

# Placental chorioangioma complicated with preterm delivery: A case report

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## ABSTRACT

Chorioangioma is the most common tumor of the placenta. Since these tumors generally have small sizes, they cannot be detected during the routine ultrasonography (USG) examination and might not present any symptom. When they become larger in size, they can cause various maternal and fetal complications. We presented a patient whose obstetric USG examination revealed a placental mass compatible with chorioangioma and who had preterm delivery at the 34<sup>th</sup> gestational week. The size of the mass increased rapidly in last four weeks. The pathological examination indicated that the placental mass was 9x8 cm in size and compatible with angiomatous type chorioangioma.

**Keywords:** chorioangioma, preterm labor, ultrasonography

## INTRODUCTION

Chorioangiomas are tumor lesions with an incidence between 0.6%-1% according to placental pathomorphological examinations. The incidence of those tumors is considered to increase particularly with advanced maternal age, hypertension, female fetus, and diabetes (1). When they are small in size, they can generally go unnoticed and do not cause any complications. In such cases, chorioangioma is diagnosed with postnatal placental examination. On the other hand, large chorioangiomas over 5cm can easily be diagnosed with ultrasonography examinations (2). In such cases they can cause severe fetal and maternal complications such as preterm delivery, polyhydramnios, preeclampsia, hydrops fetalis, intrauterine growth retardation, placentomegaly, fetal heart failure, ablatio placentae, perinatal mortality, fetal anemia and thrombocytopenia (3).

## CASE

A 34-year-old gravida 1 woman with a singleton pregnancy was admitted for routine obstetric follow up at the 30<sup>th</sup> week. There was no gross structural abnormality in the fetus. Ultrasonography revealed 5x4cm sized, well-demarcated echogenic mass on the fetal placental surface and dense vascularity was observed on Doppler examination (Figure-1). A low-resistance flow pattern with a resistive index of 0.47 was detected inside the mass. Hydrops, cardiomegaly or abnormal ductus venosus wave pattern was not detected. Four quadrant amniotic fluid measurement was 95mm and within normal levels. Fetal middle cerebral artery (MCA) peak systolic velocity was 45cm/sec. This value was compatible with 1.1 multiples of median (MoM). At the 34<sup>th</sup> week she applied due to preterm labor and delivered a 2250 g healthy male infant. APGAR scores were 8 and 9 at the 1<sup>st</sup> and 5<sup>th</sup> minutes, respectively. The pathological examination of the placenta indicated a mass of approximately 9x8 cm size, dense vascular structures with fibrous septa inside. Angiomatous type chorioangioma was confirmed by pathological examination (Figure-2, 3).

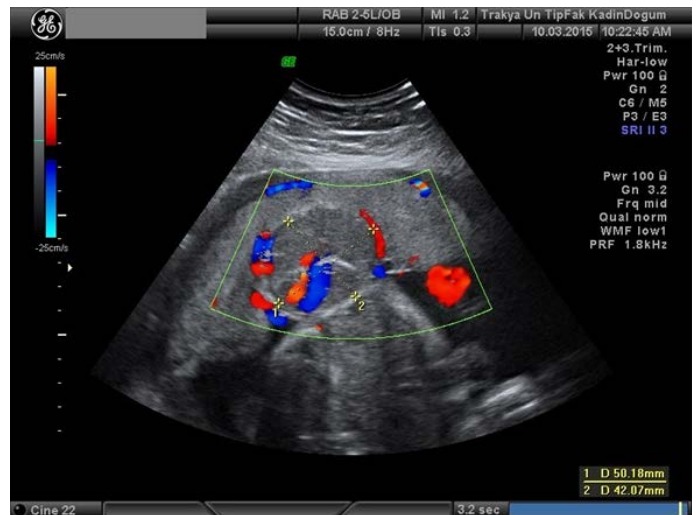


Figure 1: Placental chorioangioma showing echogenic large lobular mass measuring approximately 5x4cm and increased blood flow within the tumor

## DISCUSSION

Chorioangiomas are non-trophoblastic tumors originating from primitive chorionic mesenchyme in the placental development stage. They are usually diagnosed coincidentally. While they can develop in any part of the placenta, they mostly develop on the fetal surface (4). In our case, placental chorioangioma was detected on the fetal surface. In terms of histopathology, it has three types, which are degenerative, angiomatous and cellular. Angiomatous type is the most frequently encountered one. This type has many blood vessels surrounded by placental stroma (5). In our case, the pathological examination indicated a nodular lesion consisting of numerous small-scale capillary vessels inside a loose stroma.

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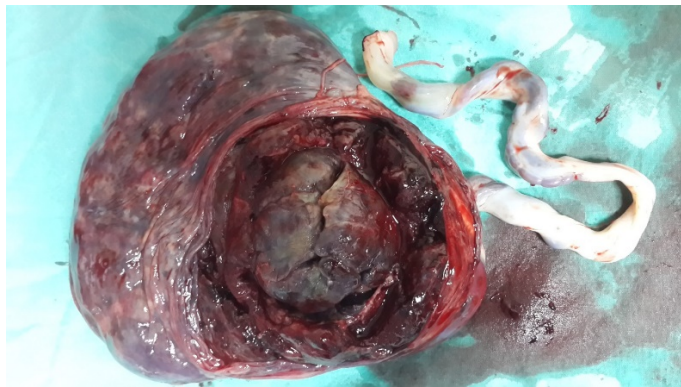


Figure 2: Macroscopic view of the placental chorioangioma

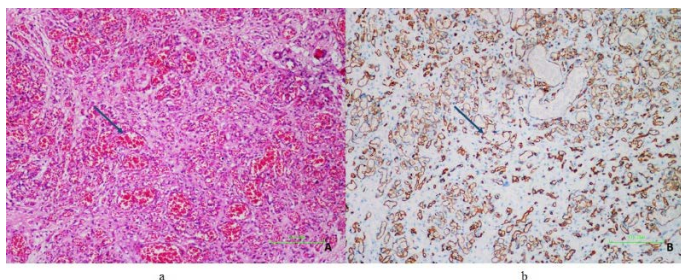


Figure 3: Histopathological examination of placental chorioangioma (Arrow: thin-walled vessel structures). a. Nodular lesion consisting of numerous small-scale capillary vessels inside a loose stroma, H&E, x50. b. Immunohistochemically positive reaction with the CD34 antibody, x50

Immunohistochemically, there was a positive reaction with CD34 antibody (Figure-3). Angiomatous type chorioangioma was confirmed with those findings.

Chorioangiomas can be looked similar to degenerative uterine fibroids, teratomas, sub-amniotic hematomas and thrombo-hematomas, and these lesions might be considered in the differential diagnosis (6). Chorioangiomas appear as well-demarcated heterogenic masses in the grey-scale USG. They have dense vascularity with a low-resistance flow (7). In our

case, ultrasonography examination indicated a dense vascular structure which was well-demarcated, had hyper-echogenic frame and low resistive index inside, as stated in the literature. Therefore, this mass was first considered to be a placental chorioangioma.

While placental chorioangioma incidence is 1%, the incidence of chorioangiomas that are larger than 4 cm is between 1:500-1:16000 (8). Moreover, female fetus is considered to be a factor increasing the placental chorioangioma incidence (1). In our case, the mass had a size of 9x8 cm, and the fetus was male. When it was detected at the 30<sup>th</sup> gestational week, the mass had a size of 5x4cm, and approximately 4 weeks later its size increased to 9x8cm. This indicates that the mass had a rapid growth. When the mass reaches a large size, it can cause various complications. Depending on the arteriovenous shunt inside the tumor, it can cause fetal heart failure with high cardiac output, fetal anemia, disseminated intravascular coagulation, fetal thrombocytopenia, polyhydramnios and preterm delivery (9). In our case, the pregnant woman delivered at the 34<sup>th</sup> gestational week. The ultrasonography examination performed at the 30<sup>th</sup> gestational week. We did not observe any symptoms related to heart failure. Cardiac hypertrophy, or abnormal ductus venosus wave pattern was not detected. MCA Doppler USG examination indicated that the peak systolic velocity was 1.1 MoM and within normal range. Therefore fetal anemia was not considered. After delivery, APGAR scores were 8 and 9 at the 1<sup>st</sup> and 5<sup>th</sup> minutes, respectively. The detailed examination of the newborn performed by pediatricians and they did not indicate any problems.

In conclusion, placental chorioangiomas are placental tumors that can be diagnosed incidentally in the routine obstetric ultrasound scan that can grow to larger sizes in the following gestational ages and can trigger preterm labor without causing fetal hydrops. Therefore, when such a mass is detected, the pregnant woman should be followed carefully, and the family should be informed in detail on the possible complications.

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