AMJ Australasian Medical Journal [AMJ 2025;18(2):1266-1268]

Short Umbilical Cord Diagnosed at 12 Weeks of Amenorrhea : Case Report

Houssem Ragmoun[1], Montacer Hafsi[1*], Asma Zouaghi[1], Azer Hafsi[1], Eya Kristou[1], Sarra Rihani[1]

[1]Department of Gynecology and Obstetrics, Tunis El Manar University, Tunisia

CASE REPORT

Please cite this paper as: Ragmoun H, Hafsi M, Zouaghi A, Hafsi A, Kristou E, Rihani S. Short Umbilical Cord Diagnosed at 12 Weeks of Amenorrhea : Case Report. AMJ 2025;18(1):1266-1268.
https://doi.org/10.21767/AMJ.2025.4079

Corresponding Author:
Montacer Hafsi
Department of gynecology and obstetrics,
Tunis El Manar University,
Tunisia
montacer.hafsi@etudaint-fmt.utm.tn

Abstract

Introduction
The umbilical cord plays a critical role in fetal development, facilitating nutrient, oxygen, and waste exchange. Deviations from normal length, particularly a short umbilical cord (less than 35 cm at term), are associated with adverse perinatal outcomes, including restricted fetal movement, intrauterine growth restriction (IUGR), and preterm birth. Although typically detected later in pregnancy or postpartum, advancements in ultrasonography enable earlier diagnosis. This report presents a case of a short umbilical cord identified at 12 weeks of gestation through routine prenatal ultrasonography, emphasizing the significance of early detection for clinical decision-making and maternal-fetal outcomes.

Methods
A 29-year-old gravida 2, para 1 woman underwent routine prenatal ultrasonography at 12 weeks of gestation. A high-resolution transabdominal ultrasound and three-dimensional imaging confirmed an umbilical cord measuring 8 cm, significantly shorter than expected. Doppler studies showed normal umbilical artery blood flow. Amniotic fluid volume, fetal movements, and structural development were assessed, revealing no additional anomalies. Following multidisciplinary counseling, the pregnancy was terminated at 12 weeks of gestation. Post-procedure fetopathologic examination verified the findings.

Results
The umbilical cord's short length was confirmed via fetopathologic examination (8 cm), with normal placenta morphology and no fetal structural abnormalities. This early diagnosis allowed for informed counseling and management, prioritizing maternal well-being given the uncertain fetal prognosis. The case underscores the role of advanced imaging in early anomaly detection and the subsequent impact on care planning.

Discussion
Short umbilical cord is a rare anomaly with significant implications for fetal and maternal outcomes. Early detection using advanced ultrasonography, as demonstrated in this case, facilitates timely counseling and management. The decision to terminate the pregnancy was made to mitigate maternal risks and address the uncertain prognosis. This case underscores the importance of a personalized approach to rare prenatal anomalies. Further research is needed to elucidate the etiology, optimize diagnostic protocols, and establish evidence-based guidelines for management.

Conclusion
This case highlights the utility of advanced ultrasonography in detecting rare prenatal anomalies, such as a short umbilical cord, as early as the first trimester. Early diagnosis and multidisciplinary counseling enable tailored care, optimizing outcomes for both mother and fetus. Further studies are essential to refine diagnostic and management strategies for this rare condition

Key Words: Short Umbilical Cord, Early Diagnosis, Prenatal Ultrasonography, 12 Weeks Amenorrhea, Case Report.

Introduction

The umbilical cord is an essential structure in fetal development, acting as a conduit for nutrients, oxygen, and waste exchange between the fetus and the placenta. Any deviation in its normal length, particularly a short umbilical cord (defined as less than 35 cm at term), has been associated with significant complications, such as restricted fetal movement, intrauterine growth restriction (IUGR), preterm birth, and adverse perinatal outcomes. Such anomalies are typically detected later in pregnancy, during delivery, or in the postpartum period [1].

However, advancements in ultrasonography have made early detection feasible, albeit uncommon. Early diagnosis of a short umbilical cord can enable closer surveillance and

tailored management to mitigate potential risks [2]. This report discusses a case where a short umbilical cord was identified at 12 weeks of gestation (amenorrhea) through routine prenatal ultrasonography. The clinical findings, subsequent monitoring, and management strategies are explored, emphasizing the importance of early diagnosis in improving maternal and neonatal outcomes.

Case Observation

A 29-year-old gravida 2, para 1 woman presented for routine prenatal care at 12 weeks of gestation. Her medical and obstetric histories were unremarkable. Ultrasonography performed with a high-resolution transabdominal probe (5–7 MHz) revealed a crown-rump length consistent with 12 weeks of gestation. A notable finding was the umbilical cord, which measured approximately 8 cm, significantly shorter than expected for the gestational age. Three-dimensional ultrasonography confirmed this measurement, and Doppler studies demonstrated normal umbilical artery blood flow (**Figure 1**).

Amniotic fluid volume and fetal movements were assessed and found to be within normal limits. No structural anomalies were detected at this stage. Given the significant findings and the potential complications associated with a short umbilical cord, the pregnancy was terminated at 12 weeks of gestation following multidisciplinary counseling and discussion with the patient. The decision prioritized maternal well-being and took into account the uncertain prognosis for the fetus.

Post-procedure fetopathologic examination confirmed a short umbilical cord measuring 8 cm and revealed no additional abnormalities. The placenta demonstrated normal morphology with a central cord insertion site. This case highlights the importance of early detection in guiding clinical decisions and optimizing care (**Figure 2**).

Discussion

Short umbilical cord is a rare anomaly with complex implications for fetal well-being and perinatal outcomes. The diagnosis in this case at 12 weeks of gestation underscores the critical role of advanced ultrasonography in early anomaly detection. While the etiology remains unclear, proposed mechanisms include reduced fetal movement, intrinsic developmental abnormalities of the cord, or restricted uterine space. These factors may interact to influence cord length, making each case unique in its presentation and management [3].

In this case, the early termination of pregnancy after counseling was a carefully considered decision, aimed at mitigating potential risks to maternal health and addressing the uncertain prognosis associated with the anomaly [4]. The absence of structural anomalies in the fetus and placenta was reassuring, yet the potential for complications such as restricted fetal growth, cord rupture, or adverse perinatal outcomes justified the course of action [5].

This case demonstrates the utility of ultrasonography and fetopathologic examination in confirming the diagnosis and informing management decisions. It also highlights the importance of personalized care plans in addressing rare anomalies such as short umbilical cords [6].

Despite the successful diagnostic process, the rarity of early-diagnosed short umbilical cords highlights the need for further research. Future studies should focus on elucidating the etiology, optimizing diagnostic protocols, and establishing evidence-based guidelines for management [7].

In conclusion, this case emphasizes the significance of early detection and multidisciplinary counseling in managing rare prenatal anomalies. Advanced imaging modalities and tailored care are indispensable in ensuring optimal outcomes [8].

Conclusion

A short umbilical cord diagnosed at 12 weeks of amenorrhea presents unique challenges requiring multidisciplinary management. Early identification allows for close monitoring and proactive delivery planning, optimizing maternal and neonatal outcomes. This case contributes to the limited literature on early-diagnosed short umbilical cords and highlights the importance of advanced imaging techniques in prenatal care.

References

1. Ryo E, Kamata H, Seto M, et al. Correlation between umbilical cord length and gross fetal movement as counted by a fetal movement acceleration measurement recorder. Eur J Obstet Gynecol Reprod Biol. 2019;1:100003. DOI: https://doi.org/10.1016/j.eurox.2019.100003
2. Miller ME. Structural defects as a consequence of early intrauterine constraint: limb deficiency, polydactyly, and body wall defects. Semin Perinatol. 1983;7(4):274-277.
3. Ayala NK, Ernst LM, Miller ES. Is umbilical coiling genetically determined?. J Perinatol. 2018;38(6):653-7. DOI: https://doi.org/10.1038/s41372-018-0078-y.
4. Prefumo F, Izzi C. Fetal abdominal wall defects. Best Pract Res Clin Obstet Gynaecol. 2014;28(3):391-402.
5. Bence CM, Wagner AJ. Abdominal wall defects. Transl Pediatr. 2021;10(5):1461. DOI: https://doi.org/10.5772/intechopen.71936.
6. Mraihi F, Kristou E, Hafsi M, et al. Short Umbilical Cord Syndrome: Antenatal Diagnostic. Clin Case Rep Int. 2023;7;1572.
7. Van Allen MI, Curry C, Gallagher L, et al. Limb body wall complex: I. Pathogenesis. Am J Med Genet. 1987;28(3):529-48. DOI: https://doi.org/10.1002/ajmg.1320280302.
8. Miller Me, Higginbottom My, Smith Dw. Short Umbilical Cord: Its Origin and Relevance. Obstet Gynecol Surv. 1982;37(1):9-10.

[AMJ 2025;18(2):1266-1268]

DOI: https://doi.org/10.1542/peds.67.5.618

DISCLOSURE

Consent for publication

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Financial support and sponsorship

Not applicable

Availability of supporting data

Not applicable

Acknowledgements

None

Ethical approval

Not applicable. Our institution requires no ethical approval for case reports.

Conflicts Of Interest

All authors declare that they have no conflicts of interest.

Figures

Figure 1: Ultrasonographic imaging at 12 weeks showing a short umbilical cord.

Figure 2: Postnatal fetopathologic examination confirming the umbilical cord's gross morphology.

Received: *10-Feb-2025, Manuscript No. AMJ-25-4079;* ***Editor assigned:*** *11-Feb-2025, PreQC No. AMJ-25-4079(PQ);* ***Reviewed:*** *22-Feb-2025, QC No. AMJ-25-4079;* ***Revised:*** *24-Feb-2025, Manuscript No. AMJ-25-4079(R);* ***Published:*** *28-Feb-2025*