Case Report

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Giant Placental Chorioangioma with Good Perinatal Outcome: A Report of Two Cases

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ABSTRACT

Placental chorioangioma is the most common benign non-trophoblastic vascular tumor of the placenta. Although most lesions are small and clinically insignificant, giant chorioangiomas (>4 cm) are rare and may be associated with significant maternal and fetal complications, including polyhydramnios, fetal anemia, hydrops fetalis, growth restriction, preterm delivery, and perinatal death.

We report two cases of prenatally diagnosed giant placental chorioangioma with favorable perinatal outcomes. The first patient was a 32-year-old gravida 2 para 1 woman in whom a placental mass measuring 9 × 7 × 5.5 cm was identified at 19 weeks of gestation. Serial ultrasonographic and Doppler evaluations demonstrated a vascular placental tumor consistent with chorioangioma. Mild polyhydramnios developed during follow-up; however, fetal growth, cardiac function, and middle cerebral artery peak systolic velocity remained normal. The pregnancy was managed conservatively, and a healthy neonate was delivered by cesarean section at 37 weeks of gestation. The second patient was a 23-year-old primigravida referred at 35 weeks of gestation with a 9 × 6 cm placental mass. Serial assessments showed no fetal compromise or maternal complications. She delivered a healthy 3200-g female infant vaginally at 38 weeks and 3 days. Histopathological examination confirmed the diagnosis of placental chorioangioma in both cases.

Despite their large size, both tumors were associated with favorable maternal and neonatal outcomes. These cases highlight the variable clinical course of giant chorioangiomas and emphasize the importance of close antenatal surveillance using ultrasound and Doppler studies to detect potential complications.

Giant placental chorioangiomas may remain clinically stable and result in successful pregnancy outcomes when carefully monitored. Prenatal ultrasonography with color Doppler plays a pivotal role in diagnosis and follow-up, while histopathological examination remains the definitive method of diagnosis.

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Introduction

Placental chorioangioma is the most common benign non-trophoblastic vascular tumor of the placenta, with an estimated incidence of approximately 0.5–1% of pregnancies [1]. Most chorioangiomas are small, clinically silent lesions that are identified incidentally during pathological examination of the placenta after delivery. However, giant chorioangiomas, generally defined as tumors larger than 4 cm in diameter, are rare and may be associated with significant maternal and fetal complications [2-4]. Large chorioangiomas can function as arteriovenous shunts within the placental circulation, leading to fetal hemodynamic disturbances. Reported complications include polyhydramnios, fetal anemia, fetal growth restriction, cardiomegaly, congestive heart failure, nonimmune hydrops fetalis, preterm labor, placental abruption, and intrauterine fetal demise. The risk of adverse outcomes is closely related to tumor size and vascularity [5,6].

Prenatal ultrasonography with color Doppler imaging plays a pivotal role in the diagnosis and surveillance of placental chorioangioma. Sonographically, the lesion typically appears as a well-circumscribed mass arising from the fetal surface of the placenta, often near the insertion of the umbilical cord. Doppler evaluation is particularly useful for assessing tumor vascularity and identifying fetuses at risk for complications [7].

Case Presentation 1

A 32-year-old woman, gravida 2 para 1, with a body mass index (BMI) of 23 kg/m² and a history of one previous cesarean delivery, was referred to our center at 19 weeks of gestation following the detection of a placental mass during routine obstetric ultrasonography. Her medical and obstetric history was otherwise unremarkable, with no history of hypertension, diabetes mellitus, thyroid disease, or other chronic medical conditions.

Ultrasound examination revealed a well-circumscribed placental mass measuring approximately 9 × 7 × 5.5 cm, located beneath the chorionic plate near the insertion of the umbilical cord and protruding into the amniotic cavity. Color Doppler imaging demonstrated prominent vascular channels within and surrounding the lesion, raising suspicion for placental chorioangioma (Figure 1).

A detailed fetal anatomical survey, fetal echocardiography, and Doppler assessment of the middle cerebral artery peak systolic velocity (MCA-PSV) were performed and demonstrated normal findings, with no evidence of fetal anemia, structural anomalies, or cardiac dysfunction.

The patient was managed conservatively with serial ultrasonographic evaluations every 2–3 weeks. Follow-up assessments included monitoring of tumor size, fetal growth, amniotic fluid volume, fetal cardiac function, and MCA-PSV. During pregnancy, mild polyhydramnios developed, with an amniotic fluid index (AFI) of approximately 29 cm. Cervical length was measured at 15 mm. Serial sonographic examinations demonstrated apparent reduction in tumor dimensions, measuring 8.18 × 5.56 cm at 30 weeks and 7.36 × 5.26 cm at 31 weeks of gestation (Figure 2).

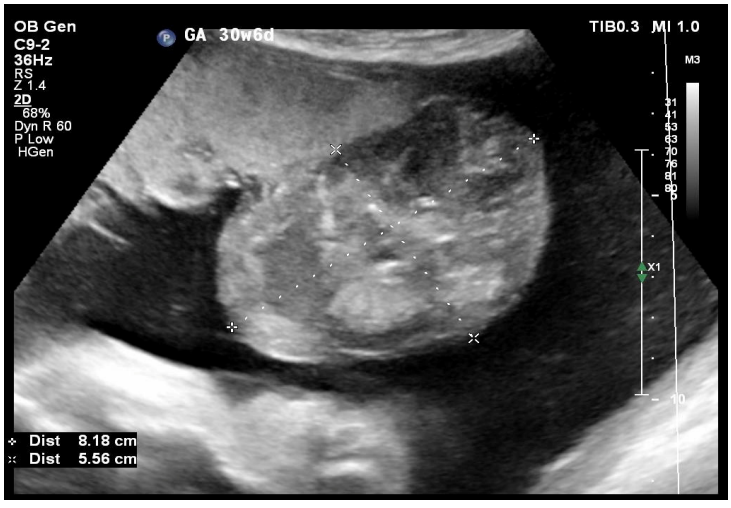

Fig. 1. Gray-scale ultrasonography demonstrating a well-circumscribed placental mass arising from the fetal surface of the placenta.

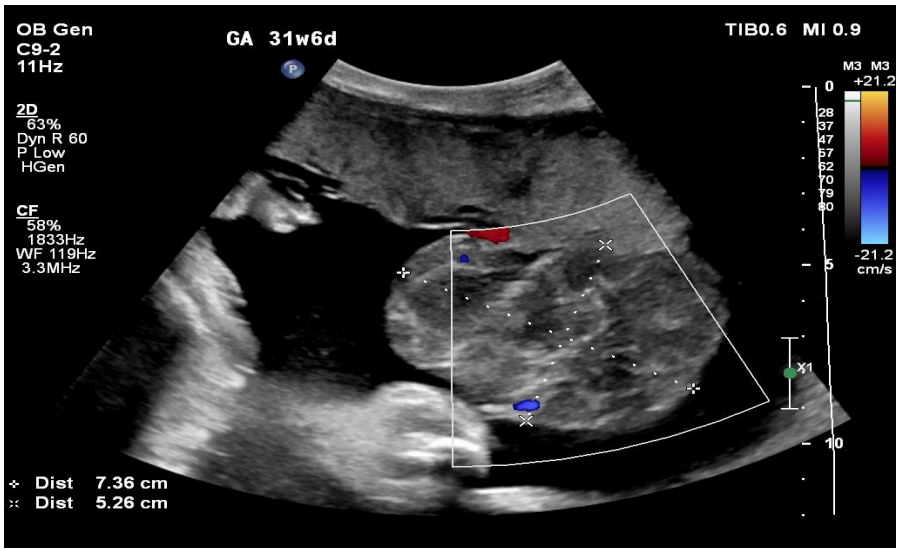

Fig. 2. A gray scale ultrasound image shows the protruding placental mass into the amniotic cavity from a placenta with a 5.26 cm diameter.

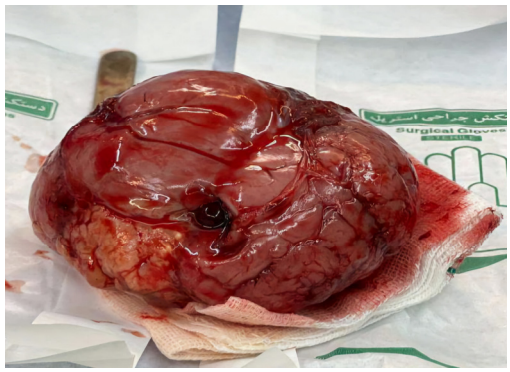

Fig. 3. Macroscopic appearance of a chorioangioma after cesarean delivery.

Despite the large size of the tumor, no severe maternal or fetal complications developed during follow-up. At 37 weeks of gestation, an elective cesarean section was performed, resulting in the delivery of a healthy female neonate weighing 2750 g, with Apgar scores of 9 and 10 at 1 and 5 minutes, respectively. The postnatal course was uneventful.

Gross examination of the placenta revealed a well-defined vascular mass adjacent to the umbilical cord insertion. Histopathological evaluation demonstrated numerous capillary-sized vascular channels embedded within a hypercellular stroma, consistent with placental chorioangioma, thereby confirming the diagnosis (Figure 3).

Case Presentation 2

A 23-year-old primigravid woman with a body mass index (BMI) of 26 kg/m² and an otherwise unremarkable medical history was referred to our center at 35 weeks of gestation following the detection of a placental mass during routine ultrasonographic examination.

Ultrasound evaluation revealed a well-circumscribed placental lesion measuring approximately 9 × 6 cm, located near the insertion of the umbilical cord. Color Doppler imaging demonstrated prominent vascular channels within the mass, findings highly suggestive of placental chorioangioma.

A detailed fetal assessment, including Doppler evaluation of the middle cerebral artery peak systolic velocity (MCA-PSV), demonstrated normal findings without evidence of fetal anemia, cardiac dysfunction, or structural abnormalities. Fetal growth and amniotic fluid volume were within normal limits.

Given the late gestational age at diagnosis and the absence of maternal or fetal complications, conservative management with close antenatal

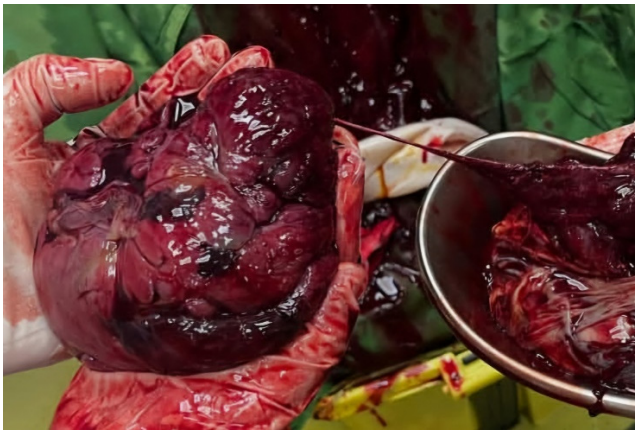

Fig. 4. Macroscopic appearance of a chorioangioma after vaginal delivery.

surveillance was adopted. No significant changes in tumor characteristics or fetal condition were observed during the remainder of the pregnancy.

The patient subsequently underwent spontaneous labor and delivered a healthy female neonate weighing 3200 g at 38 weeks and 3 days of gestation. Apgar scores were 9 and 10 at 1 and 5 minutes, respectively. The neonatal course was uneventful.

Gross examination of the placenta revealed a well-defined vascular mass measuring approximately 12 × 9 cm. Histopathological evaluation confirmed the diagnosis of placental chorioangioma (Figure 4).

Discussion

Placental chorioangioma is the most common benign non-trophoblastic tumor of the placenta; however, clinically significant lesions remain uncommon. Giant chorioangiomas, usually defined as lesions larger than 4 cm, are clinically important because their behavior depends not only on size, but also on vascularity, placental location, and the degree of fetoplacental shunting. Consequently, a large lesion may remain clinically silent in one pregnancy, whereas a smaller but highly vascular tumor may be associated with substantial fetal compromise [8-12].

In the present report, both cases involved large placental masses with demonstrable vascularity on color Doppler, yet neither pregnancy developed fetal anemia, hydrops fetalis, cardiac dysfunction, or growth restriction, and both neonates had favorable outcomes. In the first case, mild polyhydramnios occurred during follow-up, but serial fetal surveillance, including MCA-PSV and fetal echocardiography, remained reassuring. These findings support the view that tumor size alone is not a reliable predictor of adverse perinatal outcome, and that fetal physiological response should guide management [13].

Adverse outcomes are more likely when the tumor acts as an arteriovenous shunt, resulting in fetal hyperdynamic circulation, anemia, cardiomegaly, hydrops, and preterm delivery. In contrast, some large lesions remain hemodynamically well tolerated, particularly when detected early and followed closely with serial ultrasonography and Doppler assessment. The favorable course in our patients is most likely attributable to the absence of sonographic signs of fetal compromise and to timely conservative management under close surveillance [14,15].

Prenatal ultrasonography with color Doppler remains the cornerstone of diagnosis and follow-up. Gray-scale imaging identifies the placental mass, whereas Doppler evaluation demonstrates intratumoral vascularity and feeding vessels, thereby supporting the diagnosis and helping to differentiate chorioangioma from other placental lesions. A recent review also emphasized that large chorioangiomas warrant thorough sonographic assessment for fetal cardiac compromise and fetal anemia, with surveillance tailored to fetal condition and gestational age. In selected cases with atypical appearance or extensive heterogeneity, MRI may provide additional anatomic detail; however, ultrasound with Doppler remains the primary modality for diagnosis and follow-up [8,16].

Management should be individualized according to gestational age and fetal condition. In asymptomatic cases without evidence of anemia, hydrops, or cardiac overload, expectant management is appropriate and may result in term delivery, as seen in both of our cases. By contrast, invasive treatment is generally reserved for cases complicated by severe polyhydramnios, fetal anemia, nonimmune hydrops fetalis, or progressive fetal compromise. Available reports describe several options in selected complicated cases, including

amnioreduction, cordocentesis with intrauterine transfusion, laser coagulation of feeding vessels, and other devascularization techniques. Therefore, the presence of a giant chorioangioma does not itself mandate intervention if fetal status remains stable [15,17].

A further point of interest is the apparent reduction in tumor dimensions during follow-up in the first case. This finding may reflect technical variation in sonographic measurement, changes in lesion configuration, or altered intratumoral perfusion rather than true regression. Prior ultrasound-based reports have also noted that changes in vascularity may occur over time and may be accompanied by changes in amniotic fluid volume and pregnancy course. Such observations should therefore be interpreted cautiously, and serial imaging under standardized conditions remains essential [9].

The present cases add to the existing literature by showing that even large, vascular chorioangiomas may have a benign course when fetal hemodynamic compromise is absent and surveillance is maintained. This is clinically relevant because the published spectrum of outcomes remains broad, ranging from uncomplicated term delivery to severe prematurity, hydrops, and fetal death. In addition, chorioangioma has been implicated in rare cases of hydrops fetalis and maternal complications, further emphasizing the need for individualized follow-up. Taken together, these observations support a management strategy based on fetal condition rather than tumor size alone [17].

Additionally, advanced placental vascular quantification was not performed, so the exact degree of fetoplacental shunting could not be measured. Nevertheless, these cases illustrate a practical surveillance approach and reinforce the value of conservative management in carefully selected pregnancies.

Conclusion

Giant placental chorioangioma is a rare placental tumor that may be associated with significant maternal and fetal complications. However, as demonstrated in our two cases, favorable pregnancy outcomes can be achieved despite large tumor size when fetal well-being is preserved and close antenatal surveillance is maintained.

Prenatal ultrasonography with color Doppler plays a central role in the detection and monitoring of these tumors, while histopathological examination remains the definitive method of diagnosis. Careful individualized management and regular fetal assessment are essential to identify complications promptly and optimize perinatal outcomes.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this article.

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Conflict of Interests

The authors have no conflict of interest to declare.

Author Contributions

S.KH. contributed to the investigation, original draft preparation, and manuscript review and editing. M.N. and Z.S. participated in the investigation, data interpretation, and manuscript writing and revision. H.S. was responsible for data curation, resource collection, and manuscript preparation. A.Z. contributed to study conceptualization, methodology design, project administration, supervision, and final manuscript validation. All authors have read and approved the final version of the manuscript.

Ethics Statement

This study was conducted in accordance with the principles of the Declaration of Helsinki. The research protocol was reviewed and approved by the Ethics Committee of Isfahan University of Medical Sciences (approval code: IR.ARI.MUI.REC.1404.325).

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Consent

Written informed consent has been obtained from the patient involved in this study.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Key Clinical Message

Giant placental chorioangioma may remain clinically silent despite its size. Careful prenatal surveillance with serial ultrasonography, color Doppler, fetal growth assessment, MCA-PSV monitoring, and amniotic fluid evaluation can help assess fetal well-being and guide conservative management to achieve a favorable perinatal outcome.

References

[1] Ma H, Liu Z, Ruan J. Placental chorioangioma and pregnancy outcome: a ten-year retrospective study in a tertiary referral centre. BMC Pregnancy Childbirth. 2023;23(1):381. https://doi.org/10.1186/s12884-023-05719-x

[2] Abdalla N, Bachanek M, Trojanowski S, Cendrowski K, Sawicki W. Placental tumor (chorioangioma) as a cause of polyhydramnios: a case report. Int J Womens Health. 2014;6:955-959. https://doi.org/10.2147/IJWH.S72178

[3] Roberts DJ, Polizzano C. Atlas of Placental Pathology. Arlington, Virginia: American Registry of Pathology; 2021. https://doi.org/10.55418/9781933477091

[4] Vaidyanathan G, Bai A, Perchani J, Said H El, Lakhtakia R. Placental Chorioangioma: Usual Presentation and Alternate Treatment Options. J Case Rep. 2016;7(1):30-32. https://doi.org/10.17659/01.2016.0008

[5] Zanardini C, Papageorghiou A, Bhide A, Thilaganathan B. Giant placental chorioangioma: natural history and pregnancy outcome. Ultrasound Obstet Gynecol. 2010;35(3):332-336. https://doi.org/10.1002/uog.7451

[6] Froehlich LA, Fujikura T, Fisher P. Chorioangiomas and their clinical implications. Obstet Gynecol. 1971;37(1):51-59.

[7] Zacharis K, Kravvaritis S, Charitos T, Chrysafopoulou E, Fouka A. A rare case of a giant placental chorioangioma with favorable outcome. Pan Afr Med J. 2020;36:214. https://doi.org/10.11604/pamj.2020.36.214.21635

[8] Zalel Y, Weisz B, Gamzu R, Schiff E, Shalmon B, Achiron R. Chorioangiomas of the Placenta. J Ultrasound Med. 2002;21(8):909-913. https://doi.org/10.7863/jum.2002.21.8.909

[9] Ghourab S. Ultrasound in the management of Chorioangioma. Saudi Med J. 2001;22(7):585-589. https://doi.org/10.15537/1658-3175.1456

[10] Taori K, Patil P, Attarde V, Singh A, Rangankar V. Chorioangioma of placenta: Sonographic features. J Clin Ultrasound. 2008;36(2):113-115. https://doi.org/10.1002/jcu.20366

[11] Jauniaux E, Ogle R. Color Doppler imaging in the diagnosis and management of chorioangiomas. Ultrasound Obstet Gynecol. 2000;15(6):463-467. https://doi.org/10.1046/j.1469-0705.2000.00127.x

[12] Kataria N. Giant Placental Chorangioma: A Rare Case Report. J Clin Diagn Res. 2016;10(4):ED03-ED04. https://doi.org/10.7860/JCDR/2016/17222.7540

[13] Abdalla N, Piórkowski R, Stanirowski P, Pazura M, Cendrowski K, Sawicki W. Can ultrasound be helpful in selecting optimal management methods for pregnancies complicated by placental non-trophoblastic tumors? J Ultrason. 2017;17(69):116-122. https://doi.org/10.15557/JoU.2017.0017

[14] Sivasli E, Tekşam O, Hallioğlu M, Güçer S, Orhan D, Gürgey A, et al. Hydrops fetalis associated with chorioangioma and thrombosis of umbilical vein. Turk J Pediatr. 2009;51(5):515-518.

[15] Empliouk E, Sidiropoulos A, Yfanti C, Tsakmaki E, Romanidou L, Tsitsila K, et al. A Case Report of a Giant Placental Chorioangioma: Prenatal Diagnosis and Perinatal Outcome. Cureus. 2025;17(9):e91642. https://doi.org/10.7759/cureus.91642

[16] Jha P, Paroder V, Mar W, Horowtiz JM, Poder L. Multimodality imaging of placental masses: a pictorial review. Abdom Radiol. 2016;41(12):2435-2444. https://doi.org/10.1007/s00261-016-0919-0

[17] LeMoine F, Agarwal N, Naranjo S, Johnson A, Backley S, Bergh EP, et al. Diagnosis and management of large placental chorioangiomas. Best Pract Res Clin Obstet Gynaecol. 2025;102:102644. https://doi.org/10.1016/j.bpobgyn.2025.102644