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CHORIOANGIOMA - A RARE CAUSE OF POLYHYDRAMNIOS: A CASE REPORT

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ABSTRACT

Chorioangioma is a benign neoplasm of placenta, consisting of a vascular mass arising from primitive chorionic mesenchyme; presentation varying from asymptomatic small chorioangiomas (< 5 cm) to symptomatic large chorioangiomas (> 10 cm). We report a patient with large chorioangioma and polyhydramnios and neonatal thrombocytopenia with a successful outcome.

KEYWORDS: Chorioangioma, chorionic mesenchyme, placenta, ultrasound, A-V malformation, polyhydramnios, fetal thrombocytopenia.

CASE REPORT

A 28 year old primigravida at 29 weeks of gestation presented with history of leaking per vaginum for 5 hours and pain abdomen for 2 hours. She was admitted 10 days prior with threatened preterm labor during which time chorioangioma of placenta was diagnosed on ultrasound (7x6 cm well defined hypoechoic mass towards fetal surface and Doppler showing increased vascularity within the tumor) [Fig 1 & 2] and polyhydramnios with AFI of 35 cm. She was managed conservatively with tocolysis, 2 doses of betamethasone for fetal lung maturation and indomethacin for polyhydramnios, and discharged at request due to personal constraints after stabilization. On readmission with preterm premature rupture of membranes, examination revealed established preterm labor, antibiotics were started, NICU consultation sought and advised to give maintenance dose of MgSO4, 1 g/hour infusion for 4 hours (for fetal neuroprotection) and allowed for spontaneous delivery. She delivered a live female baby of birth weight 1.7 kg and APGAR of 6/10 and

8/10 at 1 and 5 min respectively. Placenta weighed 2 kg and tumor measured 10 x 7x 6 cm towards fetal surface [Fig 3]. Baby was in NICU for preterm care during which time thrombocytopenia developed, corrected and discharged in stable condition after one month. Mother had no postpartum hemorrhage and recovered normally. Histopathology confirmed angiomatous type of chorioangioma.

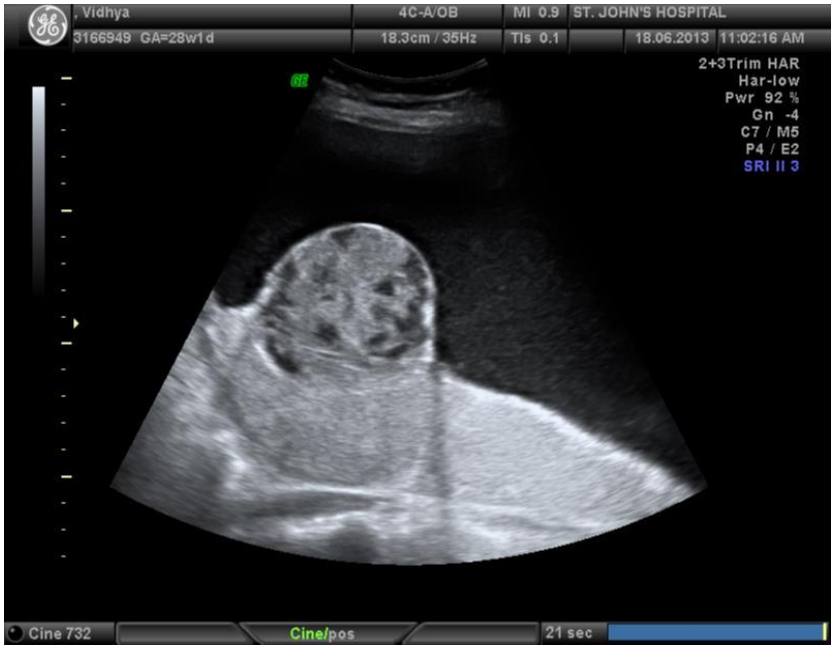

Fig 1: Transabdominal ultrasound showing hypoechoic mass towards fetal surface of placenta

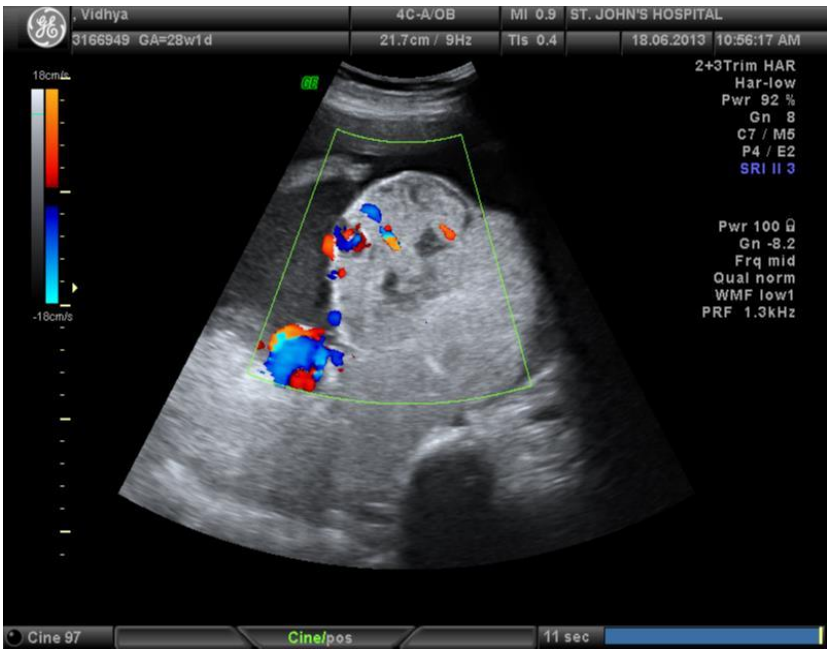

Fig 2: Doppler showing intratumoral vascularity

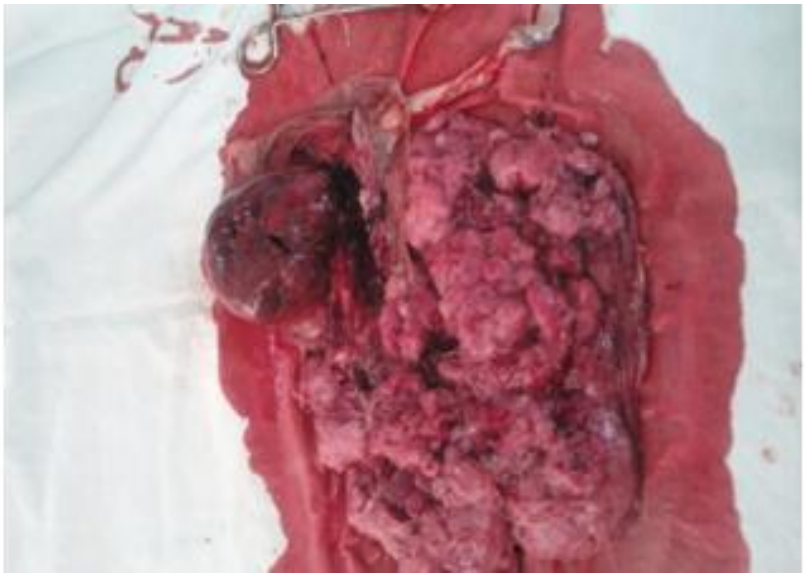

Fig 3: Placenta showing 10x7x6 cm tumor mass

DISCUSSION

Chorioangiomas are probably hamartamos derived from the primitive chorionic mesenchyme; what triggers their development however is not clear. It has been observed that placentae of women residing at high altitudes (more than 3600 m) have a very high incidence of chorioangiosis and chorioangiomas (1), as high as 22% reported from Ukraine (2). Hypobaric hypoxia in these conditions probably induces abnormal vascular proliferation in the placenta to compensate for the tissue anoxia. Chorioangioma is a benign neoplasm of placenta, consisting of vascular mass arising from primitive chorionic mesenchyme. Small chorioangiomas (<5 cm) are usually asymptomatic and are more common than large chorioangiomas, and are mostly revealed through histopathological examination. One of the largest retrospective studies on 22439 unselected placentas found 136 chorioangiomas with an incidence of 0.61% (2). Large chorioangiomas (>5 cm) are rare with a prevalence of 1 in 3500 to 1 in 9000 live births and are associated with both maternal and fetal complications (3). They are associated with increased maternal age, diabetes mellitus and hypertension; and are more common in multiple pregnancy and female fetuses. The clinical features of chorioangioma depend on size, degree of vascularity and relationship to the cord vessels. The presentation may vary from asymptomatic form to severe maternal and perinatal complications. Major maternal risks include polyhydramnios (30%), preterm labor, antepartum hemorrhage either abruptio placenta (more likely due to mechanical effect of increased liquor) or placenta previa due to associated placentomegaly and postpartum hemorrhage (primary and secondary). The triad of polyhydramnios, preeclampsia and

preterm labor associated with placental chorioangiomas has been described as chorioangioma syndrome. Large chorioangioma functions as A-V malformation of fetal systemic circulation causing hypervolemia, cardiac dilatation and cardiac failure. Fetal complications are associated if tumor is close to umbilical cord insertion with fetal demise in upto 30%. It causes mechanical injury to fetal RBCs as they traverse the labyrinth, decreased platelet count and DIC occur due to intratumoral consumption or sequestration. Prematurity is related to polyhydramnios, preterm labor and increased perinatal mortality (4). Our case was complicated with polyhydramnois, preterm premature rupture of membranes and preterm labor without antepartum or postpartum hemorrhage; the neonatal complication being thrombocytopenia which recovered spontaneously. There were no signs of congestive cardiac failure in the baby as it delivered prematurely before severe fetomaternal haemorrhage could set in.

Antenatal diagnosis of large chorioangioma was reported first in 1978 by Clarke and its ultrasound features were fully characterized in early 1980's. Grey scale imaging shows a hypoechoic well circumscribed mass in the placenta on fetal surface (5). Color Doppler imaging is important not only for differentiating chorioangioma from other placental lesions but also for confirming that vascular channels in the tumor are continuous with the fetal circulation i.e. A-V malformation, thus ruling out other diagnosis such as degenerated myoma, placental teratoma and incomplete hydatidiform mole (6,7). Grundy et al., using Doppler ultrasound, showed that the flow pattern from the vascular channels of a chorioangioma are similar to that of the umbilical cord. This demonstrated to the authors that the vascular channels in the tumor were involved with the fetal circulation (8). Color Doppler is also an effective tool for fetal surveillance in choriangioma complicated pregnancies to rule out early hydropic changes and also for fetal medicine unit interventions like serial fetal transfusions (9), fetoscopic laser coagulation of vessels supplying the tumor (10), chemosclerosis with absolute alcohol (11), and endoscopic surgical devascularization to coagulate the A-V shunts. These measures will prevent fetal cardiac compromise in advancing gestation and likely prolongation of intrauterine fetal life without complications in both mother and fetus. According to the Australian National Perinatal Statistics Unit the use of MRI is not designed to replace ultrasound as the obstetric diagnostic tool of choice, but rather to act as an adjunct in cases where an ultrasound diagnosis is equivocal. Ultrasound remains the gold standard of fetal and placental imaging. In our case Grey scale ultrasound

and color Doppler was the prime modality used to confirm the diagnosis and fetal medicine interventions were not done as fetus did not have hydrops.

Three histological patterns of chorioangiomas have been described by Marchetti[12]: angiomatous, cellular, and degenerate. The angiomatous is the most common, with numerous small areas of endothelial tissue, capillaries, and blood vessels surrounded by placental stroma. These lesions are sometimes classified as placental hamartomas rather than true neoplasia. There is no malignant potential. Our case had angiomatous type.

CONCLUSION

Chorioangioma is a benign placental tumor arising from primitive chorionic mesenchyme ranging from small to large in size, and also with varying presentations with both maternal and fetal complications making it a high risk pregnancy. Ultrasound is gold standard tool used in diagnosis and also for fetal prognosis to decrease morbidity. However, integrated care involving obstetrician, sonologist, fetal medicine specialist and neonatologist is required to achieve good maternal and perinatal outcome.

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REFERENCES

1. Soma H, Watanabe Y, Hata T. Chorioangiosis and chorioangioma in three cohorts of palcentas from Nepal, Tibet and Japan. Reprod. Fetil Dev 1995; 7(6): 1533-38.
2. Reshetnikova OS, Burton GJ, Milovanov AP, Fokin El. Increased incidence of placental chorioangioma in high altitude pregnancies: hypobaric hypoxia as a possible etiologic factor. Am J Obstet Gynecol 1996; 174(2): 557-61
3. Acharya S, Pringle S. A Case of Placental Chorioangioma with review of literature. The Internet Journal of Gynecology and Obstetrics 2004; Volume 5 Number 1.
4. Sreelakshmi K, Abha S, Vani Ramkumar, Lakshmi R. Chorioangioma of Placenta: A Rare Placental Cause for Adverse Fetal Outcome, Hindawi Publishing Corporation, Case Reports in Obstetrics and Gynecology Volume 2012, Article ID 913878.
5. Asokan S, Chadalavada K, Gardi R, SastryV. Prenatal diagnosis of placental tumor by ultrasound. J Clin Ultrasound 1978; 6: 180-81.
6. Jauniaux E, Ogle R. Color Doppler imaging in the diagnosis and management of chorioangiomas. Ultrasound Obstet Gynaecol 2000; 15(6): 463-67.

7. Prapas N, Liang RI, Hunter D et al. Color Doppler imaging of placental masses: differential diagnosis and foetal outcome. Ultrasound Obstet Gynecol 2000; 16: 559-63.
8. Grundy HO, Byers L, Walton S et al. Antepartum ultrasonographic evaluation and management of placental chorioangioma. J Reprod Med 1986; 31:520 2.
9. Zalel Y, Weisz B, Gamzu R, Schiff E, Shalmon B, and Achiron R. "Chorioangiomas of the placenta: sonographic and doppler flow characteristics." Journal of Ultrasound in Medicine 2002; 21(8):909–913.
10. Quintero R A, Reich H, Romero R, Johnson M P, Gonsalves L, and Evans M I. "In utero endoscopic devascularisation of a large chorioangioma." Ultrasound in Obstetrics and Gynecology 1996; 8(1):48–52.
11. Wanapirak C, Tongsong T, Sirichotiyakul S, and Chanprapaph P. "Alcoholization: the choice of intrauterine treatment for chorioangioma." Journal of Obstetrics and Gynaecology Research 2002; 28(2):71–75.
12. Marchetti A, "A consideration of certain types of benign tumors of the placenta." Surgery, Gynecology & Obstetrics 1939; 68: 733–743.