

Case Report

Unusual Case of Placental Cyst Associated with Severe Oligohydramnios and Intrauterine Growth Restriction in a Patient with Primary Infertility

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Abstract

Keyword:

Placental cyst, primary infertility, intrauterine growth restriction, oligohydramnios, placental insufficiency

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Placental cysts are rare findings that may compromise placental function, but their antenatal diagnosis is challenging. We present a case of a 42-year-old woman with 15 years of primary infertility (female factor) who conceived after eight months of infertility treatment. Her pregnancy course was uneventful until 28 weeks of gestation, when she developed features of placental insufficiency, severe oligohydramnios, and intrauterine growth restriction (IUGR). She was closely monitored with serial ultrasounds, Doppler studies, three-dimensional imaging, and laboratory tests. At 36 weeks' gestation, cesarean delivery was performed due to progressive placental dysfunction, and a live male infant weighing 1.4 kg (appropriate for 32 weeks) was delivered. The neonate required two days of neonatal intensive care but was discharged in good health. Intraoperatively, a large placental cyst was observed, which had not been detected by prenatal imaging. At two months' postnatal follow-up, the infant was thriving well. This case highlights the clinical significance of undiagnosed placental cysts and their impact on pregnancy outcome, even under close surveillance.

Introduction

Placental cysts are uncommon but may impair placental function and fetal growth depending on their size and location. Antenatal recognition remains difficult despite advances in imaging modalities. We report a rare case of a large undiagnosed placental cyst in a woman with longstanding primary infertility, resulting in severe oligohydramnios and IUGR¹.

Placental cysts, particularly large or multiple cysts located near the umbilical cord insertion, are associated with an increased risk of fetal growth restriction (FGR). These cysts can interfere with umbilical cord blood flow and placental function, potentially leading to compromised fetal growth².

Placental cysts are fluid-filled sacs found on the fetal side of the placenta. While small cysts (<1-2 cm) are common and usually benign, larger cysts (>3-5 cm) or multiple cysts (>3-4) are linked to adverse pregnancy outcomes including FGR, preeclampsia, and preterm delivery.

Cysts near the umbilical cord insertion have a higher risk of causing umbilical cord constriction, which may reduce blood flow from the placenta to the fetus, leading to intrauterine growth retardation and fetal asphyxia³.

Placental cysts may develop from subchorionic fibrin deposits or cystic changes in placental tissue. Their presence near the cord insertion or in large numbers can restrict umbilical blood flow

Ultrasound and Doppler studies show decreased blood flow in the umbilical cord when cysts enlarge, providing a basis for monitoring fetal well-being in affected pregnancies⁴.

A placental cyst can sometimes cause fetal growth restriction (FGR) by increasing the risk of umbilical cord constriction, especially if the cyst is large, numerous, or

located near the umbilical cord insertion point. This constriction can reduce blood flow to the fetus, leading to FGR and potentially other complications like intrauterine asphyxia. While small, single cysts are usually harmless, close monitoring with ultrasound is recommended for larger or more complex cysts to assess for potential risks to fetal well-being⁵.

Case Presentation

A 42-year-old woman with a 15-year history of primary infertility (female factor) conceived after infertility management under our care. The pregnancy was initially straightforward until 28 weeks of gestation, when signs of placental insufficiency were noted, including severe Oligohydramnios and intrauterine growth restriction. The patient was monitored intensively with serial ultrasonography, including Doppler flow studies, three-dimensional ultrasound, and blood investigations. Despite surveillance and supportive management, fetal growth lagged behind, with biometric parameters corresponding to 32 weeks at 36 weeks of gestation.

At 36 weeks, elective cesarean section was performed due to progressive placental insufficiency. A live male neonate weighing 1.4 kg was delivered. The newborn required admission to the neonatal intensive care unit for two days and was discharged in stable condition.

Examination of the placenta intraoperatively revealed a large cyst, which had not been identified by prenatal imaging. This cyst was considered the underlying cause of placental dysfunction. Photographs of the placenta and neonate were obtained (Figures 1,2,3). At two months post-delivery, the infant was in good health with appropriate growth and development.

Discussion

Placental cysts are typically benign and often incidental findings. However, large or strategically located cysts may interfere with utero-placental circulation, leading to complications such as oligohydramnios, IUGR, and placental insufficiency.

Placental Cyst Can Affect Fetal Growth, Large placental cysts are rare and associated with gestational complications. The cyst's proximity to the umbilical cord insertion increases the risk of cord constriction, potentially compromising fetal growth. Fortunately, most cases with placental cysts have an uneventful pregnancy. However, it is important to be aware of the possible complications, adjusting follow-up with serial ultrasounds to evaluate fetal growth and well-being⁶. Subchorionic placental cysts are ominous findings. When attached near the umbilical cord insertion, the risk of umbilical cord constriction is increased. This may cause fetal growth retardation and intrauterine asphyxia. This article reports a case of subchorionic placental cyst diagnosed in the first trimester by transvaginal ultrasound. Color Doppler ultrasound demonstrated a reduction of the umbilical cord bloodstream as the cyst increased in size. Fetal growth retardation was evident in the third trimester⁷.

In this case, despite advanced imaging techniques including Doppler and 3D ultrasound the cyst was not visualized prenatally. This emphasizes the diagnostic challenge and the potential role of placental pathology in unexplained growth restriction and oligohydramnios.

The case also illustrates the importance of vigilant surveillance in high-risk pregnancies, particularly in women of advanced maternal age and with a background

of infertility. Early recognition of placental dysfunction and timely delivery were crucial in achieving a favorable neonatal outcome.

Conclusion

Large placental cysts may remain undetected during pregnancy and can cause significant complications, including IUGR and oligohydramnios. Careful antenatal surveillance and timely intervention are essential to optimize maternal and neonatal outcomes.

Patient Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Figures:



Figure 1. Placenta at delivery showing a large cystic lesion, which was not detected antenatally.

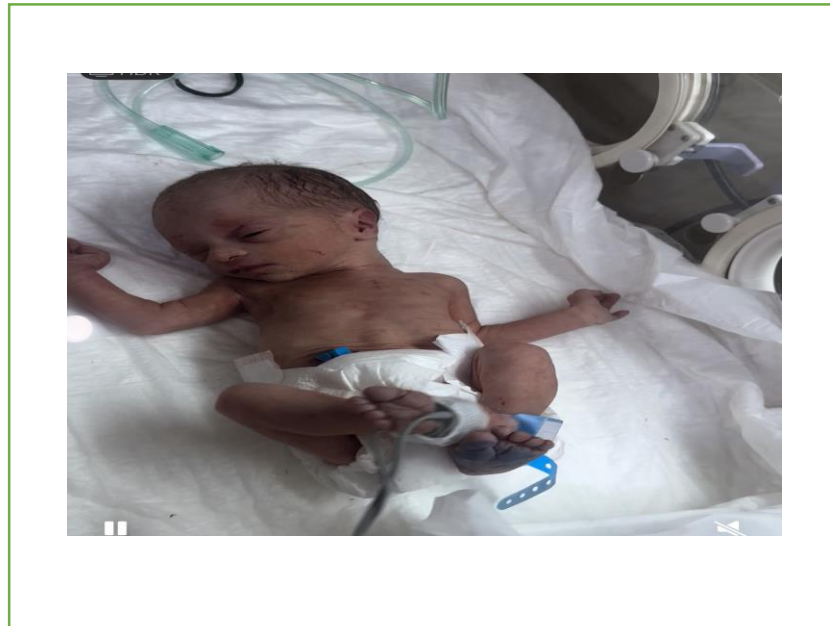


Figure 2. Neonate at the time of delivery (weight 1.4 kg), demonstrating features of intrauterine growth restriction.



Figure 3. The same neonate at two months of age, showing appropriate growth and good health status

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