

Fetus in Fetu: A rare cause of antenatally diagnosed fetal retroperitoneal mass

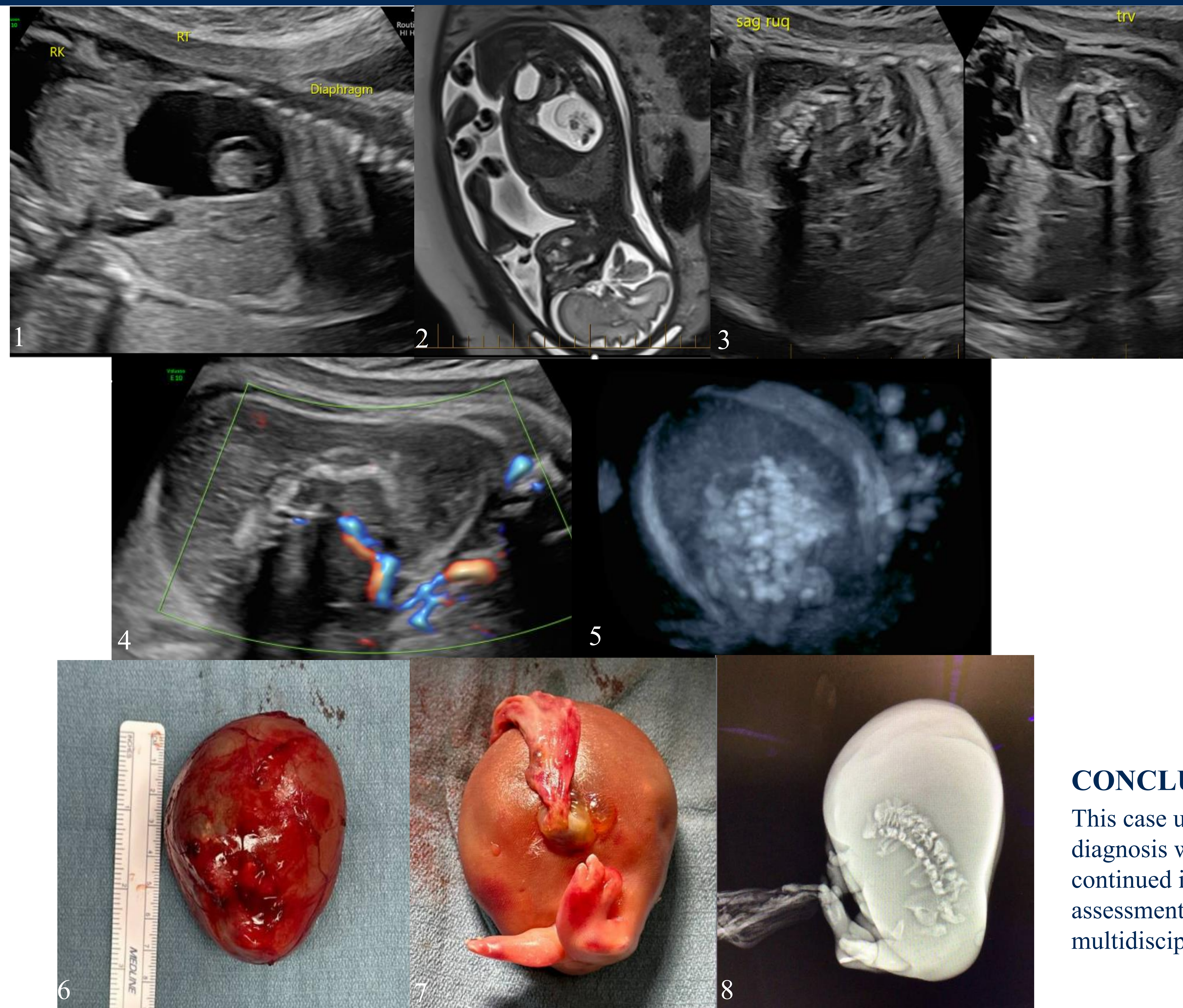
INTRODUCTION

Fetus in fetu (FIF) is a rare congenital condition thought to result from abnormal twinning in a monochorionic pregnancy in which a malformed fetus develops within the body of its twin. We present a case describing sonographic progression of a fetal retroperitoneal mass identified during the second trimester.

CASE

A 32-year-old G2P1102 was referred to MFM for a fetal intraabdominal mass at 25w5d. Imaging demonstrated a retroperitoneal cystic mass containing a solid echogenic component superior to the right fetal kidney. Initial concern was for adrenal hemorrhage with the differential including neuroblastoma, teratoma, and FIF. Serial ultrasounds as well as fetal MRI were performed to further evaluate the mass. These subsequent images were concerning for development of calcifications within the mass raising suspicion for neuroblastoma or teratoma. At 36w5d imaging demonstrated a vertebral axial skeleton, limb-like bony structures, and a two-vessel umbilical cord inserting into the host's right renal artery making the diagnosis of FIF.

The patient subsequently underwent an uncomplicated repeat cesarean delivery. On the first day of life, the neonate underwent exploratory surgery. This demonstrated an acardiac twin measuring approximately 7cm, with identifiable lower extremities, and a torso encased in a membranous capsule resembling an amniotic sac. The infant recovered well postoperatively and was discharged on day 6 of life. Histopathological analysis confirmed the diagnosis of fetus in fetu.



FIGURES

Figure 1. Sonographic sagittal view of the fetal abdomen at 25w5d demonstrates a cystic mass with echogenic content superior to the right kidney.

Figure 2. MRI at 28w6d demonstrating a well-defined right retroperitoneal mass with a central markedly T2-hypointense solid component, suspicious for teratoma.

Figure 3. US at 34w5d demonstrating a mass with mostly solid component and multiple calcifications

Figure 4. US at 36w5d, in the sagittal view of the right upper quadrant a solid mass with identifiable vertebral-like structure and a two-vessel umbilical cord. Vascular supply originates from the renal artery.

Figure 5. 3D rendering at 36w5d- highlights the axial skeleton.

Figure 6. Gross anatomic examination after surgical removal revealed FIF covered by a glistening sac, resembling amniotic membranes.

Figure 7. Gross specimen of FIF shows trunk, lower limbs and an umbilical cord.

Figure 8. X-ray evaluation of the FIF.

CONCLUSION

This case underscores the importance of maintaining a broad differential diagnosis when evaluating fetal retroperitoneal masses, the role of continued imaging surveillance for accurate characterization, the assessment of vascular supply to guide surgical planning, and the value of multidisciplinary support for families facing complex prenatal diagnoses.