Case report

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Placental Chorioangioma Cellular Histological Subtype: A Rare Primary Benign Tumor of Placenta

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Abstract

Background: Placental chorangioma is a benign angioma arising from chorionic tissue. These are well demarcated placental mass composed of capillaries, stromal cells and surrounding trophoblast arising in a stem villus.

Case report: A 28-year-old, gravida 2 para 1, L1 was admitted for abdominal pain, vaginal bleeding and foul smelling discharge. She had history of normal vaginal delivery at home two month back. On per vaginal examination cervix dilated, foul smelling discharge was noted. Clinically suspected of retained placenta, placenta increta. USG abdomen and pelvis showed an enlarged uterus with a focal heterogeneously hyperechoic lesion measures 44x23x34mm noted in the upper endometrial cavity. Moderate increase vascularity in color doppler examination. The findings likely placental remains (? Placenta increta) / retained product of conceptions. No pelvic mass was seen. Hysterecscopy with dilation and curettage were done for removal of retained products. On gross pathological examination single, rounded, well demarcated placental mass was seen. It was firm, reddish brown in color with localization on the fetal side of the placental disk. On histopathology reported as placental chorangioma cellular subtype. Chorioamnitis was noted. Areas of degenerative changes, necrosis, focal calcification, and hyalinization was noted.

Conclusion: Placental chorioangioma is a rare benign tumor of the placenta. Early diagnosis, close prenatal checkup and monitor with appropriate intervention may prevent severe fetal and maternal complications and perinatal mortality related to chorioangioma.

Keywords: Hemangioma; Tumors of placenta; Non-trophoblastic tumors; Placental Chorioangioma Placenta.

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INTRODUCTION

Placental Chorangioma is a benign angioma arising from chorionic tissue. It is the most common non-trophoblastic and hamartoma-like tumor.[1] Small placental chorioangiomas are usually asymptomatic. However, multiple and larger >5 cm may give rise to various complications such as preeclampsia, hydrops fetalis, premature labor, fetomaternal transfusion, and increased maternal levels of alpha-fetoprotein in the serum. The chorioangioma of > 4-5 cm in diameter can be detected prenatally by gray-scale or color Doppler sonography. It is observed with a higher incidence in cases of maternal hypertension, diabetes, twin pregnancies are associated with chorioangioma.[2]

CASE REPORT

A 28-year-old, gravida 2 para 1, L1 was admitted to the Obstetric and Gynaecology department for abdominal pain, vaginal bleeding. She had a history of normal vaginal delivery at home two months back. On examination abdomen was tender, no mass lesion, uterus not palpable. Per vaginal examination cervix dilated, foul smelling discharge was noted. Clinically suspected of retained placenta? placenta increta. She had no particular risk factors. She was nondiabetic. Her blood pressure was normal.

USG abdomen and pelvis showed an enlarged uterus with a focal heterogeneously hyperechoic lesion measuring 44x23x34mm noted in the upper endometrial cavity. Lesions extend beyond the confines of the endometrium and invaded the myometrium but do not reached the uterine serosa. Moderate increase vascularity in color doppler examination. The findings are likely placental remains (? Placenta increta) / retained product of conceptions. Both ovaries were normal in size and echotexture. No pelvic mass was seen. No obvious bowel thickening or dilation or mass is seen. Peritoneal free fluid was absent. Diagnostic hysteroscopy was done and proceeded for dilataion and curettage with removal of retained products. Patient received supportive treatment. There was no any complication noted on follow up.

On gross pathological examination showed a specimen of placenta with attached umbilical cord and separately sent membrane. Placental disc measures 15 x 13 x 3 cm and weighs 280 gms. A single, large, rounded, well demarcated placental mass was noted measuring 5.5 x 3.5 x 2.8 cm (Fig. 1). It was firm, reddish brown in color with cotyledons partially fragmented, tumor localization was on the fetal side of the placental disk. Surrounding area showed inflammatory slough. Cut section of the tumor was grey-white to tan coloured, soft to firm, fleshy, friable mass lesion with areas of haemorrhages (Fig. 2). Umbilical cord is attached eccentrically and measured 27 cm in length. On histopathology reported as Placental Chorangioma – cellular type(Figure3,4). Chorioamnitis was noted. Areas of degenerative changes, necrosis, and hyalinization was noted.Reticulin stain showed loose framework of reticulin fibers with no clear demarcation between the capillary basement membrane and the surrounding stroma.

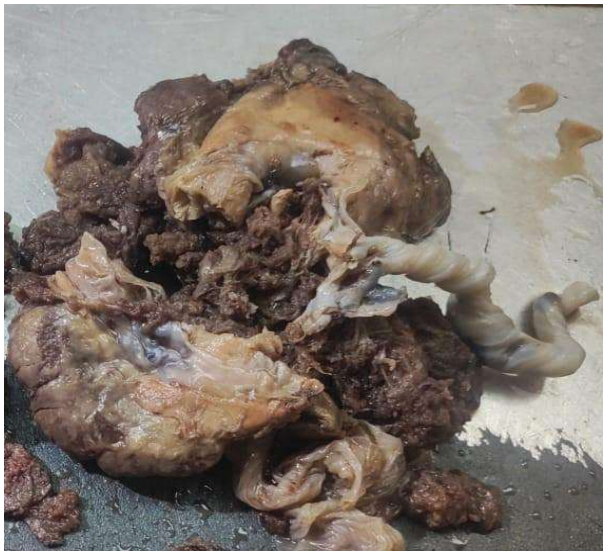

Fig. 1: Gross specimen of placenta with attached umbilical cord. Placental disc measures 15 x 13 x 3 cm. A single, large, rounded, well demarcated placental mass was noted measuring 5.5 x 3.5 x 2.8 cm

Fig. 2: Cut section of tumor, grey-white to tan coloured, soft to firm, fleshy, friable mass lesion with areas of haemorrhages.

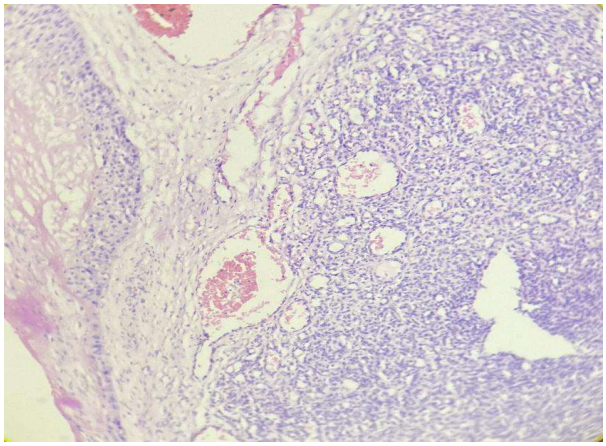

Fig. 3: Photomicrograph showing well circumscribed mass having numerous proliferation of fetal capillaries. (Haematoxylin & Eosin stain, 40x)

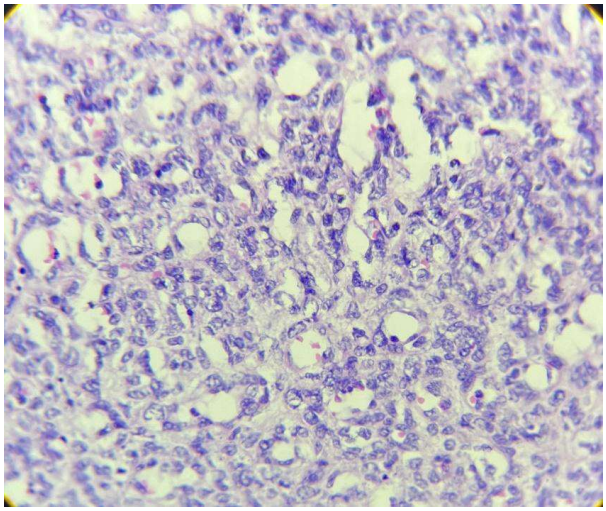

Fig. 4: Photomicrograph showing placental chorangioma cellular type-proliferation of fetal capillaries in loose mesenchymal tissue in. (Haematoxylin & Eosin stain, 100x)

DISCUSSION

Chorangioma is the most frequent non trophoblastic tumor of the placenta. chorangioma is characterized by an exaggerated proliferation of vascular structures, with endothelial cells and chorionic villi. The origin of chorioangioma is from primitive chorionic mesenchymal tissue of the early placenta.

Placental chorioangioma has a prevalence of 0.1 to 1% pregnancies.[3] While large, clinically significant chorioangiomas (> 5 cm) occur much less frequently with a reported incidence ranging from 1:3500 to 1:9000 pregnancies.[4]

The rate of their occurrence rises almost linearly with maternal age. Placental chorioangioma are most common in multiple gestation pregnancies or pregnancies complicated by preeclampsia.

The small chorangiomas are usually asymptomatic. It is observed that large chorioangioma may leads to antepartum bleeding which is related to retroplacental haemorrhage or rupture of the vascular pedicle of a pedunculated tumor. The chorangioma are usually solitary but occasionally multiple and about 55% of chorangiomas are localized subchorially. Guschmann M et al observed, hypertension and diabetes are found more often in combination with chorangiosis.[2]

The complications to the fetus are hemolytic anemia, intrauterine death, prematurity, fetal cardiomegaly, hydrops fetalis, fetal heart failure, arteriovenous shunting, fetal thrombocytopenia, intrauterine, growth retardation, and congenital anomalies.[5]

The maternal complications are polyhydramnios, placental abruption, premature delivery, preeclampsia, postpartum hemorrhage.[6] Hydramnios is commonly found with large chorangioma which may lead to premature births. It is observed that there is a raised incidence of toxemia in cases of chorioangioma.

Chorioangioma can be diagnosed prenatally by ultrasound, color Doppler imaging, and magnetic resonance imaging. By ultrasound it is mostly diagnosed in the second trimester of pregnancy. On imaging, large chorioangioma appears as a solid mass with a clearly defined contour. The mass is usually located at the fetal surface of the placenta near the umbilical cord insertion site. Many times it is difficult to differentiate from placental teratoma, blood clot, and leiomyoma. For which use of Colour Doppler is helpful.[7] Radio imaging are use to closely monitor mother and baby throughout pregnancy with frequent ultrasounds and fetal echocardiograms. This will be required to assess early detection of any complication in fetal growth, amniotic fluid level, fetal heart function, etc.

There are three histological sub types of chorangioma namely angiomatous, cellular, and degenerative, have been described by Marchetti.[8] Rech F, et al noted that the, angiomatous type is the most insidious and the most common one.[9]

Histomorphology shows well circumscribed mass having numerous proliferation of fetal capillaries with surrounding stroma and trophoblast. Associated changes like myxoid

degeneration Infarction, fibrosis, hyalinization, calcification and hemosiderin deposition can be seen. The differential diagnosis of chorangioma are chorangiomatosis and chorangiosis. Also look for chorangiocarcinoma which is controversial lesion. Chorangiomas are frequent in placentas, and represent hemangiomas within the parenchyma. Some of these lesions are associated with trophoblast proliferation around the periphery.[10] Placenta diffusely infiltrated by hemangiomatous tissue is called as chorangiomatosis.[11]

Chorangiosis is defined as an increased number of capillaries 10 or more in villi in 10 fields. was differentiated from chorangioma by On reticulin stain capillary had its own distinct basement membrane in chorangiosis. While chorangioma capillaries are surrounded by loose bundles of reticulin fibers that are merged with the surrounding stroma. The chorangioma on immunohistochemical analysis shows positive for smooth anti-muscle antibodies and CD31, CD34 positive in endothelial cells.

The prognosis in small chorangiomas have no clinical relevance. Large chorangiomas (> 4 cm) may be associated with perinatal morbidity and even mortality. In our case diagnostic hysteroscopy was done and proceeded for dilataion and curettage with removal of retained products.Patient received supportive treatment. There was no any complication noted on follow up.

CONCLUSION

Placental chorioangioma is a rare benign tumor of the placenta. Early diagnosis, close prenatal checkup and monitor with appropriate intervention may prevent severe fetal and maternal complications and perinatal mortality related to chorioangioma.

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