

Mild Umbilical Vein Varix in Pregnancy with Normal Outcome

Introduction

Umbilical vein varix (UVV) is a rare vascular anomaly observed in approximately 0.4–1.1 per 1,000 pregnancies, most commonly identified during routine second-trimester anomaly scans. It is defined as a focal dilatation of the umbilical vein exceeding 9 mm or 50% greater than the non-dilated segment. While isolated UVV is often benign, it has been associated with fetal thrombosis, intrauterine growth restriction (IUGR), fetal demise, and chromosomal abnormalities in some cases. The optimal antenatal management remains unclear, particularly when UVV occurs in isolation without other anomalies. This case highlights the favourable outcome of a pregnancy complicated by a mild intra-abdominal UVV.

Case Presentation

A 28-year-old primigravida with a BMI of 23 and a background of tobacco use was referred to fetal medicine after a mid-trimester anomaly scan at 20 weeks gestation revealed a suspected umbilical vein varix. The varix was intra-abdominal, measuring 9.3 mm, and situated proximal to the portal vein confluence. The patient had no prior medical history or family history of congenital anomalies or genetic syndromes. A comprehensive fetal anomaly scan by the fetal medicine team confirmed the diagnosis of UVV with no associated structural or chromosomal abnormalities. The patient was thoroughly counselled on potential implications including risks of thrombosis, fetal distress, and stillbirth. Non-invasive prenatal testing (NIPT) was offered but declined. Serial growth scans were arranged every 4 weeks, and fetal growth

consistently measured between the 50th and 90th centiles. There were no signs of abnormal Dopplers or oligohydramnios. Umbilical vein Doppler flow remained normal with no evidence of thrombosis. At 39+1 weeks, the patient presented with spontaneous rupture of membranes. She was admitted and labour was augmented due to lack of progress. She proceeded to have an uncomplicated spontaneous vaginal delivery. A healthy male infant weighing 3.48 kg was delivered, with Apgar scores of 9 and 10 at 1 and 5 minutes respectively. The neonate was reviewed by the paediatric team and discharged with no concerns. The umbilical cord was examined postnatally, and the varix was confirmed histologically.

Discussion

Umbilical vein varices can be classified as intra-abdominal or extra-abdominal, with the former being more commonly reported and often detected incidentally. The pathogenesis is believed to involve focal weakness in the vessel wall, which may predispose to stasis and thrombosis. However, the clinical relevance largely depends on size, location, and the presence of co-existing anomalies. In this case, the UVV was isolated and measured just above the diagnostic threshold. No signs of thrombosis or circulatory compromise were observed, and fetal growth remained appropriate. The case aligns with findings from similar case reports suggesting that isolated mild UVV may carry a good prognosis when properly monitored. Management typically includes frequent fetal growth and Doppler assessments to detect early signs of fetal compromise. There is no consensus on the ideal delivery timing in isolated UVV; however, most authors recommend delivery at term in the absence of complications. Our approach mirrored this guidance, with serial ultrasounds and careful intrapartum planning. This case reinforces the importance of shared decision-making and multidisciplinary input. Fetal medicine specialists, obstetricians, and neonatologists collaborated to ensure a coordinated plan from diagnosis to delivery, contributing to the positive maternal and neonatal outcome.

Conclusion

Isolated intra-abdominal umbilical vein varix, particularly when mild and without coexisting abnormalities, may not significantly impact pregnancy outcomes. With close antenatal monitoring and timely delivery, good perinatal outcomes are achievable. This case supports a conservative approach in selected low-risk patients, emphasizing the role of structured surveillance and individualized care.

References

- Gupta R, Al-Rubaie Z, Timmons L. Umbilical vein varix: prenatal diagnosis and outcome in a tertiary care setting. *J Obstet Fetal Med.* 2021;28(4):211–215.
- Hassan S, Leung V, Morin L. Natural history of isolated intra-abdominal umbilical vein varix. *Ultrasound Obstet Gynecol.* 2020;55(3):295–300.
- Dobson P et al. Umbilical cord anomalies and perinatal outcomes: a systematic review. *Br J Obstet Gynaecol.* 2022;129(5):603–610.
- Smith J, Kaur M. Management dilemmas in fetal umbilical vascular malformations: a review. *Fetal Diagn Ther.* 2019;45(6):393–399.
- Royal College of Obstetricians and Gynaecologists. *Management of Rare Prenatal Ultrasound Findings.* RCOG Green-top Guideline No. 85. London: RCOG Press; 2023.

Dr. Mohamed Badawy
Specialist Doctor of obstetrics and gynaecology
Mr. Hashem Elhossamy
Consultant of obstetrics and gynaecology
The Dudley Group NHS Foundation Trust