PLACENTAL CHORANGIOMA: A RARE PLACENTAL TUMOR: A CASE SERIES OF 3 PATIENTS IN TERTIARY CARE HOSPITAL, MURSHIDABAD.

ABSTRUCT

The human placenta regulates the exchanges between maternal and fetal circulations, acts as a selective barrier to the fetus against xenobiotic molecules and infections. Abnormalities of the placental structure and function can cause fetal and maternal complications. Chorangioma is a rare primary vascular tumour of placenta and arises from major stem villi under the chorionic plate or at the placental margin with an incidence of about 1%. We studied restopectively for 2 yrs and enumerated 3 cases of placental chorangioma in our institution. Case details like mother's age,order of pregnancy, gestational age, mode of delivery, pregnancy outcome and birth weight of the children were obtained.Relevant investigations, gross features of the specimens, histopathological diagnosis of the tissues and Immuhistovhemical study were obtained.

The patient's mean age was 28 yrs. All cases were second gravida. Gestational age at diagnosis was mean 35 weeks. Size of the tumor ranged from 1.5 to 3 cm. Placental weight of the three cases was mean 450 g. Ultrasound scan report was available in Case 1 and 3 which were reported as placental vascular tumor. Histopathologically all cases showed capillary proliferation resembling fetal vessels in enlarged villi covered by trophoblastic epithelium. Among 3 cases 2 cases were delivered by cesarean sectionand one case delivered by spontaneous normal vaginal delivery, of which case 1 was low birth weight baby [1.8 kg] While most chorangiomas are incidental findings, larger lesions [>5 cm] may be associated with adverse outcomes. Early recognition and multidisciplinary management are essential.

KEY WORDS

Placenta, Chorangioma, Rare, Vascular tumor, CD 34

INTRODUCTION

The human placenta is a disc-shaped, hemochorial organ which regulates the exchanges between maternal and fetal circulations, by allowing the transport of nutrients and oxygen from the mother to the fetus and the removal of waste products from the fetal blood. The hormones released from placenta affect pregnancy, maternal metabolism, fetal growth and parturition. The placenta also acts as a selective barrier to the fetus against xenobiotic molecules and infections. Abnormalities of the placental structure and function can cause fetal and maternal complications.The histopathological examination of the placenta provides crucial information about the nature and cause of some pathological conditions affecting both the fetus and the mother. Plcaental villus capillary lesions include chorangiosis, chorangiomatosis, chorioangioma (CA) and multiple CA syndrome [1]. Chorangioma is a rare primary vascular tumour of placenta and arises from major stem villi under the chorionic plate or at the placental margin with an incidence of about 1%. It is considered hamartoma-like or hyperplastic capillary lesion rather than a true neoplasm. It is often associated with elderly primipara, twin pregnancies, hypertension,diabetes and high altitude. The exact etiology is not known. Small chorangiomas are often asymptomatic and an incidental finding. They tend to regress spontaneously. On the contrary, giant chorangiomas>5 cm in diameter are rare and they are often associated with maternal and fetal complications like polyhydramnios, toxemia, preterm placenta separation, placenta previa, preterm labor, AV shunts etc. and a poor perinatal outcome. Diagnosis of large chorangiomas can be made in the antenatal period by either colour doppler or ultrasonogram [2].

MATERIALS AND METHODS

This study was conducted in the Department of Pathology of a tertiary care hospital in West Bengal. Placenta samples were studied over a period of 1 year, from June 2024 to June 2025. total 3 cases of placental chorangiomas had been reported during this period. Case details like mother's age, order of pregnancy, gestational age, mode of delivery, indications for delivery, pregnancy outcome and birth weight of the children were obtained, relevant investigations, gross features of the specimens and histopathological diagnosis of the tissues were obtained. Haematoxylin and Eosin stained sections of the paraffin blocks of the representative cases were reviewed.

Inclusion Criteria:

All placental specimens with mass were included for the study.

Exclusion Criteria:

Placental specimens received for other pathological conditions were excluded from the study.

CASE REPORT

3 cases of placental chorangioma were diagnosed in the Department of Pathology, Murshidabad Medical College and Hospitl, between 2023 and 2025.

The clinical and pathological findings of the cases are summarized in Table 1.The patient's age ranged from 26 to 31 yrs (mean 28 yrs). All cases were second gravida. Gestational age at diagnosis ranged from 34 to 36 weeks (Mean 35 weeks). Clinical presentation were bleeding PV and pain abdomen. Size of the tumor ranged from 1.5 to 3 cm (mean 2.2cm). complete placenta was received from all cases. Placental weight of the three cases ranged from 400 to 500 g (mean 450 g). Ultrasound scan report was available in Case 1 and 3 which

were reported as placental vascular tumor. All cases showed capillary proliferation resembling fetal vessels in enlarged villi covered by trophoblastic epithelium. Lymphoplasmacytic infiltrates were noted. In between these hemangiomatous areas are seen normal and degenerated villi.

Among 3 cases 2 cases were delivered by cesarean sectionand one case delivered by spontaneous normal vaginal delivery, of which case 1 was low birth weight baby (1.8 kg). Table 2 shows the specimen type, size, site and gross examintion.

Table 1

Case no.	Age (years)	Gravida	Gestational age of diagnosis (weeks)	Gestational age of delivery (weeks)	Mode of delivery	Indication	Delivery outcome	Birth weight (kg)
1	31	2	34	38	Cesarean section	Bleeding PV	normal	2.6
2	28	2	36	36	Cesarean sectio	Bleeding PV	Low birth weight	1.8
3	26	2	34	38	Normal vaginal	Pain abdomen	Normal	2.7

Table 2

Case no.	Specimen type	Size of the lesion	No. of lesions	Cut surface
1	Placenta with an extraplacental mass	2 cm	1	Reddish brown, haemorrhagic
2	Placenta with an extraplacental mass	3 cm	1	Firm,reddish-brown haemorrhagic
3	Placenta with an extraplacental mass	1.5 cm	1	Solid, reddish-brown, haemorrhagic

Microscopically, in all cases tumor [chorangioma] was well circumscribed. It was composed of proliferation of fetal blood vessels, supported by connective tissue stroma and trophoblast. On IHC, CD 34 tsin was strongly positive in all the 3 cases.

DISCUSSION

Chorangiomas are hemangiomas of placenta, first described by Clarke in 1798, also designated as placental angioma, chorionangioma, angiomyxomas and vascular hamartoma of placenta [3]. The incidence of these tumors is 1 in 9000 to 1 in 50,000 placentas.

Chorangiomas occur more frequently in Caucasian than in African-American mothers, more often with multiple gestations [4]. The present series describe three cases of placental chorangioma.Various hypotheses have been proposed for its pathogenesis.

Some authors regard them as hamartoma, rather than a true neoplasm. Other factors include environmental factors like high altitude, hypoxic stimulus suggested by elevated nucleated red blood cells in the fetal circulation and vascular growth factors.

Clinical manifestations are rare and usually associated with tumors greater than 5 cm. Large chorangiomas are rare but clinically significant because of their well-known association with maternal and fetal complications such as polyhydramnios, hydrops fetalis, fetal heart failure, preterm delivery, fetal anemia and thrombocytopenia, placentomegaly, growth restriction, abruptio placenta, perinatal death and maternal pre-eclampsia. Large tumors probably act as arteriovenous shunts and cause complications. In this series, no cases were more than 5 cm, case 2 had preterm delivery and oligohydramnios. Low birth weight was seen in Cases 2. Grossly, these are usually nodular, fleshy lesions connected to the chorionic plate and often bulge from the fetal surface of placenta. Cut surface is variable, from dark red, soft appearance similar to a blood clot to a firm white lesion similar to an infarct. In the present series, size ranged from 1.5 to 3 cm and weight ranged from 400 to 500 grams. Several giant chorangiomas have been mentioned in the literature. In India, the largest chorangioma weighed 2240 grams. In the present series, the largest (Case 2) weighed 500 g and measured 3 × 3 × 2 centimeters. It was associated with oligohydramnios, preterm delivery, low birth weight baby. Microscopically, typical chorangioma is composed of proliferation of fetal blood vessels, usually supported by scant connective tissue and covered by trophoblast.

Villus expansion is caused by proliferation of blood vessels, which is diagnostic. Capillary, cavernous, endotheliomatous, fibrosing, and fibromatous tumors have been differentiated, but such precision is unwarranted as the clinical outcome depends more on the size of the tumor than on its composition [5]. All the three cases in the present series were of capillary type. Occasionally, chorangiomas are associated with infarction and degenerative changes, such as hyalinization, necrosis, myxoid stromal changes or calcifications [6]. Prenatal diagnosis is ideally by ultrasound with color Doppler by demonstration of a well-circumscribed placental mass with similar or higher echogenicity to the surrounding tissue, and a clearly delineated vascular supply [7]. The first sonographic diagnosis of placental chorioangioma was done by Asokan *et al.* in 1978 [3]. Chorioangioma with complications before fetal viability requires interventions. Because of the dismal prognosis of these pregnancies, especially with lesions larger than 5 cm, it's important to correctly diagnose these lesions and to closely follow up these pregnancies, preferably with the aid of color Doppler [8]. Except Case 2, all babies are normal birth weight and healthy. Chorangiomas can be confused with subamniotic hematoma, placental teratoma, degenerated myoma and placental infarction on gross morphology but microscopy is characteristic [9].

CONCLUSION

Even though chorangioma is the most common tumor of placenta, tumors arising from placenta are rare. Because of dismal prognosis of these pregnancies, especially with lesions larger than 5 cm, it's of utmost importance to correctly diagnose them and to closely follow up these pregnancies, preferably with the aid of color doppler flow. In the present study, all cases babies survived .The present case series demonstrates the need for awareness of such lesions, and emphasizes the importance of timely antenatal diagnosis and intervention.

Figures:

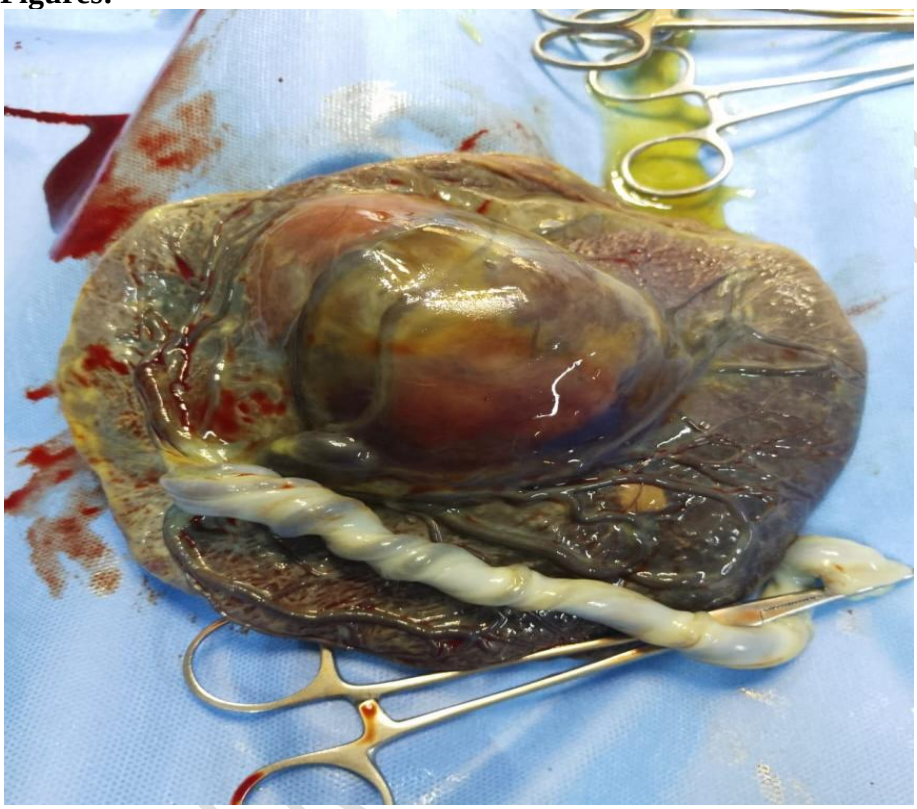

Fig 1: gross photograph of tumor, Chorangioma

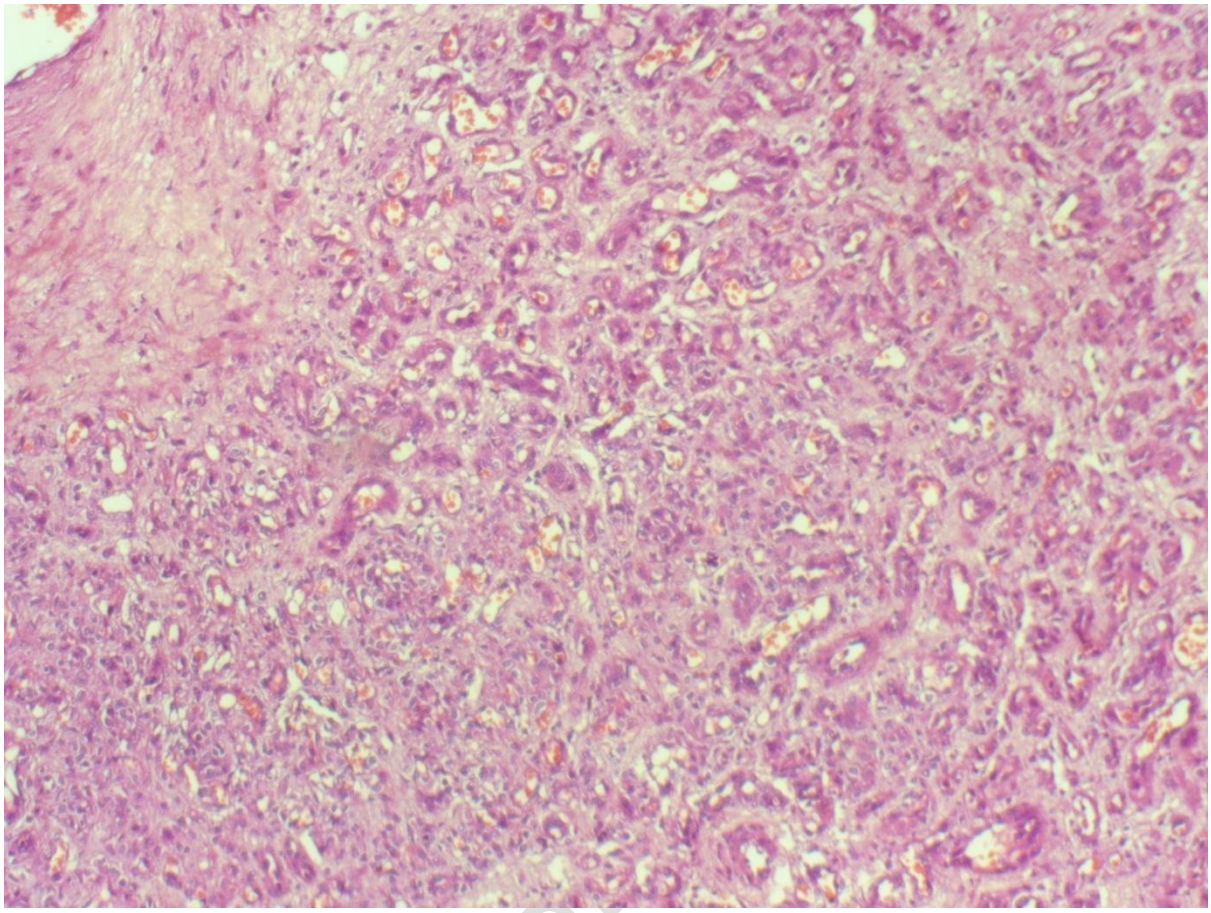

Fig 2: Microscopial features of chorangioma ; haematoxylin and eosin stain X 10 showing proliferation of fetal capillaries with surrounding stroma and trophoblast

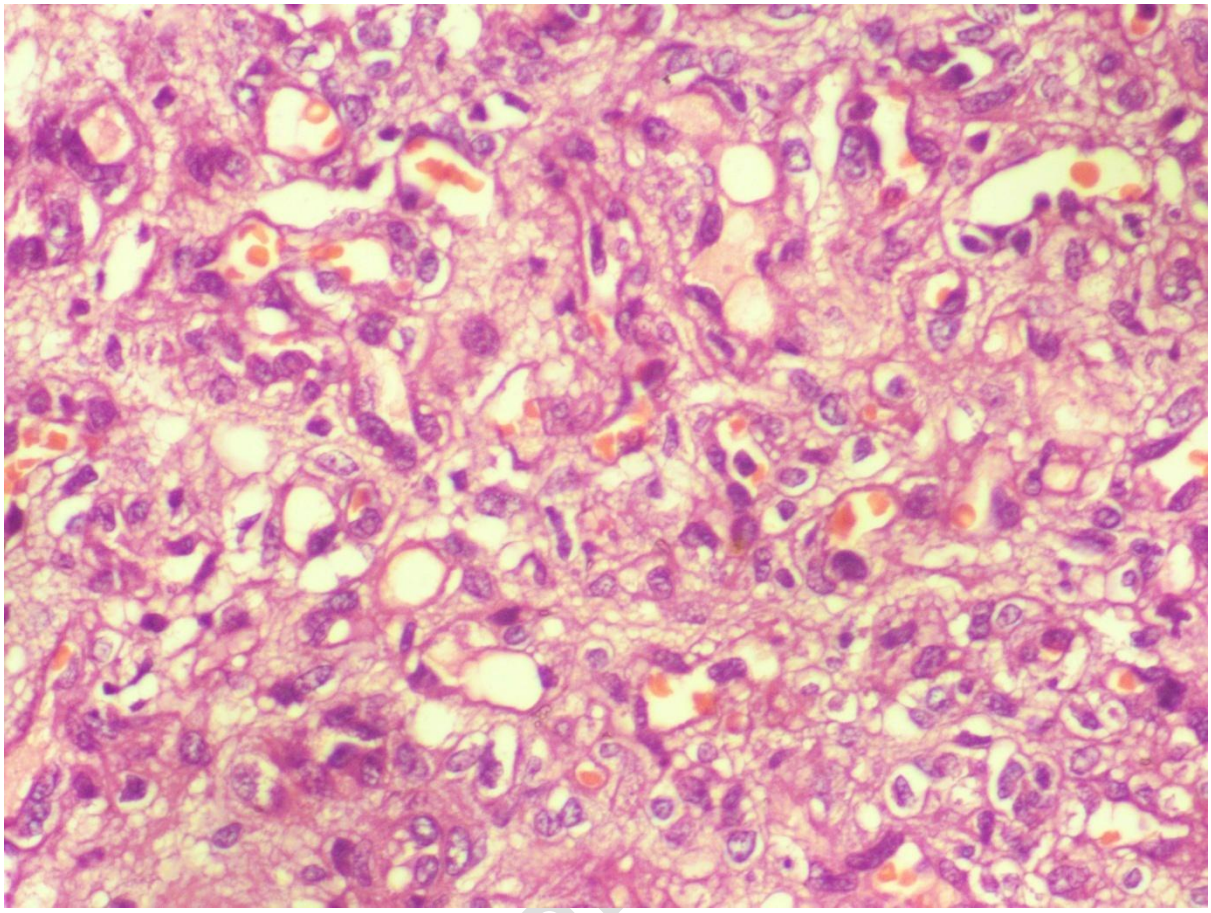

Fig 3: Microscopial features of chorangioma ; haematoxylin and eosin stain X 40 showing proliferation of fetal capillaries with surrounding stroma and trophoblast

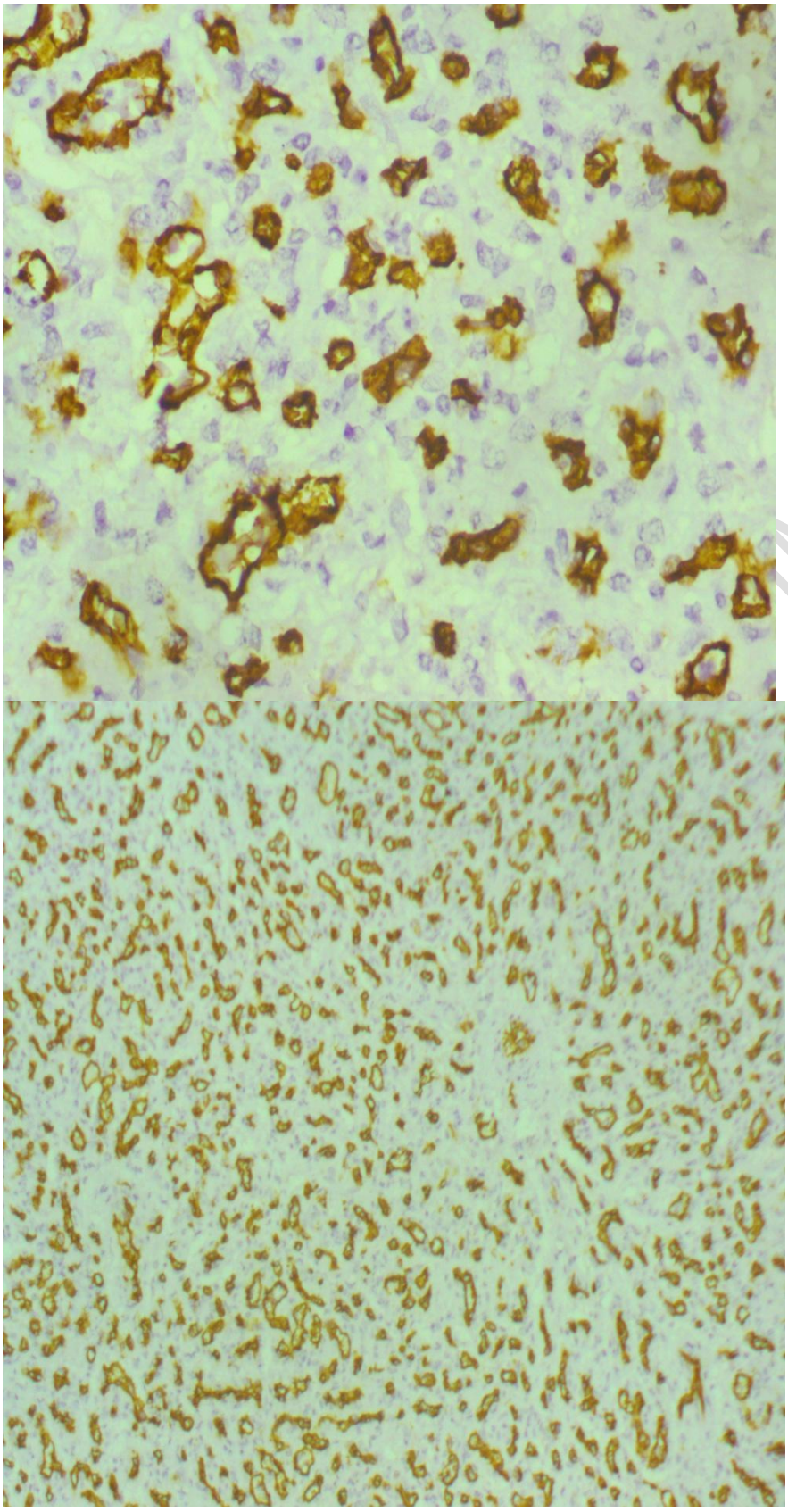

Fig 4: Capillary endothelium shoowing strong membranous positivity in CD 34 IHC staining X 40 and X 10.

DECLARATION BY AUTHORS:

- **CONSENT:** Written informed consent was obtained from the patient for publication of this case series and accompanying images.

- **CONFLICT OF INTEREST:** The authors declare no conflict of interest.

- **SOURCE OF FUNDING:** None

- **AUTHORSHIP CONTRIBUTIONS:**

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