

26-Week Fetus With a Suprarenal Mass

Connor Latterman MS1¹, Joseph Junewick MD FACR^{1,2,3}

Michigan State University College of Human Medicine¹, Helen Devos Children's Hospital,
Grand Rapids USA², Advanced Radiology Services PC³



College of Human Medicine
MICHIGAN STATE UNIVERSITY

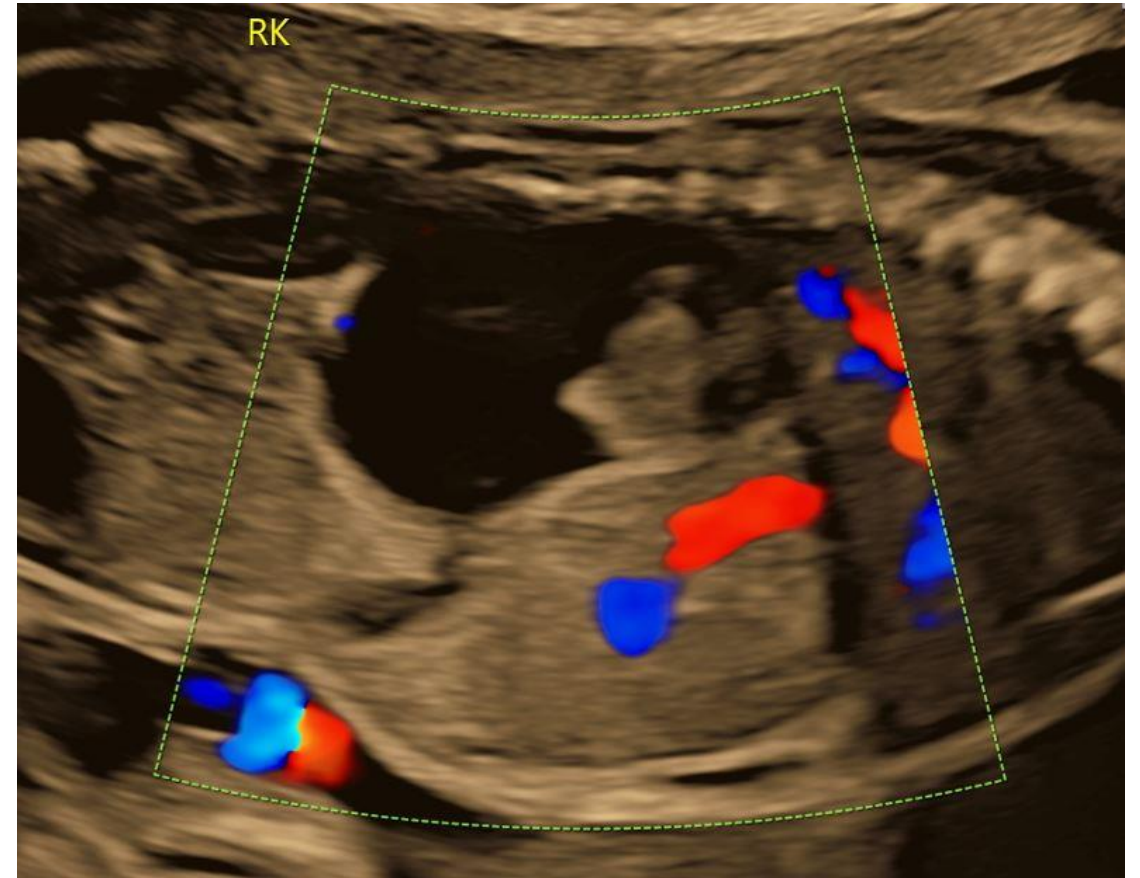
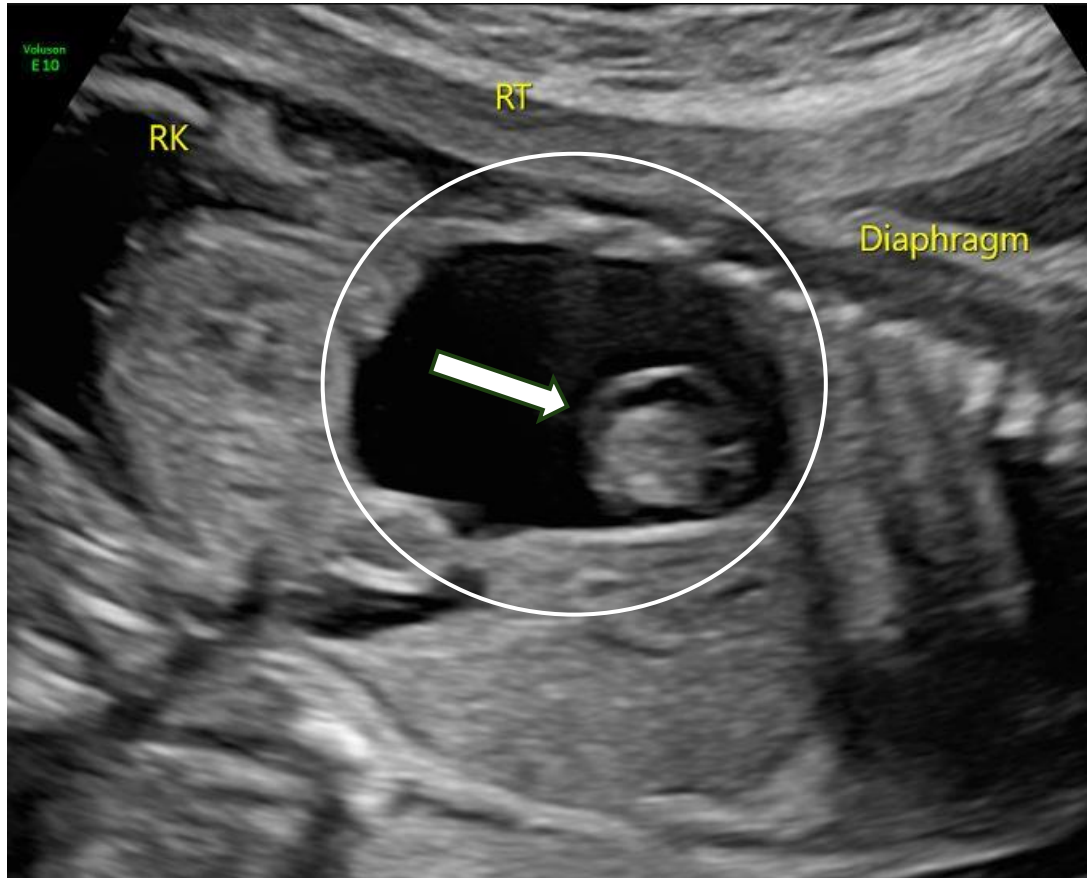


Corewell HealthTM
Helen DeVos
Children's Hospital

Case Presentation

26-week fetus with a right suprarenal mass detected on routine prenatal ultrasound

Prenatal Ultrasound: Week 26

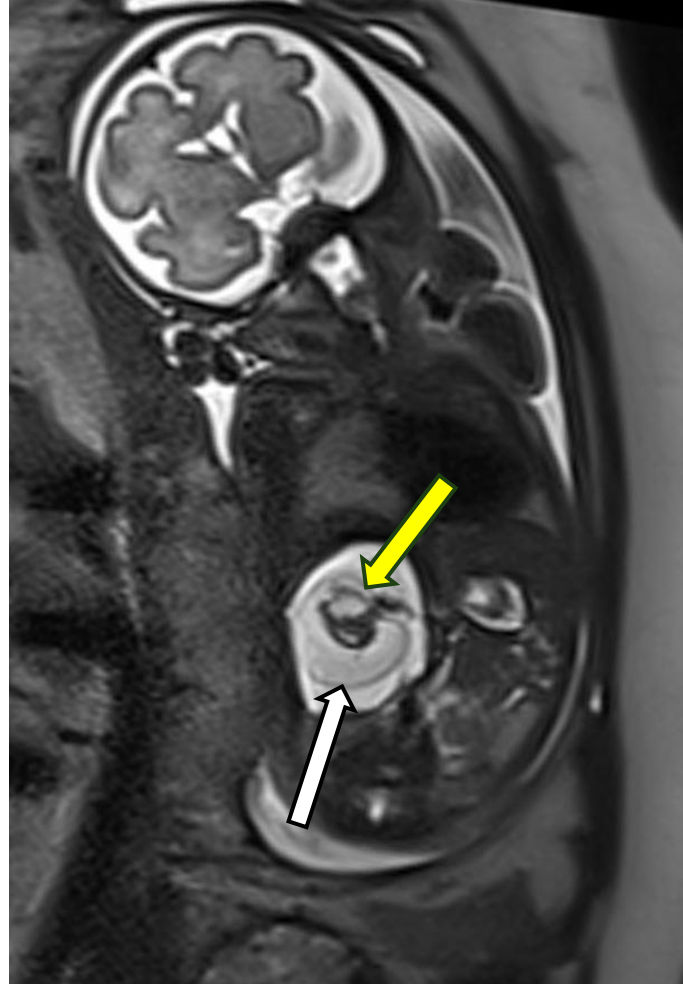
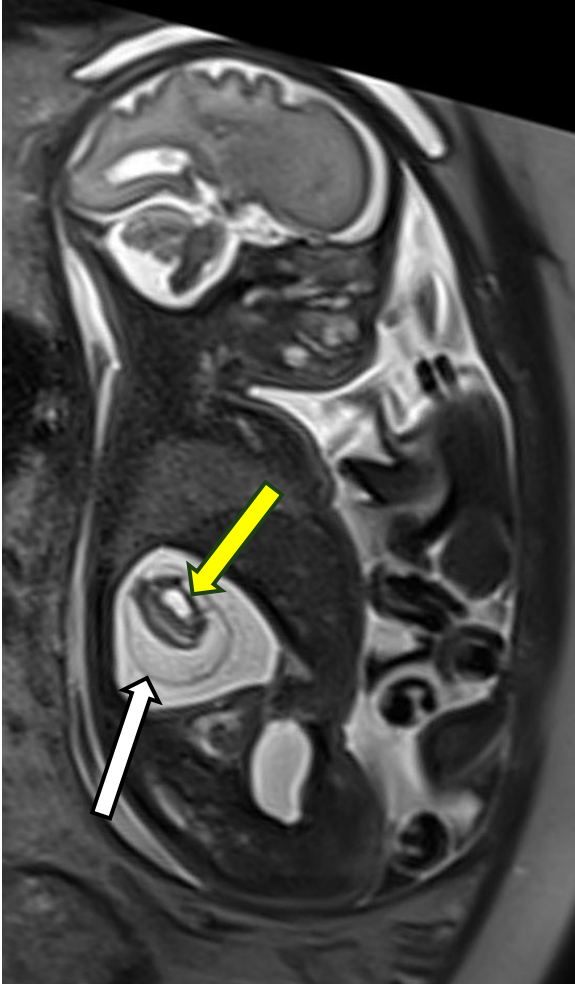


Finding: Right supracystic mass with internal mural nodule not seen on week 20 ultrasound

What is the diagnosis?

- Neuroblastoma
- Teratoma
- Hematoma
- Fetus in Fetu

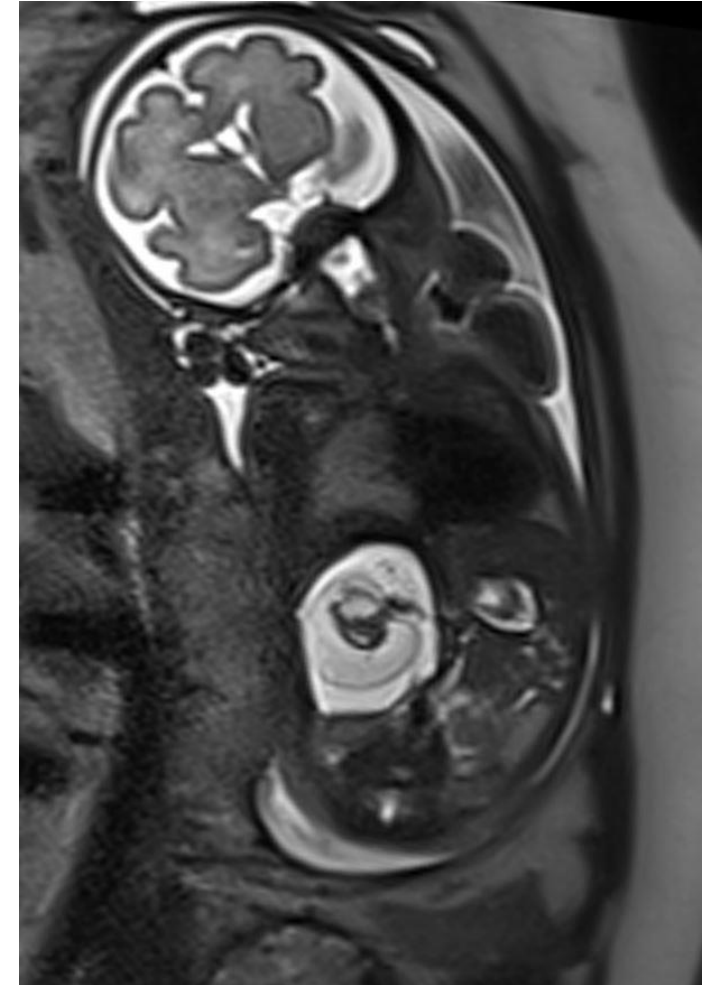
Prenatal MRI



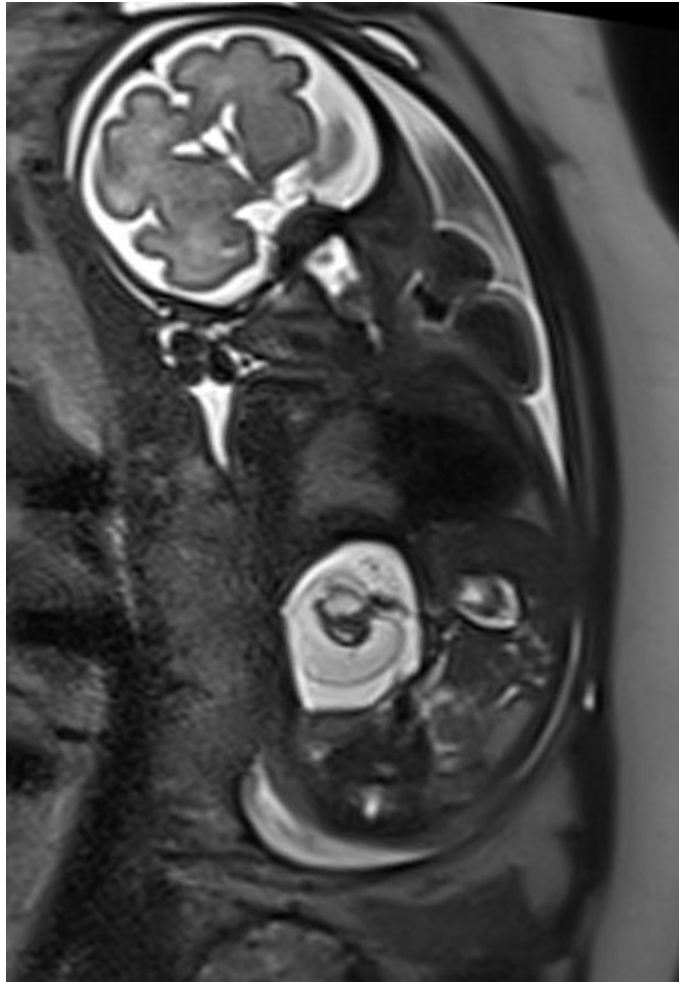
Encapsulated retroperitoneal mass (white arrow) with internal structure (yellow arrow)

Prenatal MRI Findings

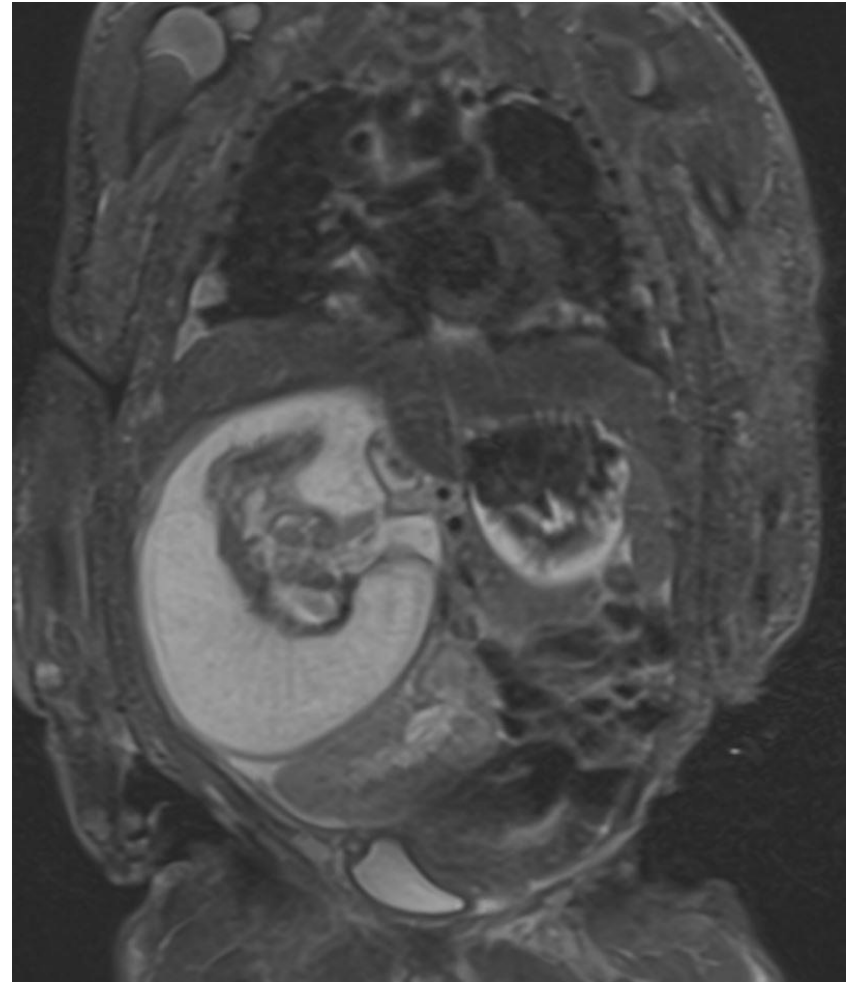
- Complex, encapsulated cystic mass in right retroperitoneum
- Internal soft-tissue component
- Displacement of adjacent structures
- No clear organ of origin



Progressive Enlargement



Prenatal MRI



Postnatal MRI

Now what's the diagnosis?

Differential Considerations

Neuroblastoma

- Solid, heterogeneous, adrenal mass

Teratoma

- Heterogeneous solid mass
- Disorganized internal architecture

Hematoma

- Cystic mass with T1 Hyperintensity
- Evolves over time

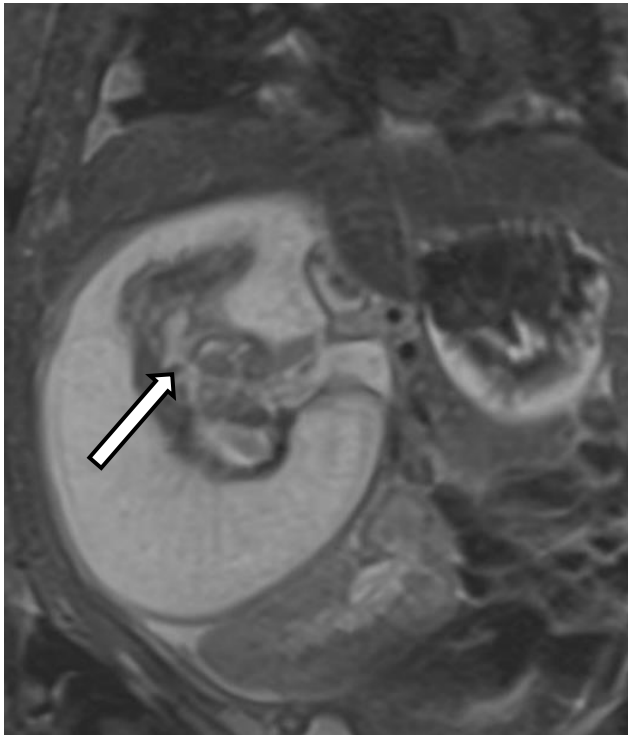
Fetus in Fetu

- Encapsulated mass with organized internal structure
- Possible vertebral axis



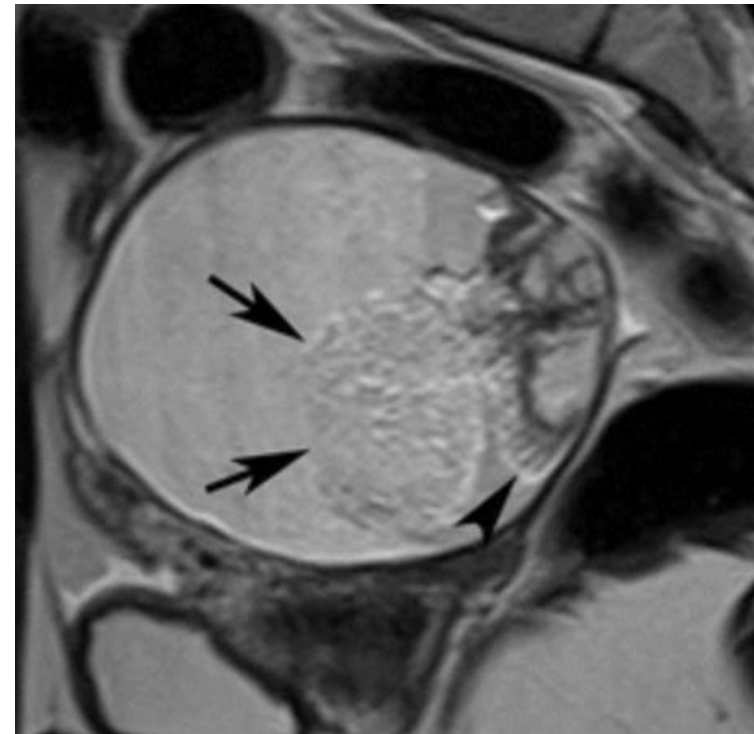
Organized vs Disorganized Mass

Our Case



- Organized internal structure
- Encapsulated mass

Teratoma

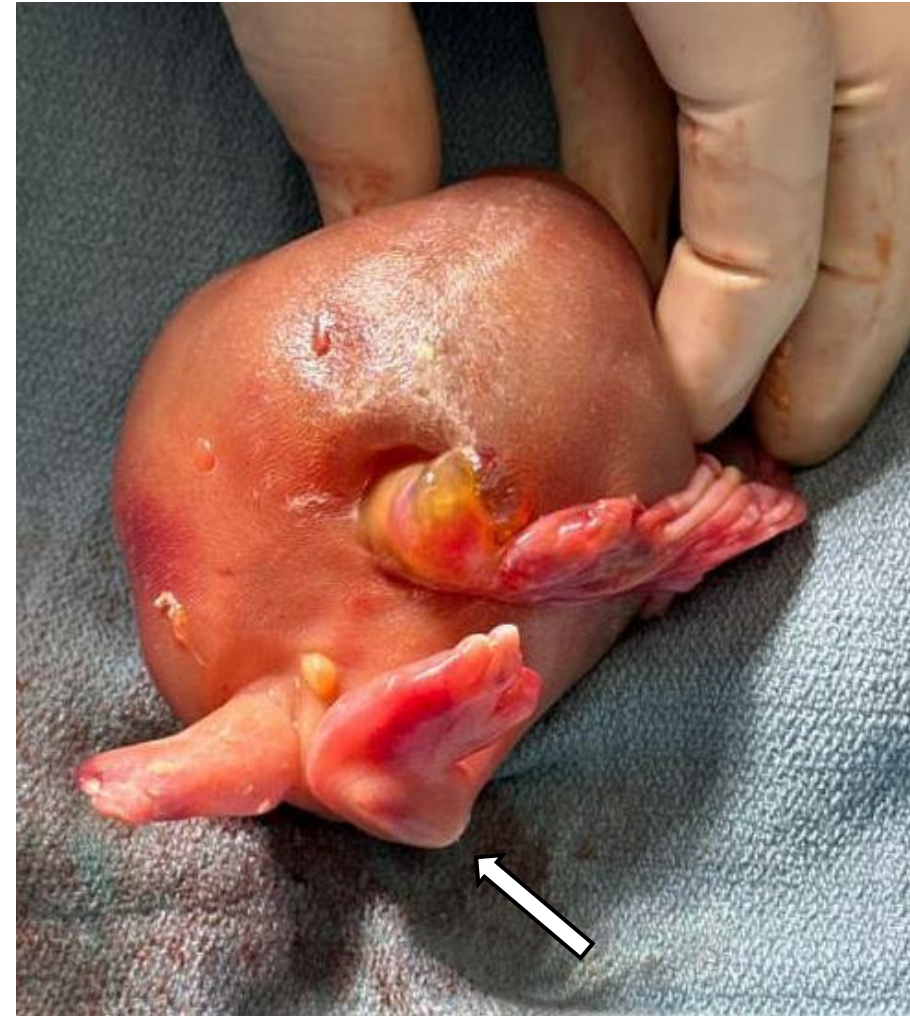


- Heterogeneous solid mass
- No internal organization

Final Diagnosis: Fetus in Fetu

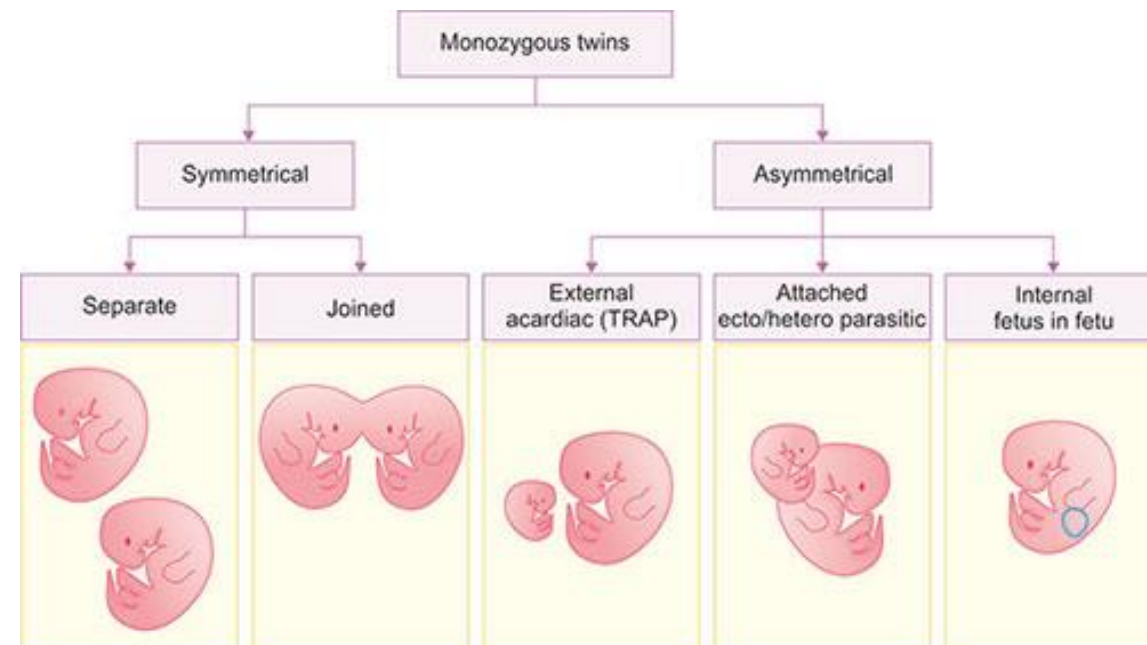


Radiology-Pathology Correlation



Discussion: Fetus in fetu

- Fetus in fetu is a rare congenital anomaly (1 in 500,000) resulting from abnormal embryologic development of monozygotic, diamniotic twins
- Most commonly presents as a retroperitoneal mass (~80%) and may be detected prenatally
- Imaging typically demonstrates a well-encapsulated mass with internal organization, which helps distinguish it from teratoma and neuroblastoma



Teaching Points

- Organized internal structure on imaging suggests fetus in fetu
- Vertebral axis is the key distinguishing feature from teratoma
- Encapsulated, non-invasive retroperitoneal mass helps distinguish from neuroblastoma
- Recognition on imaging is critical in distinguishing fetus in fetu from malignant mimics

References

1. Sahin, H., Abdullazade, S. & Sanci, M. Mature cystic teratoma of the ovary: a cutting edge overview on imaging features. *Insights Imaging* **8**, 227–241 (2017). <https://doi.org/10.1007/s13244-016-0539-9>
2. Kehal H, Billing S, Sharma BK, Mittal P. Fetus-in-Fetu: Mimicking as Teratoma on Antenatal Ultrasound. *Indian J Surg*. 2013;75(S1):412-414. doi:10.1007/s12262-012-0745-8
3. Maryńczak L, Adamek D, Drabik G, Kwiatkowski S, Herman-Sucharska I, Lankosz-Lauterbach J. Fetus in fetu: a medical curiosity—considerations based upon an intracranially located case. *Childs Nerv Syst*. 2014;30(2):357-360. doi:10.1007/s00381-013-2191-8