Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Obstetrics and Gynaecology

A Placental Chorioangioma Revealed by Intra-Uterine Growth Retardation

Guessan BI Nene[1*], Coulibaly Fatoumata[1], N. Edith Ngalande[1], Yassine Outifa[1], Fdili FZ Alaoui[1], Jayi Sophia[1], Hikmat Chaara[1], My Abelilah Melhouf[1]

[1]Sidi Mohammed Ben Abdellah University, Gynécologie -Obstétrique 2 Service, Hassan II UTH de Fez, Morocco

DOI: 10.36347/sjmcr.2024.v12i01.011 | **Received:** 05.11.2023 | **Accepted:** 07.12.2023 | **Published:** 12.01.2024

***Corresponding author:** Guessan BI Nene
Sidi Mohammed Ben Abdellah University, Gynécologie -Obstétrique 2 Service, Hassan II UTH de Fez, Morocco

Abstract **Case Report**

Chorangioma (or chorioangioma) is the most common primary tumor of the human placenta with an incidence of approximately 1%. It is a single or multiple nodular vascular proliferation most often made up of capillary vessels, more rarely larger vessels. The majority of these tumors are small and without any fetal-maternal impact; but when they are large, they can cause fetal complications (intrauterine growth restriction, polyhydramnios, prematurity and neonatal (anemia, thrombocytopenia, etc). We report a case of placental chorioangioma complicated by intrauterine growth retardation in a 23-year-old primigravidae.

Keywords: Chorioangioma; placentae; fetal growth retardation.

INTRODUCTION

Placental chorioangioma is a benign hamartoma-type vascular tumor made up of a capillary network of chorionic mesenchymal origin. An isolated, small Chorangioma has no pathological significance and is common: 0.5% to 1% of placentas [1]. A Chorangioma of more than 4 cm in diameter could be associated with numerous complications, notably cardiovascular complications such as heart failure; hematological complications such as anemia and thrombocytopenia; of polyhydramnios with its risk of prematurity and many other complications such as intrauterine growth retardation, fetal malformations and fetal death in utero [2].

CASE PRESENTATION

23-year-old patient, primigravida, with no notable pathological history; referred to our teaching hospital at 31 weeks for suspected intrauterine growth retardation due to a decreased fundal height compared to gestational age. On clinical examination we had a patient with a weight of 65 kg, blood pressure measured twice at rest and on both arms normal at 132/63 mm hg and 127/68 mm hg, a negative urine dipstick for proteinuria; and obstetrically, a fundal height measured at 25 cm, fetal heart sounds (FHS) perceived and regular at 152 bpm, the patient was not in labor.

We performed an obstetric ultrasound revealing a progressive single-fetal pregnancy, normal amniotic fluid quantity; biometry below the 3rd percentile, i.e. IUGR with normal umbilical, uterine and middle cerebral artery Dopplers. As for the placenta, it was located at the latero-fundal level and was the site of a rounded hyperechoic intra-placental image that did not pick up on Doppler, located opposite the insertion of the cord (figure 1).

Note that the patient had a septate uterus.

On a biological level, the vasculo-renal assessment as well as the 24-hour proteinuria returned without abnormalities. Toxoplasmosis, syphilitic, cytomegalovirus and herpetic serologies also requested for etiological purposes came back negative.

As for the fetal heart rate recording, it was normal.

Pregnancy monitoring was therefore carried out on an outpatient basis while monitoring any possible complication. This surveillance was essentially based on clinical surveillance; electrical, namely a bi-weekly recording of the fetal heart rate (FHR) and ultrasound (Doppler ultrasound) once a week.

Given the good progress, a course of corticosteroid therapy using celestene was started at 37 weeks then an extraction was carried out via C-section giving birth to a newborn male, weighing 1900 g, with an Apgar score of 10/10 at the first and the 10th minute showing no particular malformations.

Note that all the care the patient received was as result of the means put at the hospitals disposition.

The anatomo-pathological study of the placenta shows macroscopically a placenta measuring 14x13 cm with an umbilical cord measuring 26x1 cm (figure 2) with a microscopic study coming back in favor of a Placental Chorioangioma.

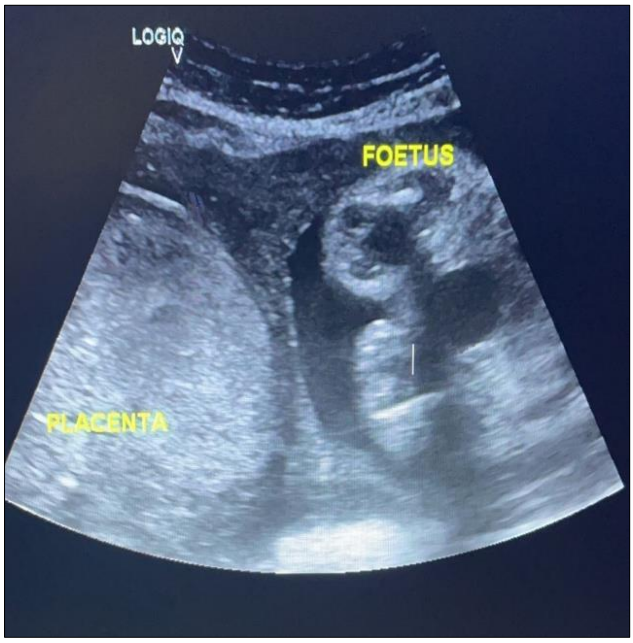

Figure 1: Ultrasound appearance of the non-vascularized placental Chorangioma not picket up on Doppler and of the uterine septum.

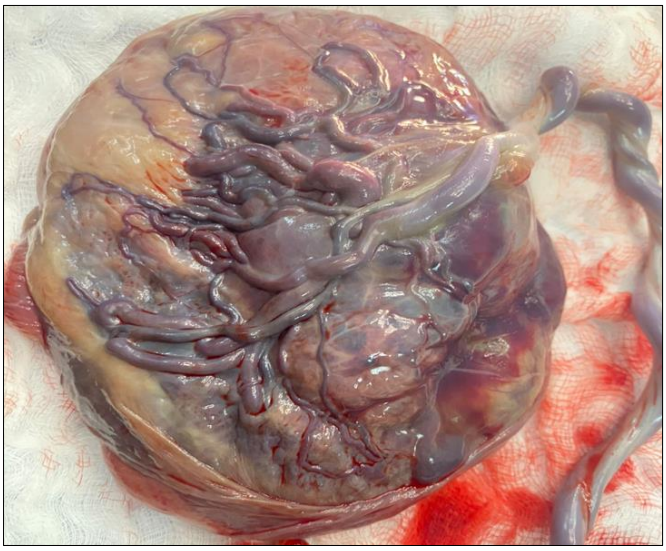

Figure 2: Placenta with chorioangioma: blue arrow

DISCUSSION

A placental chorioangioma is the site of a shunt effect that is responsible for fetal hypovolemia, causing complications frequently associated with lesions larger than 4cm, namely polyhydramnios and hydrops; which was not the case for our patient. The risk of occurrence of fetal complications, especially IUGR, is linked to the importance of the intra-lesional vascular shunt. The most common etiology for IUGR is placental vascular insufficiency of maternal origin [3]. Apart from placental vascular insufficiency of maternal origin, there are other placental pathologies likely to lead to IUGR whose diagnosis is possible on anatomopathological examination: abnormalities of placental configuration, abnormalities of the cord, Chorioangioma, diffused subchorionic thrombosis, fetal thrombosing vasculopathy, chronic villitis. They can be seen on anatomopathological discovery [4]

Examination of the placenta is part of the workup for intrauterine growth restriction (IUGR). Its interest lies in the etiological research of IUGR [6].

Placental ultrasound often allows the diagnosis, especially when the chorioangioma is large. It allows the assessment of fetal impact and its monitoring. The Doppler examination makes it possible to highlight the vascular pedicle of the tumor while in the majority of cases no intratumoral flow can be detected [7]. As was the case with our patient.

It may also be a highly vascularized intraplacental teratoma, which has a heterogeneous echogenicity different from the rest of the placenta. On color Doppler, rich vascularization is demonstrated with, on pulsed Doppler, a heart rate corresponding to that of the fetus. This tumor can be complicated by a fetal arteriovenous shunt effect with heart failure and anasarca. Evolution can also be towards stabilization or regression.

Most chorioangiomas are located beneath the chorionic plate and often extend into the amniotic cavity. Tumor echostructure may vary throughout pregnancy probably due to necrosis, degeneration or progressive calcification of the tumor [6].

In addition to the diagnostic usefulness of placental ultrasound, the use of Doppler measurement of the peak systolic velocity of the middle cerebral artery is essential for screening for fetal anemia because its early management necessary [5].

Case series seem to show that only large lesions (> 4 cm) are likely to induce complications, mainly fetal: cardiovascular (heart failure due to hyperflow), hematological (thrombocytopenia, anemia, and DIC), polyhydramnios, even anasarca, restriction of intrauterine growth, fetal malformations, even fetal death in utero.

In case stuy; the Chorangioma was approximately 6 cm and was incriminated as the cause of intrauterine growth retardation, other cases have also been reported in the literature [8–10].

Given the association between Placental Chorangioma and poor pregnancy outcome, close monitoring is necessary. Management of symptomatic or complicated chorioangioma is equivocal and depends mainly on fetal symptoms and gestational age. If complications develop late in pregnancy, delivery should be considered, depending on fetal maturity and available neonatal support [11].

Therapies have been proposed in particular intrauterine transfusions in cases of fetal anemia, amniodrainage in the context of poorly tolerated polyhydramnios while awaiting extractions. Other authors propose devascularization of the tumor either by embolization, by ligation or by laser thermocoagulation of the afferent pedicle under ultrasound control [6].

The neonatal prognosis of placental chorioangioma is little discussed in the literature, apart from the pejorative case of diffuse neonatal hemangiomatosis or large complicated chorioangiomas, for which the perinatal mortality rate is high (30–40%) [7].

CONCLUSION

Faced with intrauterine growth retardation without obvious signs of maternal vascular pathology, placental chorioangioma is a diagnosis, less common but nevertheless serious, to be eliminated. The definitive diagnosis is based on the pathological examination of the placenta.

During antenatal diagnosis, it is essential to prevent and monitor the risk of developing fetal anemia by organizing obstetric follow-up and birth arrangements.

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