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Giant Placental Chorioangioma with Favourable Outcome

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Abstract

Introduction: Chorioangioma is the most common benign tumour of the placenta. Small chorioangiomas are usually asymptomatic, whereas giant chorioangiomas (>4 cm) are rare and may be associated with significant maternal and fetal complications, including polyhydramnios, fetal hydrops, cardiomegaly, fetal anaemia, congestive cardiac failure, intrauterine death, antepartum haemorrhage and preterm delivery. These complications may result from arteriovenous shunting through the tumour. We present a rare case of a giant placental chorioangioma associated with severe polyhydramnios but a favourable perinatal outcome following conservative management. **Case Report:** A 28-year-old para 3 woman was diagnosed with a giant placental chorioangioma at 21 + 3 weeks of gestation. The tumour measured 27 × 24 × 43 mm and was located at the placental edge. Despite progressive growth, reaching 94 × 37 × 63 mm at 33 + 5 weeks, the patient remained asymptomatic, with normal fetal growth and normal umbilical artery Doppler studies. Severe polyhydramnios subsequently developed, with an amniotic fluid index (AFI) of 36 cm, necessitating hospital admission for close maternal and fetal surveillance and administration of antenatal corticosteroids in anticipation of possible preterm delivery should the maternal or fetal condition deteriorate. The case was discussed regularly at the multidisciplinary team (MDT) meeting, and the plan was for delivery at 37 weeks provided maternal and fetal conditions remained stable. The patient subsequently had an uncomplicated vaginal delivery at 37 + 2 weeks. The neonate weighed 2792 g and was clinically well. The placenta weighed 1926 g, with the chorioangioma measuring 10 × 5 cm. Histological examination confirmed a chorioangioma with areas of infarction and calcification. **Discussion:** Chorioangioma is a rare placental tumour that can be associated with significant maternal and fetal complications, particularly when the lesion exceeds 4 cm in diameter. Polyhydramnios is one of the most commonly reported complications of giant chorioangiomas and may result from increased transudation of fluid across the tumour or impaired fetal swallowing secondary to polyhydramnios-related complications. Diagnosis and monitor-

ing rely primarily on ultrasound assessment, including serial evaluation of tumour size, fetal growth, amniotic fluid volume and Doppler studies. In uncomplicated cases, conservative management with close ultrasound surveillance may be appropriate. Severe cases with evidence of fetal compromise may require interventions such as laser coagulation of feeding vessels, embolization, alcohol injection or therapeutic amnio drainage. However, invasive procedures carry significant risks, including fetal bleeding, exsanguination and fetal death, and therefore require careful multidisciplinary consideration. In this case, the absence of evidence of fetal anaemia, hydrops or hyperdynamic circulation allowed conservative management despite the substantial size of the tumour, resulting in a favourable maternal and neonatal outcome. **Conclusion:** Giant placental chorioangiomas are rare and can be associated with serious maternal and fetal complications. Close surveillance with serial ultrasound assessment, fetal Doppler studies and multidisciplinary management is essential. In the absence of fetal compromise, conservative management may be appropriate, even in the presence of significant tumour growth and polyhydramnios. This case highlights the importance of individualized management, careful counselling and timely intervention to achieve a favourable outcome.

Keywords

Placental Chorioangioma, Giant Placental Chorioangioma, Polyhydramnios, Fetal Hydrops, Placental Infarction

1. Introduction

Chorioangioma is the most common benign tumour of the placenta characterised by AV shunting within the placenta. The clinical significance relates to the size of the tumour. Small chorioangioma occurs with a frequency of <1% remains asymptomatic with no clinical significance. Conversely, a giant chorioangioma greater than 4 cm is rare but often associated with a variety of pregnancy complications including Polyhydramnios, Fetal hydrops, Cardiomegaly, fetal anemia, congestive heart failure, intra uterine death, antepartum haemorrhage, and Preterm delivery.

On ultrasound chorioangioma appears as a well circumscribed rounded predominantly hypoechoic lesion near the chorionic surface, protruding into the abdominal cavity. Theses tumour masses are composed of multiple fetal capillaries supported by stroma and are predominantly perfused by Fetal circulation.

Treatment includes Conservative management in controlled situation with frequent ultrasound and Doppler. Amnioreduction may give temporary relief. Some advocate vessel occlusions or ablation to reduce blood flow to the tumour.

2. Case Report

A 28-year-old Para 3 has had all vaginal deliveries; the last two babies were small for gestational age. She has had shared care with regular visits. Her last child was

diagnosed with a loss of the short arm of chromosome 11 with global developmental delays. In 2019 she underwent LLETZ treatment for an abnormal smear test. She also suffered from depression in the past therefore was under the Green mental health pathway. She was a nonsmoker and non-alcoholic.

Her 12-week scan was normal, and she had a low chance of trisomy on combined screening. An anomaly scan at 21 + 3 weeks, she was first diagnosed with having placental Chorioangioma as a solid vascular structure at the edge of the placenta which measured 27 × 24 × 43 mm. The patient and her husband were counselled about Placental chrioangioma pathophysiology, associated maternal and fetal complications with possible implications, prognosis and possible choices of treatment were discussed with the need for increased surveillance every 2 to 3 weeks with fetal scans.

Repeat scan at 23 + 3 weeks showed increased growth of chorioangioma to 51 × 25 × 35 mm. Revisited counselling about possible implications and consequences and the need for frequent surveillance. In addition, the conditions communicated led to hyperdynamic circulation including polyhydramnios and cardiac failure which were not present then.

Around 28 + 4 weeks' patients underwent a follow-up scan. Placental tumor was further increased to 73 × 42 × 61 mm but the fetal growth, liquor volume and Doppler remained normal therefore reassured of the scan findings (Figure 1).

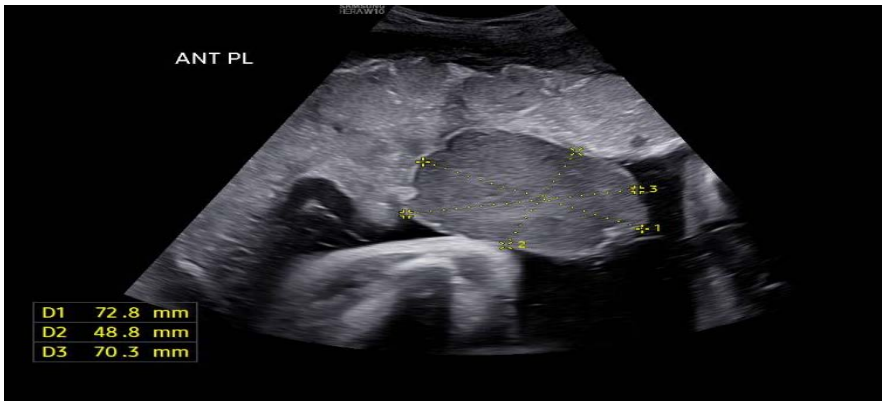

Figure 1. Ultrasound image of placental chorioangioma 1.

At 33 + 5 weeks' patient became symptomatic of abdominal discomfort with normal fetal growth and normal umbilical artery doppler. However, the liquor volume was increased with the AFI of 36 cm, DVP of 12 cm. Although the size of the placental tumor was further increased to 94 × 37 × 63 mm. Placental thickness was reduced from 35 mm to 23 mm likely due to pressure on placenta. The couple was informed of the scan findings and counselled about the appearance of severe polyhydramnios, which gave rise to the symptoms of abdominal discomfort. Nevertheless, there is no evidence of pericardial effusion or hydrothorax. Also, there were no signs of hydrops and MCA-PSV was normal. However, in the presence of abdominal discomfort and severe polyhydramnios she was admitted, offered analgesia steroids and surveillance with twice weekly umbilical artery & Middle

cerebral artery doppler and amniotic fluid index to assess hyperdynamic status based on MDT outcome (Figure 2).

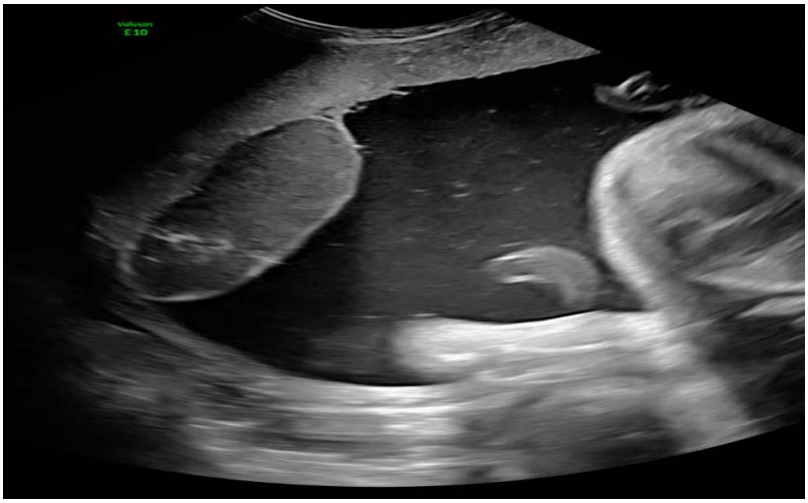

Figure 2. Ultrsound image of placental Chorioangioma 2.

The patient remained stable with normal observations and normal fetal monitoring with CTG. Fetal surveillance did not reveal fetal cardiac compromise therefore, she was managed conservatively. The purpose of fetal surveillance and corticosteroid therapy was to intervene early if the mother becomes unwell or the fetus shows any signs of compromise by developing hydrops or having abnormal dopplers. She underwent another scan to assess the fetal growth and placental tumor size at 36 + 4 weeks. The placental tumor remained the same. Stunningly, DVP was reduced to 8 cm which was a slight improvement. Undoubtedly, the dopplers were normal. After having discussed in MDT delivery was planned at 37 weeks.

She was induced at 37 weeks and had a vaginal delivery at 37 + 2 weeks with Kiwi cup. She had an uneventful labour and delivery with minimal blood loss. A female child weighing 2.79 gm, was born in good condition. The placenta appeared massive, weighing 1926 gm. The chorioangioma appeared as a kidney shaped reddish-brown in colour measured 10 × 5 cms (Figure 3).

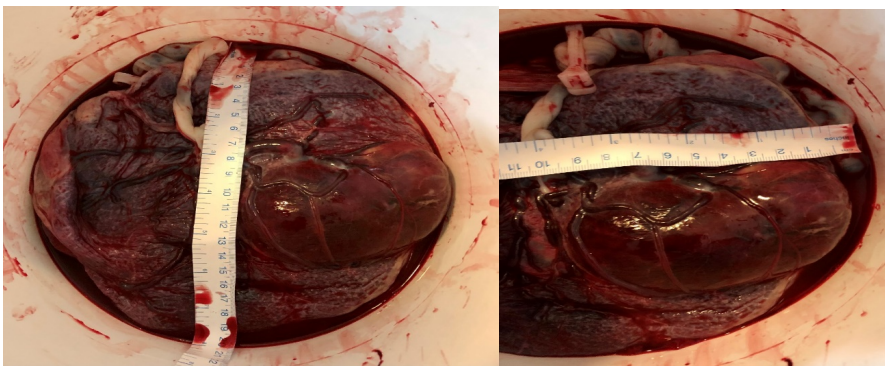

Figure 3. Image of placenta with giant chorioangioma.

Histology revealed that on gross examination the tumor was lying adjacent to the umbilical cord and appeared as a raised congested soft to firm slightly fluctuant nodule on the fetal aspect, measuring 96 × 65 × 35 mm with opalescent membranes and prominent vessels. The trimmed weight of the tumor was 688 gm.

Microscopic examination of the mass confirmed the angiomatous pattern of chorioangioma. There was widespread placental calcification with no evidence of infarction and normal villous morphology. However, in some areas of chorioangioma there was evidence of infarction with myxoid changes and hyalinisation with focal calcification. Some of the medium sized vessels showed marked thickening of the wall together with evidence of thrombosis and recanalisation.

3. Discussion

Chorioangioma is the most common non-trophoblastic tumour of the placenta with an incidence of 1%. It is characterised by abnormal proliferation of vessels arising from chorionic tissues.

Most chorioangiomas are of no clinical importance. However, larger than 4 cm, which rarely occur, are sometimes associated with hyperdynamic fetal circulation, and may carry both maternal and fetal risks. Maternal risks are mainly polyhydramnios and Preterm delivery. Whereas fetal complications include fetal anemia, hydrops, Cardiomegaly and increased perinatal mortality. A persistent hyperdynamic circulation may also predispose to abnormal neurodevelopment in childhood [1].

Polyhydramnios is the most common complication of placental chorioangioma occurring in 18% - 35% of cases of giant chorioangioma [2].

Ultrasound is the gold standard for prenatal diagnosis and monitoring of placental Chorioangioma [3]. Usually an incidental finding on routine ultrasound examination. So far, no established ultrasound guidelines are available for the management of chorioangiomas. However, the role of ultrasound is to establish the site of the placenta, tumor size, vascularity, feeding vessels and amniotic fluid assessment in the diagnosis, monitoring and management [4].

Conservative management with serial ultrasound examination can be an adequate method of monitoring for uncomplicated Giant chorioangiomas. In view of the association between placental chorioangioma and poor pregnancy outcome, close surveillance is recommended [5].

The management of the tumor remains a challenge in fetal therapy practice. If complications develop late in pregnancy, delivery should be strongly considered. Where second trimester complications occur, which are usually more severe, in-utero treatment should be considered, after counselling with the patient. There are several modalities of treatment published to date but with limited data. These include endoscopic laser coagulation of feeding vessels, alcohol injection, microscopic embolization and therapeutic amniodrainage [6]. Endoscopic laser coagulation and microscopic embolization are associated with significant complications including fetal bleeding, exsanguination and death therefore warrant consideration [6].

In our case, none of the therapeutic measures were required as developed no signs of hyperdynamic circulation. But developed abdominal pain at 36 weeks because of severe polyhydramnios.

4. Conclusion

Placental chorioangioma is a rare tumour which can represent a challenge with its potentially serious complications adversely affecting pregnancy outcome in a small number of cases. This case signifies the importance of monitoring, counselling and timely intervention.

Ethical Approval and Statement of Informed Consent

Research was conducted in accordance with the World Medical Association Declaration of Helsinki. Informed consent was obtained from the patient for publication of this case report.

Author Contributions

Kassam gathered the clinical data, performed the literature review, and drafted the manuscript. Also provided direct patient care, supervised the clinical management, and critically revised the manuscript for intellectual content. Eventually read and approved the final version.

Conflicts of Interest

The authors declare no conflicts of interest.

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