AMSER Case of the Month May 2026

38-year-old female patient with late presentation to prenatal care at 27w0d gestation

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Patient Presentation

HPI: 38-year-old female G3P1011 presenting for initial OB visit at 27w0d with limited prior prenatal care, no prior ultrasound imaging done. No loss of fluid, contractions, or vaginal bleeding. Endorses fetal movement. No symptoms concerning for placental pathology at presentation.

PMH: Substance use disorder, opioid use disorder, current IV drug use.

PSH: Prior low transverse cesarean section for breech presentation.

Vitals: Within normal limits.

PE: Unremarkable.

What initial imaging should be ordered for a pregnant patient who presents late to prenatal care?

ACR Appropriateness Criteria

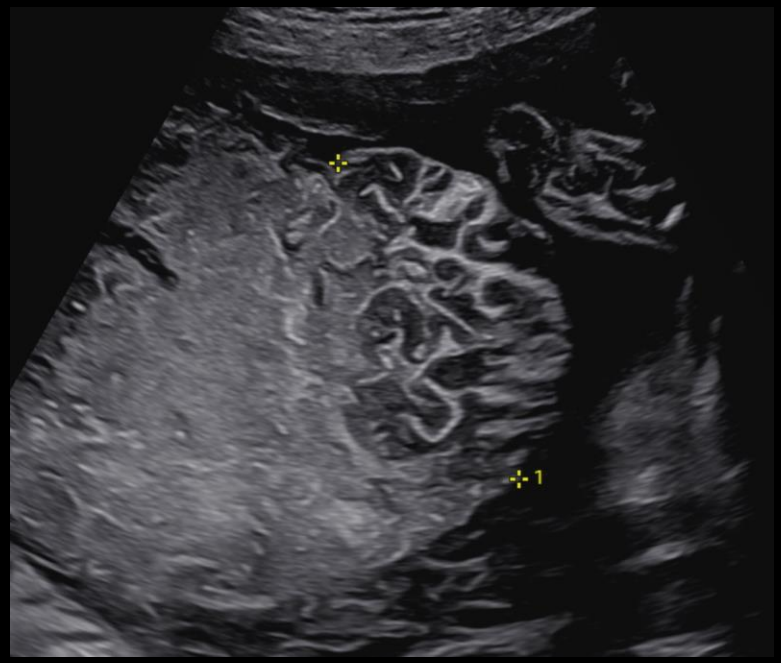
Variant: 2 **Second and third trimester screening for fetal anomaly. High-risk pregnancy. Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
US pregnant uterus transabdominal detailed scan	Usually Appropriate	O
US echocardiography fetal	May Be Appropriate	O
US pregnant uterus transabdominal anatomy scan	May Be Appropriate (Disagreement)	O
MRI fetal without IV contrast	May Be Appropriate (Disagreement)	O
MRI fetal without and with IV contrast	Usually Not Appropriate	O

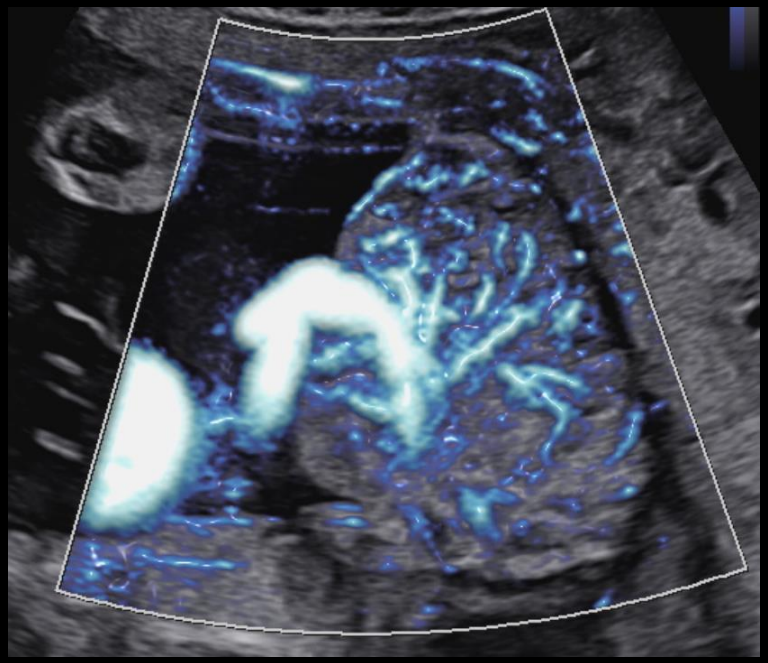
Complex second-trimester transabdominal ultrasound performed in a patient high-risk for fetal anomaly.

Findings (unlabeled)

Grayscale US of the placenta in longitudinal plane

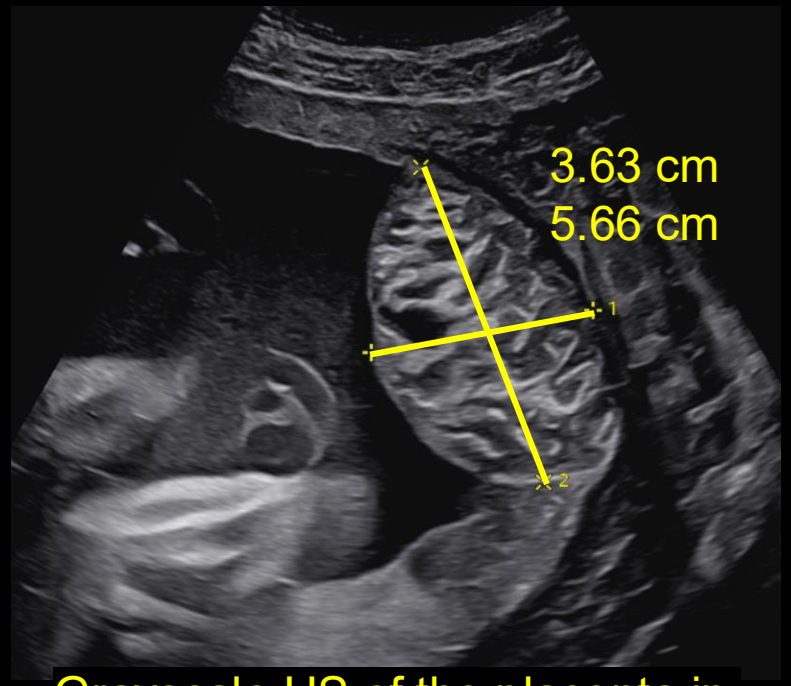


Grayscale US of the placenta in the transverse plane



Doppler US with microvascular flow

Findings (labeled)



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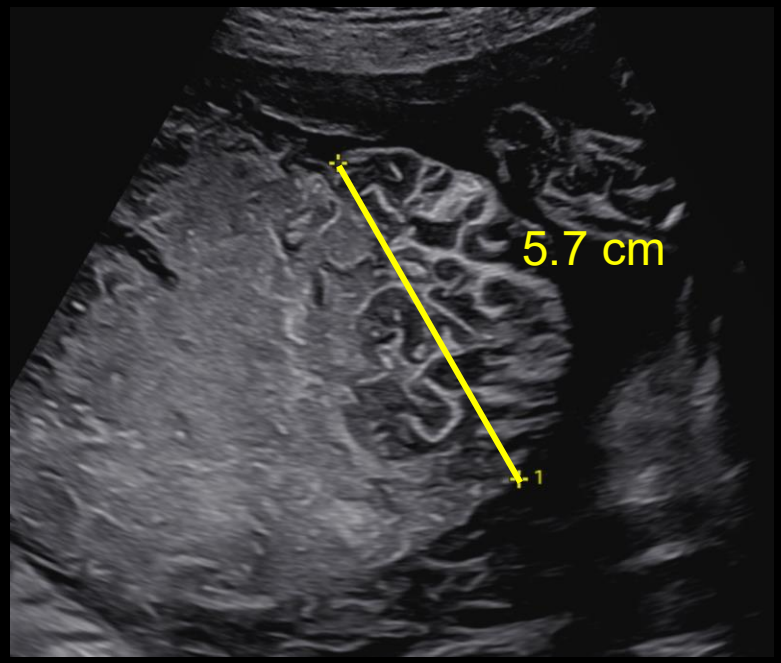

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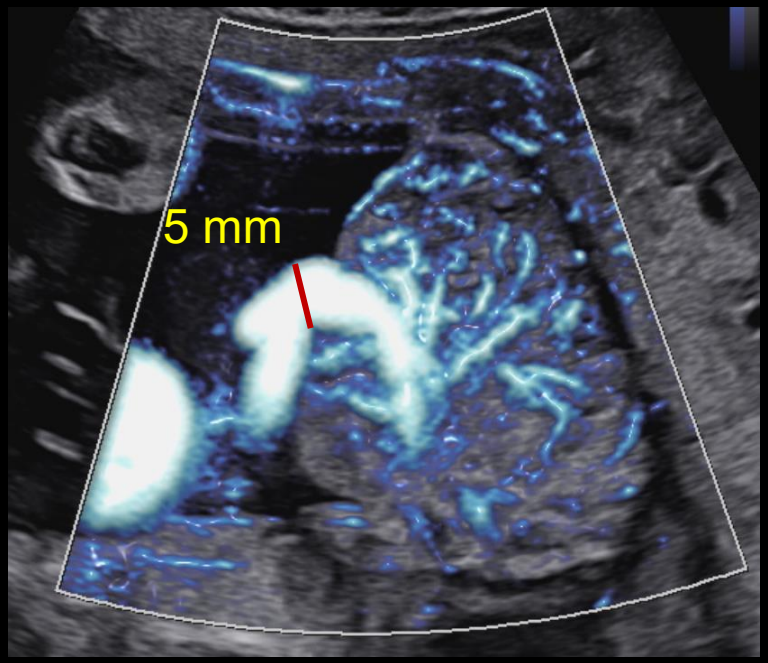

Doppler US with microvascular flow

Ultrasound findings:

- Well-circumscribed and highly vascular placental mass measuring 5.66 x 3.63 x 5.7 cm

Color Doppler findings:

- Large feeding vessel measuring 5 mm in diameter
- Spectral Doppler analysis showed arterial waveform in feeding artery and a pulsatile venous waveform in draining vein (not shown)

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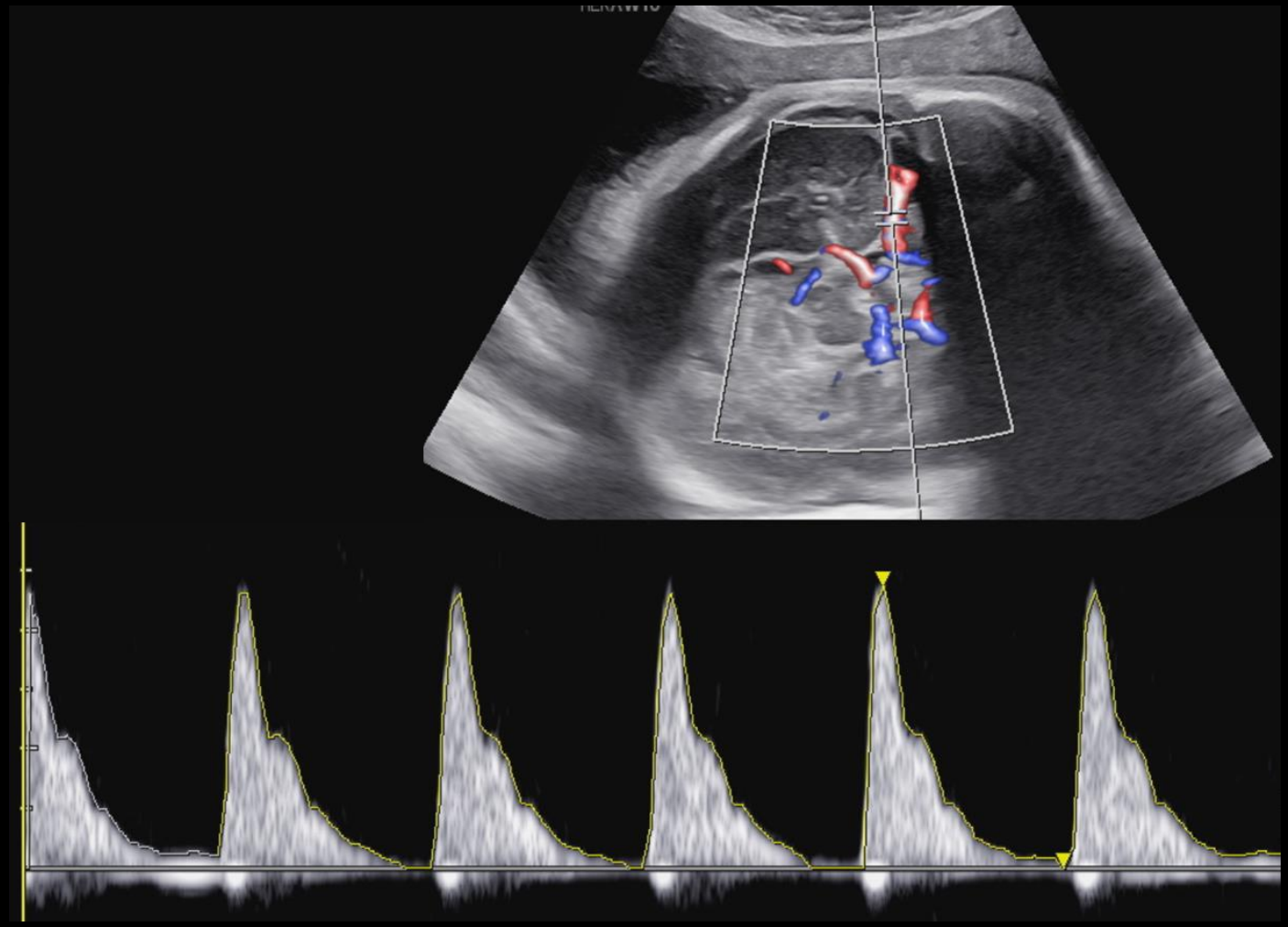
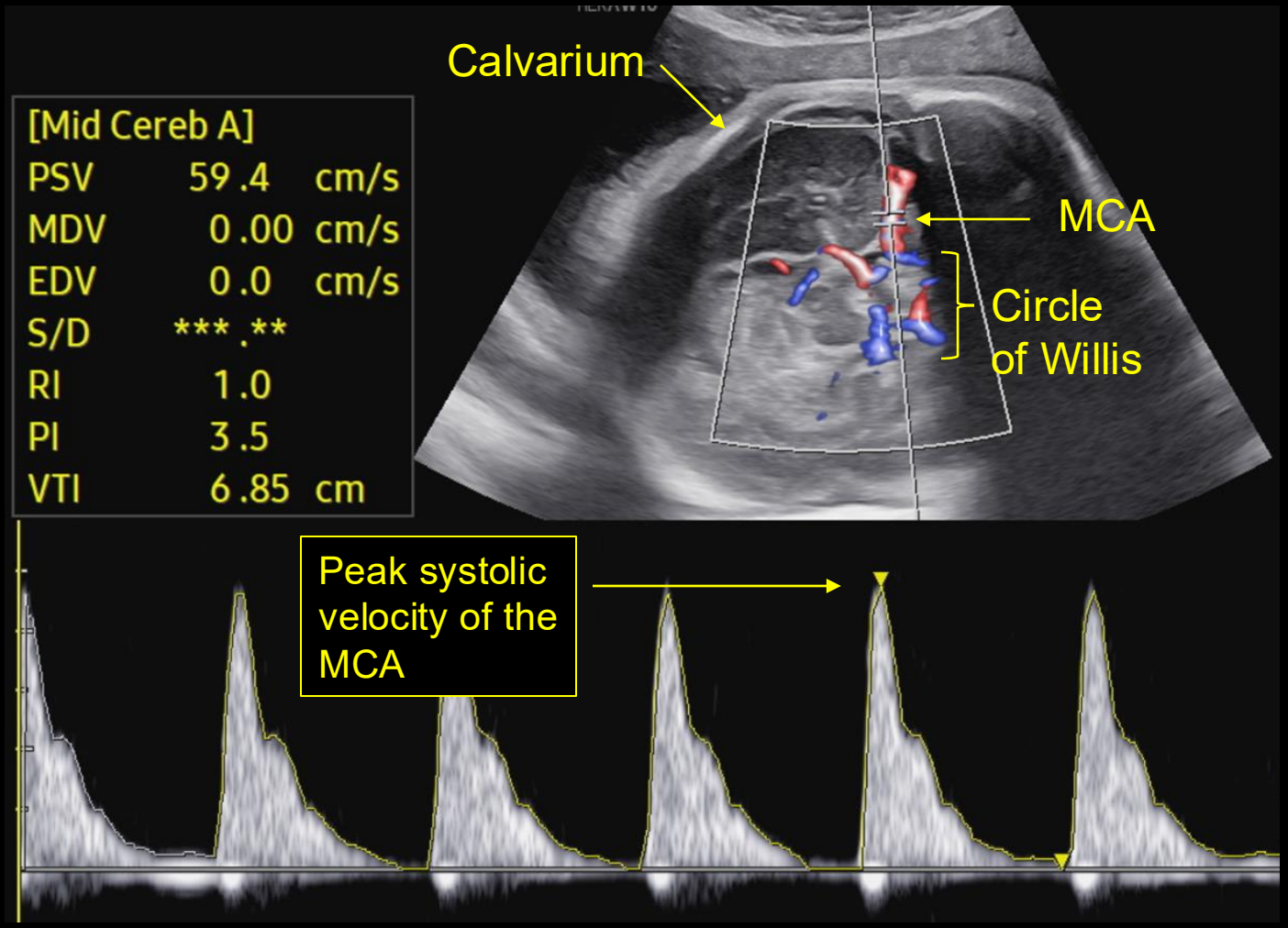
Once a vascular placental mass is identified, detailed imaging evaluation focuses on:

- Characterize the lesion:
  - Size, location (esp. near cord insertion), vascularity
  - Identify feeding/draining vessels
- Evaluate fetal impact:
  - Amniotic fluid index
  - Middle cerebral artery Doppler assessment (to assess for fetal anemia)
  - Screen for hydrops fetalis (evaluate for the presence of 2 or more of the following: skin edema, ascites, pericardial effusion, pleural effusion)
  - Consider fetal echocardiogram if concern for high-output state or signs of heart failure

MCA Doppler (unlabeled)



MCA Doppler (labeled)



- MCA peak systolic velocity is elevated to 59.4 cm/s (1.6 multiple of the median [MoM]).
  - MCA PSV > 1.5 MoM is abnormally elevated, suggesting fetal anemia
- No fetal hydrops identified on fetal sonographic assessment (not shown)

Differential Diagnosis for a Placental Mass

Hypervascular:

- Chorioangioma
- Placental Teratoma
- Placental Metastases

Avascular:

- Placental hematoma
- Venous Lakes
- Intervillous Thrombi

Extra-placental:

- Submucosal Fibroid

Final Diagnosis

Giant placental chorioangioma

Case Discussion

- **Definition[1]**
  - Benign vascular tumors of the placenta caused by endothelial proliferation within chorionic villi, triggered by local hypoxia and abnormal angiogenesis during placental development
  - ”Giant” defined as > 4-5 cm

- **Presentation[2]**
  - Often incidental, typically present in 2nd or 3rd trimester
  - Appears well-circumscribed, frequently near cord insertion
  - Associated with increased maternal-fetal morbidity

Fetal and Maternal Complications

- **Fetal Complications[3]**
  - Complications due to large-volume arteriovenous shunting in the placenta
    - Fetal anemia (increased MCA PSV)
    - High-output cardiac failure
    - Hydrops fetalis (edema, effusions, ascites)
  - Fetal growth restriction
  - Intrauterine fetal demise (risk increases with severe anemia/hydrops)

- **Maternal Complications[3]**
  - Polyhydramnios
  - Preterm labor
  - Postpartum hemorrhage

Imaging Findings and Surveillance

- **Ultrasound findings[2,4]**
  - Commonly found on fetal side of placenta
  - Well-defined, hypoechoic mass
  - Usually solitary but may be multiple
  - Septa and greater heterogeneity in larger lesions
  - Color Doppler confirms internal vascularity/feeding vessels and is essential for making diagnosis
  - Vascularity may be more important than size for predicting outcome
- **Imaging "red flags"**
  - Large size (>4-5 cm), prominent feeding/draining vessels
  - MCA PSV >1.5 MoM
  - Developing polyhydramnios or early hydrops findings
- **Surveillance**
  - Weekly ultrasound to monitor for hydrops
  - Repeat MCA Doppler as indicated
  - Consider fetal ECHO if concern for high-output cardiac state

References

1. Lim FY, Coleman A, Polzin W, et al. Giant chorioangiomas: perinatal outcomes and techniques in fetoscopic devascularization. *Fetal Diagn Ther*. 2015;37(1):18-23. doi:10.1159/000363600
2. Woodward, P. J., Kennedy, A., Sohaey, R., Byrne, J. L. B., Oh, K.& Puchalski, M. D. (2016). *Diagnostic Imaging: Obstetrics* (3rd ed.). Elsevier.
3. Buca D, Iacovella C, Khalil A, et al. Perinatal outcome of pregnancies complicated by placental chorioangioma: systematic review and meta-analysis. *Ultrasound Obstet Gynecol*. 2020;55(4):441-449. doi:10.1002/uog.20304
4. Deihl, T.E., Abiad, M., Sambatur, E., Zargarzadeh, N., Chmait, R.H., Shamshirsaz, A.A. and Emery, S.P. (2026), Placental chorangiomas: Diagnostic challenges and contemporary approaches to fetal care. Pregnancy, 2: e70181. https://doi.org/10.1002/pmf2.70181