AMSER Case of the Month September 2025

22-week fetus with progressively enlarging left neck cystic mass

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Patient Presentation

- HPI:
  33-year-old patient presenting with sharp bilateral lower abdominal pain with no vaginal bleeding or contractions
- PMH:
  No significant past medical history; no tobacco, alcohol, or drug use reported
- Routine anatomy ultrasound at 22 weeks showed a 2 cm cystic mass on the left fetal neck, increasing to 3.5 cm on follow-up.

Pertinent Labs

- Noninvasive Prenatal Testing (NIPT): Negative for common chromosomal abnormalities (low-risk male fetus)
- Aneuploidy Screening Panel: No reported abnormalities
- Hemoglobinopathy Screen: No reported abnormalities
- Other Prenatal Labs: Routine prenatal labs (i.e., CBC, metabolic panel) are within normal limits

What Imaging Should We Order?

- Obstetric ultrasound (anatomy scan) is first-line screening to detect fetal anomalies.
  - If fetal abnormality detected, maternal-fetal medicine (MFM) consultation is recommended.
- Fetal MRI without contrast is ordered for detailed soft tissue and airway evaluation.
- Fetal echocardiography is ordered to assess for hydrops fetalis and cardiac anomalies.
- Serial ultrasound monitoring is critical to assess mass growth and detect hydrops.

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
MRI fetal without IV contrast	May Be Appropriate (Disagreement)	O
US pregnant uterus transabdominal anatomy scan	May Be Appropriate (Disagreement)	O
MRI fetal without and with IV contrast	Usually Not Appropriate	O

ordered by the Obstetrician

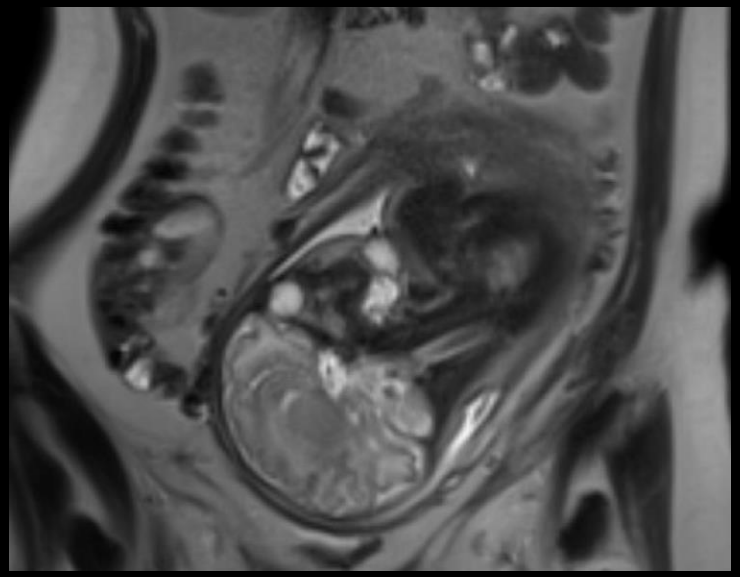
Variant 4. Second and third trimester screening for abnormal finding on ultrasound: major anomalies. Next imaging study

Procedure	Appropriateness Category	Relative Radiation Level
US pregnant uterus transabdominal detailed scan	Usually Appropriate	O
MRI fetal without IV contrast	Usually Appropriate	O
US echocardiography fetal	Usually Appropriate	O
US pregnant uterus transabdominal follow-up	Usually Appropriate	O
MRI fetal without and with IV contrast	Usually Not Appropriate	O

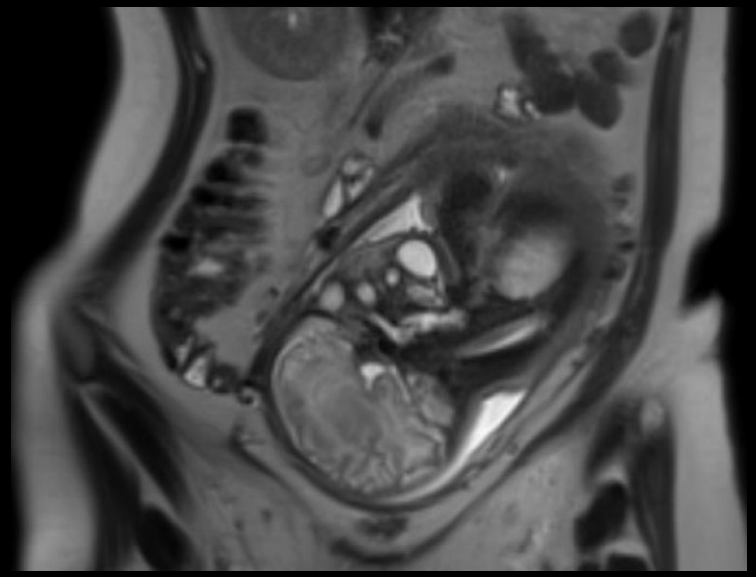
ordered by Maternal-Fetal-Medicine (MFM)

AMSER

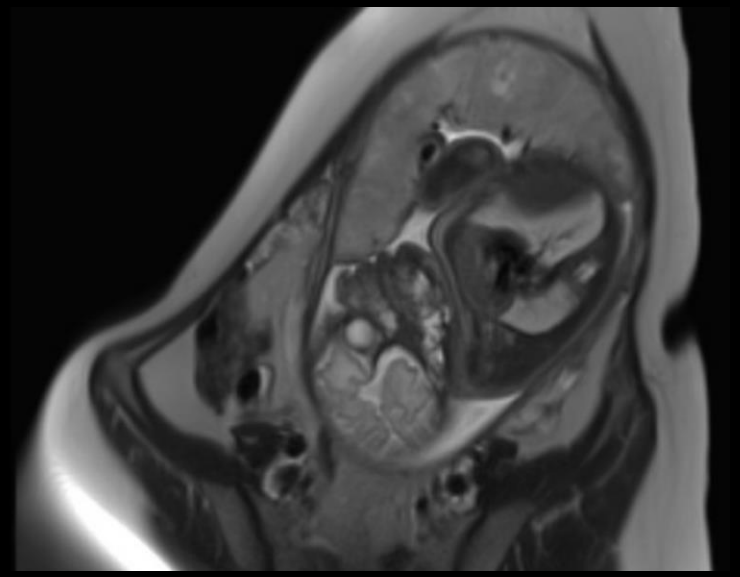
Findings (unlabeled)



MRI T2

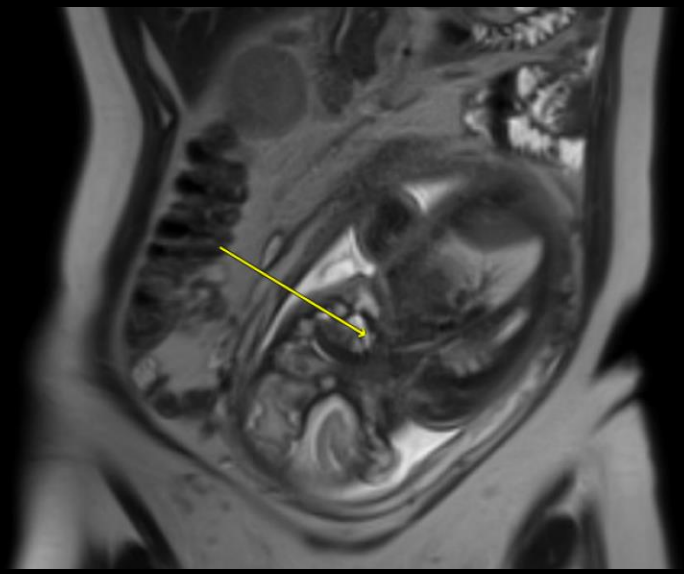


MRI T2

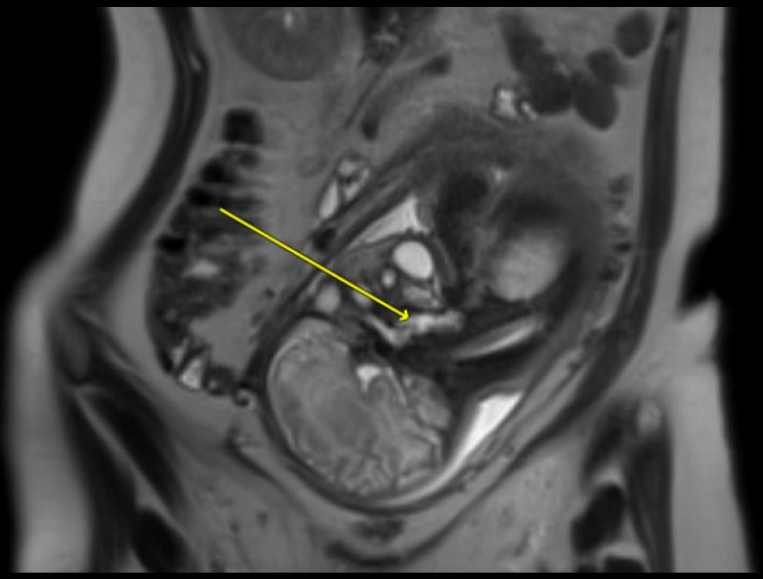


MRI T2

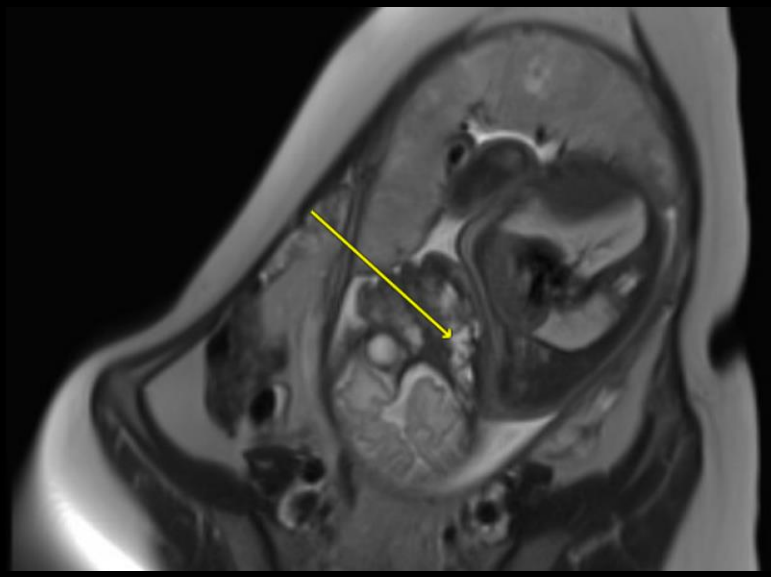
Findings: (labeled)



MRI T2



MRI T2



MRI T2

A large, multiloculated, cystic mass is seen measuring up to 4.8 cm, which involves the left facial and cervical soft tissues and demonstrates T2 hyperintense signal. The adjacent airway is poorly delineated, but no evidence of obstruction or associated solid component is identified.

Final Dx:

Lymphatic Malformation

Case Discussion

- Lymphatic malformations are benign cystic lesions arising from abnormal lymphatic development, which are commonly diagnosed in the fetal neck.
- Ultrasound is first-line for detection and serial monitoring.
- Fetal MRI provides detailed soft tissue and airway evaluation.
- The differential diagnosis includes branchial cleft cyst, teratoma, and hemangioma and can be honed using imaging features.

Case Discussion

- Large fetal neck masses risk airway obstruction at delivery, so antenatal identification is vital for planning.
- Poor airway visualization necessitates multidisciplinary preparation for potential airway compromise.
- Close surveillance with serial ultrasounds and fetal echocardiography is essential to monitor for hydrops fetalis, a poor prognostic indicator.
- Genetic counseling is also recommended due to associations with chromosomal abnormalities.

Case Discussion

- Multidisciplinary care involving obstetrics, maternal-fetal medicine, neonatology, pediatric otolaryngology, and anesthesiology is critical for delivery planning.
- Delivery at a tertiary care center with neonatal intensive care and otolaryngology support is recommended.
- An Ex Utero Intrapartum Treatment (EXIT) procedure may be planned if airway obstruction is anticipated.
- Postnatal treatments includes surgical excision and/or sclerotherapy.
- Prognosis depends on mass size, airway involvement, presence of hydrops, and genetic factors; early diagnosis improves outcomes.

References:

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