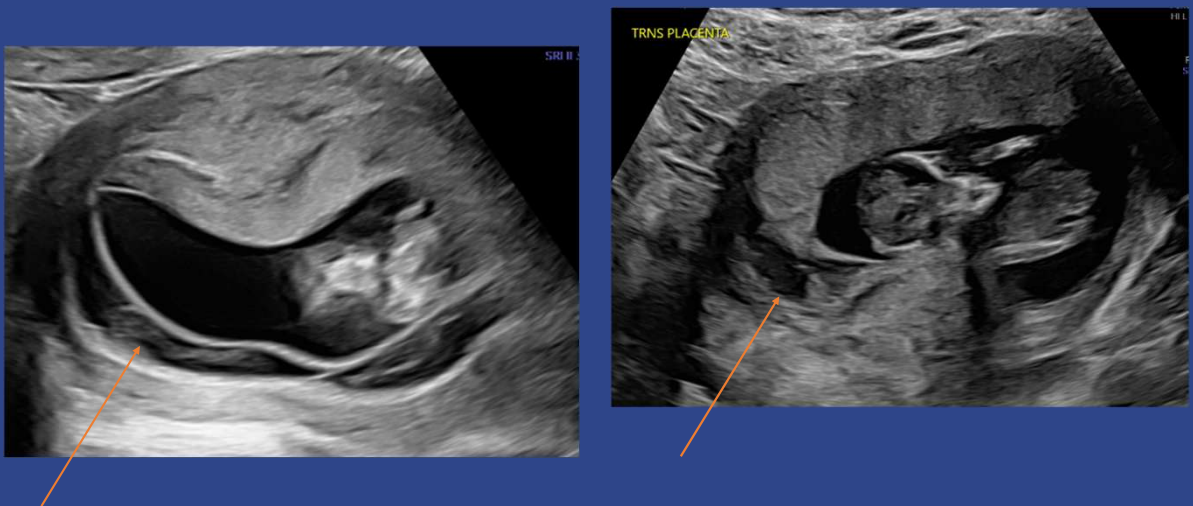
## Placental Cysts

- AKA Chorionic Cysts



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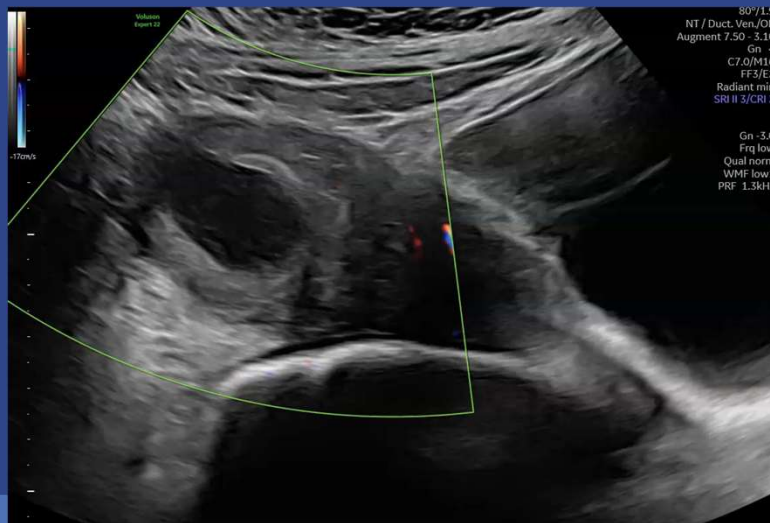
## Subchorionic Hemorrhage



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## Subchorionic Hemorrhage Case



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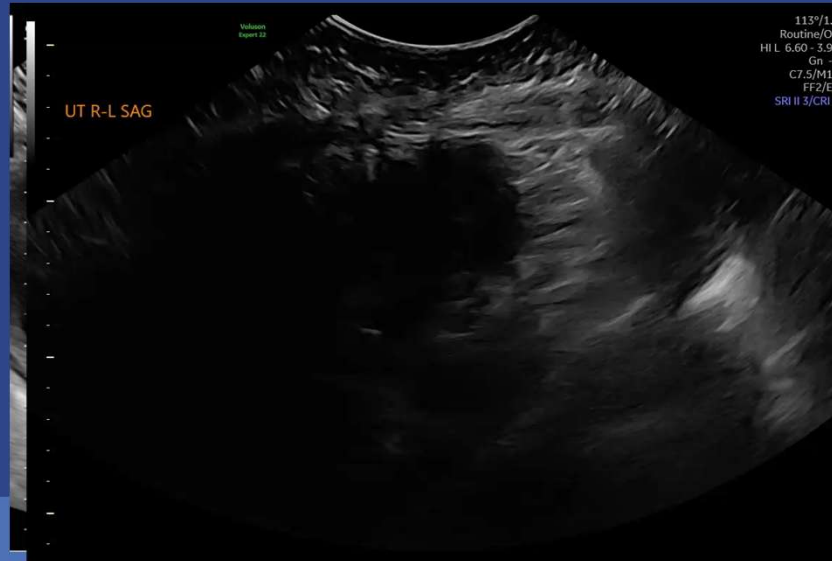
## Subchorionic Hemorrhage Case



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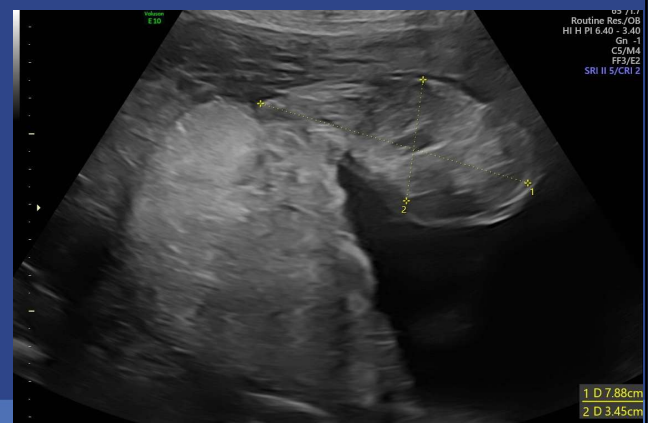
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## Subchorionic Hemorrhage Case



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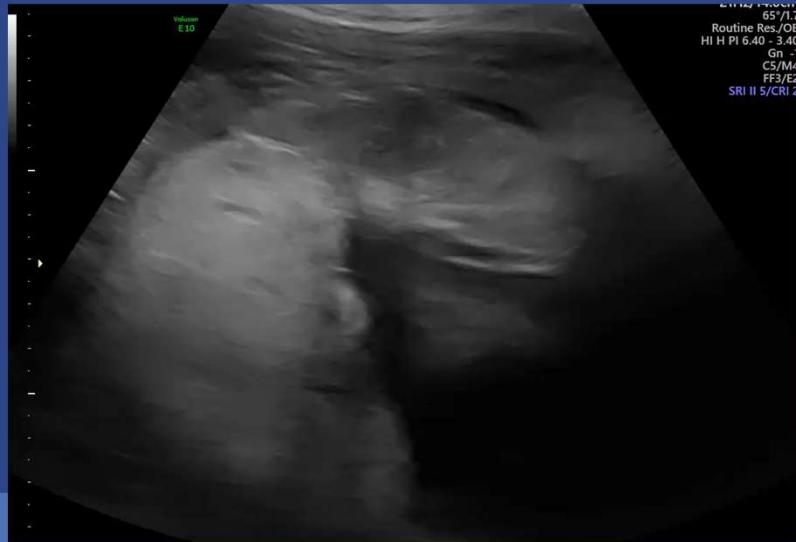
## Abruption



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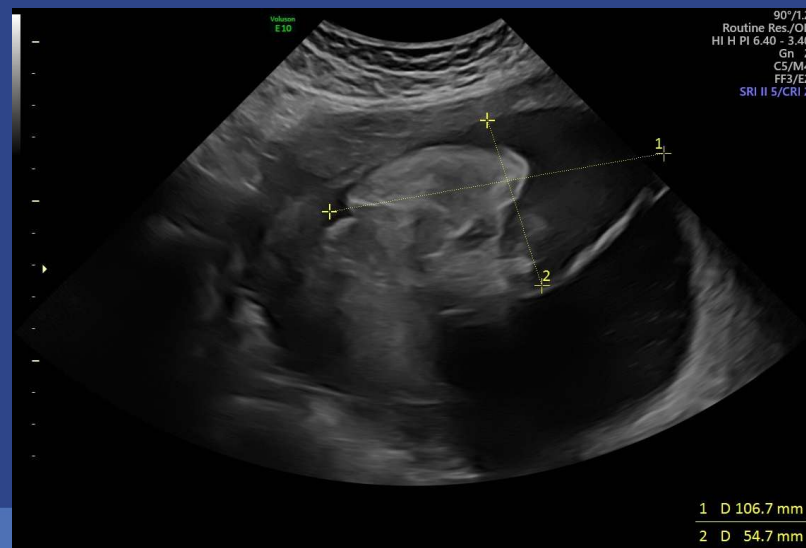
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## Abruption



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## Abruption



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## Abruption



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## Abruption



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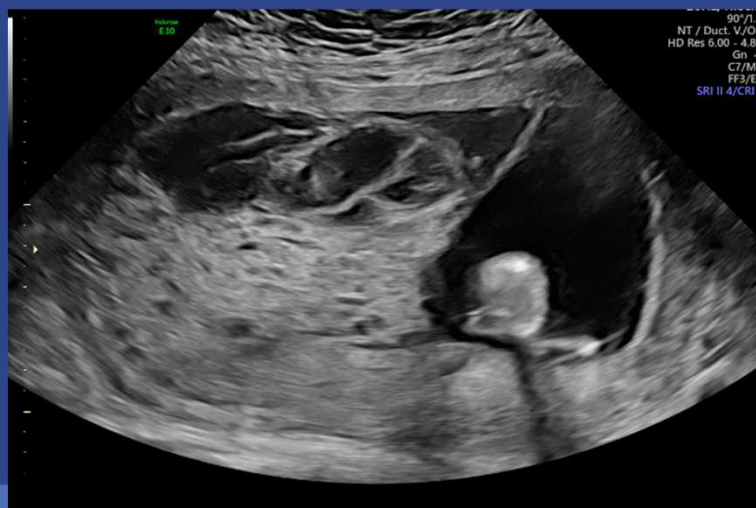
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## Abruption



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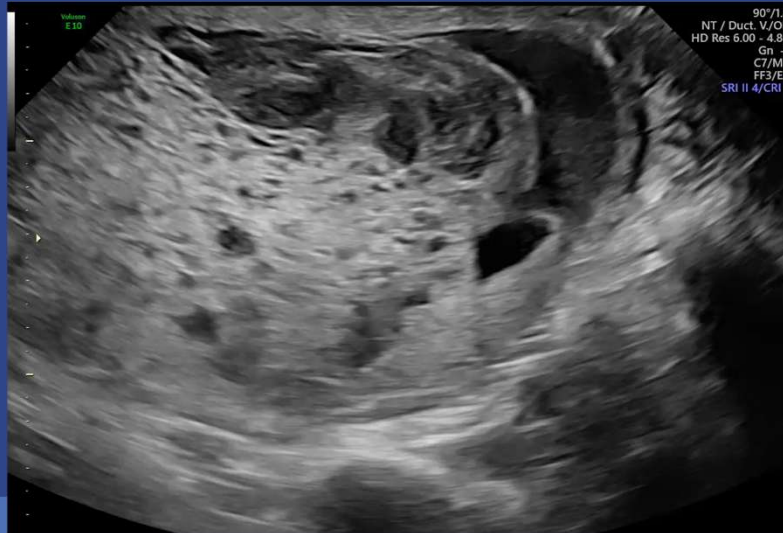
## Molar Pregnancy



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## Molar Pregnancy



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## Chorioangioma

### Complications

- Polyhydramnios
- Ascites or hydrops
  - Secondary to AV shunting/fetal anemia
- Cardiac hypertrophy with dysfunction
- Growth restriction (from chronic hypoxia)
- Fetal anemia (from hemolysis of red blood cells), thrombocytopenia
- Premature rupture of membranes
- Preterm labor/ preterm delivery
- Preeclampsia
- Fetal demise

Woodward PJ, Kennedy A, Sohaey R. Diagnostic Imaging: obstetrics. Philadelphia, PA: Elsevier; 2021.

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## Chorioangioma

### Pregnancy Management

- Detailed fetal anatomic assessment
- Growth q 4 weeks
- Hydrops check q 2 weeks
  - Middle cerebral artery Doppler if hydrops develops
- Antenatal testing @ 32 weeks

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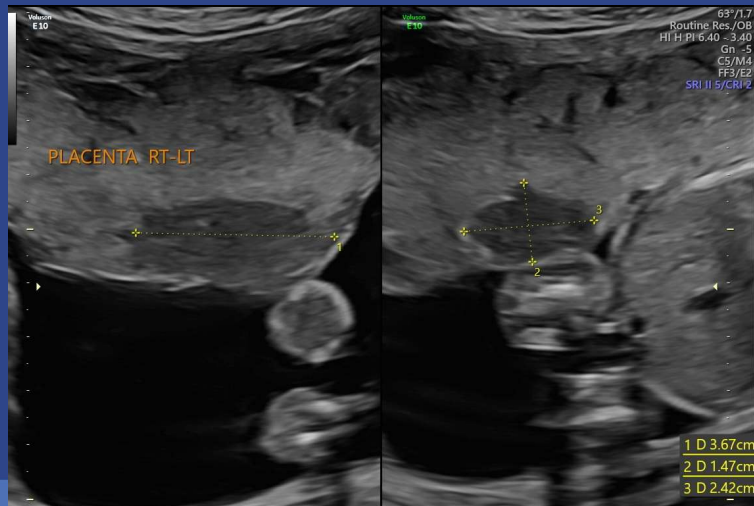
## Chorioangioma Case



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## Chorioangioma Case



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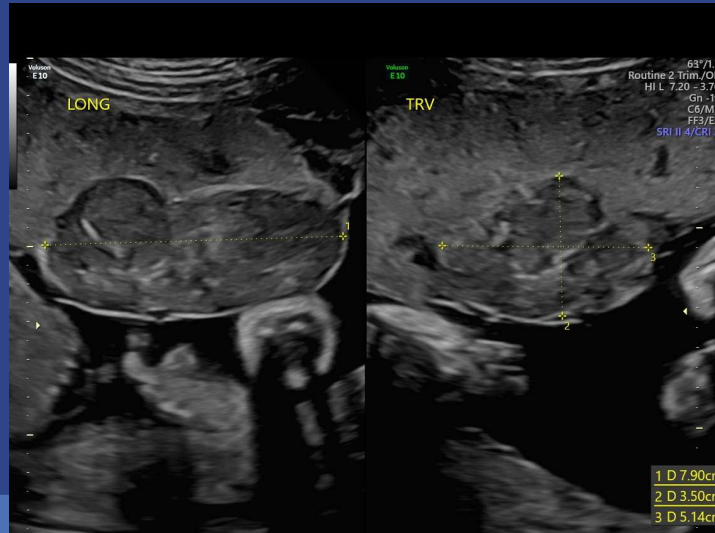
## Chorioangioma Case



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## Chorioangioma Case



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## Chorioangioma Case

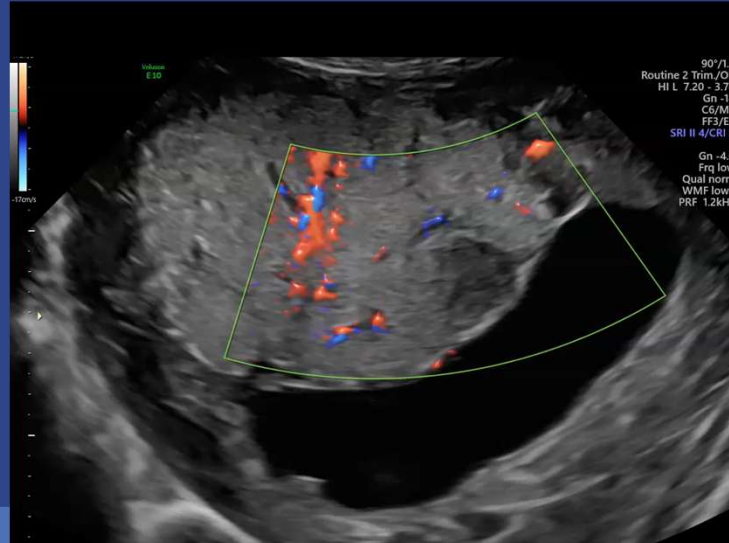


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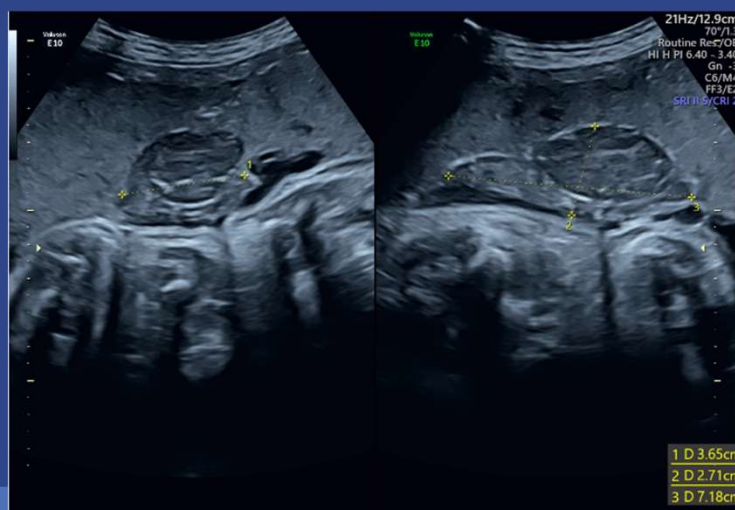
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## Chorioangioma Case



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## Chorioangioma Case



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## Summary

- Many non-fetal findings
- Surveillance
- Ultrasounds influence

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Thank you!



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## References

- de Laat MW, Franx A, Bots ML, Visser GH, Nikkels PG. Umbilical coiling index in normal and complicated pregnancies. *Obstet Gynecol.* 2006 May;107(5):1049-55. doi: 10.1097/01.AOG.0000209197.84185.15. PMID: 16648410.
- Oyelese Y, Javinani A, Shamshirsaz AA. Vasa Previa. *Obstet Gynecol.* 2023 Sep 1;142(3):503-518. doi: 10.1097/AOG.0000000000005287. Epub 2023 Aug 3. PMID: 37590981; PMCID: PMC10424826.
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