

Acquired Single Umbilical Artery Due to Thrombosis with Acute Fetal Compromise

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BACKGROUND

Umbilical artery thrombosis (UAT) is a rare condition associated with adverse perinatal outcomes, including fetal growth restriction and stillbirth. Diagnosis is challenging; reassuring Doppler studies may not exclude significant underlying pathology.

AIMS

To present a case of acquired single umbilical artery (SUA) due to thrombosis, highlighting diagnostic uncertainty and the risk of sudden fetal deterioration despite reassuring Dopplers.

CASE

A 33-year-old G2P1 in a low-risk pregnancy presented at 30 weeks' gestation with decreased fetal movements and an abnormal CTG. Initial assessment in the Fetal Medicine Unit suggested an echogenic area within the cord, suspicious for thrombosis, though findings were inconclusive. A prior morphology scan had confirmed a three-vessel cord. Due to high clinical suspicion, repeat ultrasound the following day confirmed an acquired SUA. End-on views showed a patent umbilical vein and artery alongside a well-defined rounded echogenic structure consistent with UAT.

Both scans showed normal fetal growth, biophysical profile, and Doppler studies. The CTG normalised, however subsequent monitoring showed persistent non-reactivity with recurrent decelerations. In view of evolving fetal compromise and suspected UAT, an emergency caesarean section was performed.

RESULTS

A live preterm infant was delivered and admitted to neonatal intensive care. Placental histopathology is pending.

DISCUSSION

A transition from a three-vessel to a two-vessel cord is a red flag for an acquired process. This case illustrates the diagnostic challenges in UAT, where Doppler abnormalities may not manifest early. Management requires a high index of suspicion, prioritising maternal symptoms and CTG patterns over ultrasound findings to prevent stillbirth.

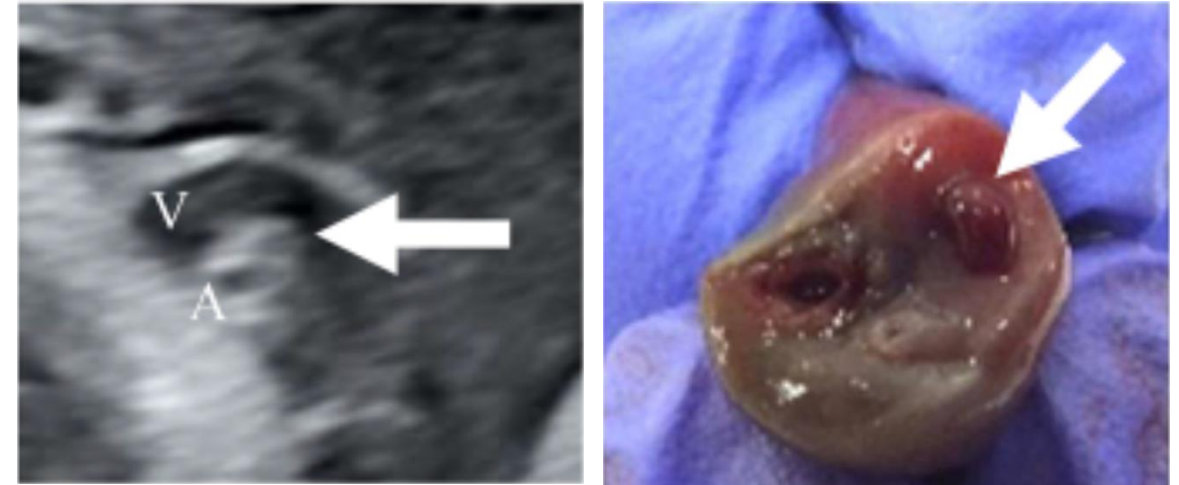


Figure 1. Representative end-on ultrasound image and umbilical cord cross-section of umbilical artery thrombosis (adapted from Abe et al., 2024; CC BY 4.0).

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