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Clinical analysis of 26 patients with histologically proven placental chorioangiomas

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ABSTRACT

Objectives: The purpose of this study was to evaluate the clinical characteristics, imaging features, pregnancy complications, prenatal management of patients with placenta chorioangioma.
Methods: This was a retrospective study of 26 cases with histologically proven placenta chorioangima, in which the natural history, pregnancy complications, and clinical characteristics including ultrasonography were evaluated.
Results: Twelve of the twenty-six cases had a wide range of maternal–fetal complications including polyhydramnios (7), fetal growth restriction (3), fetal distress (2), pre-eclampsia (3), fetal anemia-thrombocytopenia (2), congestive heart failure (1) and fetal abnormality (1).
Conclusions: Placenta chorioangioma was associated with series of pregnancy complications such as polyhytramnios, premature delivery, maternal pre-eclampsia, fetal growth restriction, fetal distress, even fetal anemia and cardiomegaly. With regular prenatal examination, necessary treatment, and timely delivery, the majority had a good pregnancy outcome.

Introduction

Chorioangioma, the most common non-trophoblastic tumor of the placenta, arises from the chorionic tissue and is thought to be hamartomatous malformations. The estimated prevalence is about 1% [1,2] but the total incidence is usually underestimated as the vast majority of them are single, small, symptomless and are only found after careful and routine histologic examination of the placenta. The giant placenta chorioangioma (more than 4–5 cm in diameter), are indeed rare in obstetric practice, with the incidence varying from one in 3500 to one in 9000 pregnancies (0.29–0.11%) [1,2]. They can be diagnosed by regular ultrasound imaging in prenatal.

Depending on the size, vascularity and location of the chorioangioma, a small part of them may result in severe maternal–fetal complications. The common complications include polyhydramnios, pre-eclampsia, premature rupture of membrane, placental abruption, preterm labor, fetal growth restriction (FGR), fetal nonimmune hydrops, anemia and even fetal death [3]. The others such as maternal theca-lutein ovarian cysts [4], disseminated neonatal hemangiomatosis [5] are described in case reports. Because of the potential complications resulting from chorioangioma, early diagnosis, close prenatal following-up and proper treatment or delivery timely all play an important role in improving the prognosis of patients with placenta chorioangioma. The purpose of this study was to assess the clinical feature, natural history, outcome of pregnancies complicated by placenta chorioangioma and thus to evaluate the prenatal diagnosis, management, and possible mechanism for the maternal–fetal complications.

Patients and methods

This was a retrospective study involved 26 patients with placenta chorioangioma delivered in our department during the period of September 2003 to July 2015. The diagnosis of placenta chorioangioma was made by routine B-mode ultrasound examinations and color Doppler flow imaging through the demonstration of a well-circumscribed placenta mass with similar or higher echogenicity as the surrounding tissue and a clearly delineated vascular supply. Pathological examination of the placentas ultimately confirmed the ultrasound diagnosis for all cases.

Serial ultrasound evaluations were arranged every 2 weeks to assess the progression of potential complications. The content includes fetal well-being, the serial amniotic fluid index, size and blood flow of chorioangioma, blood pressure and urinalysis were carried out for every prenatal examination.

The time and method of delivery depended on the severity and progression of the maternal–fetal complications and the

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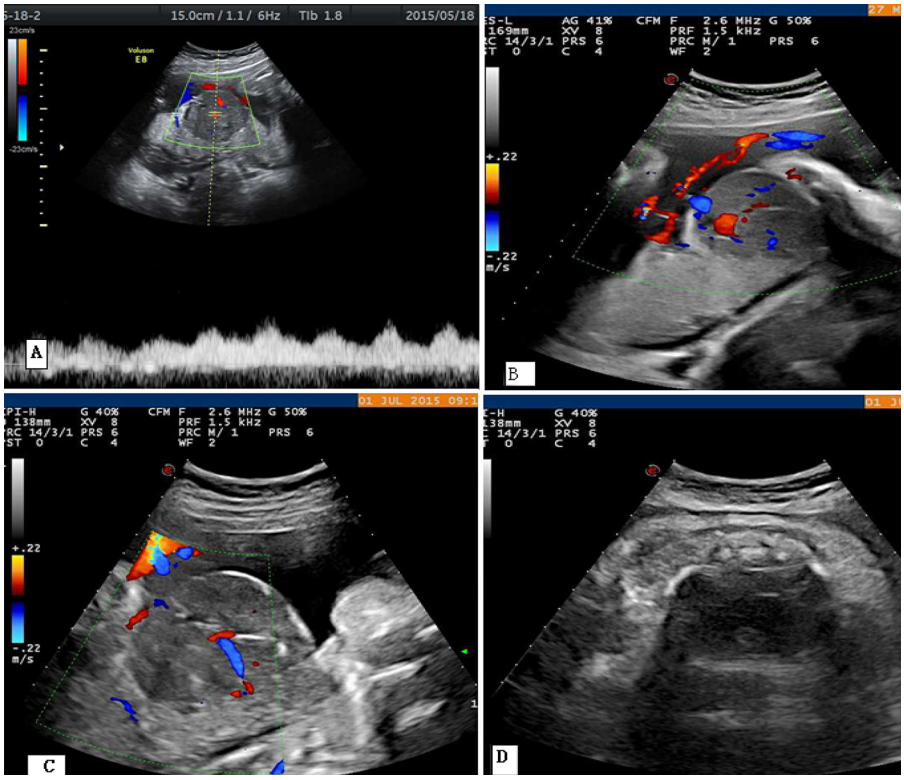

Fig. 1. Sonographic features: (A) ultrasonography showing a placenta heterogeneous mass and spectral analysis shows low-resistance type of arterial flow within the mass; (B) the tumor were located close to the umbilical cord insertion site and contained numerous vessels; (C) tumor increased significantly as pregnancy continued. (D) cardiothoracic ratio increased as pregnancy continued; (from case 26).

gestational age as well. If maternal or fetal complications would be worsen when pregnancy continued, we suggested delivery rather than expectant management especially at or later than 34 gestational week. For giant placenta chorioangioma, we usually recommended cesarean section unless they are in labor spontaneously.

Results

During the 12 year period, 21cases were diagnosed with chorioangioma by ultrasound (Figs. 1 and 2) and 5 cases were found during operation, all of which were proved by microscopic examination (Fig. 3). Among the 26 cases, 23 primipara and

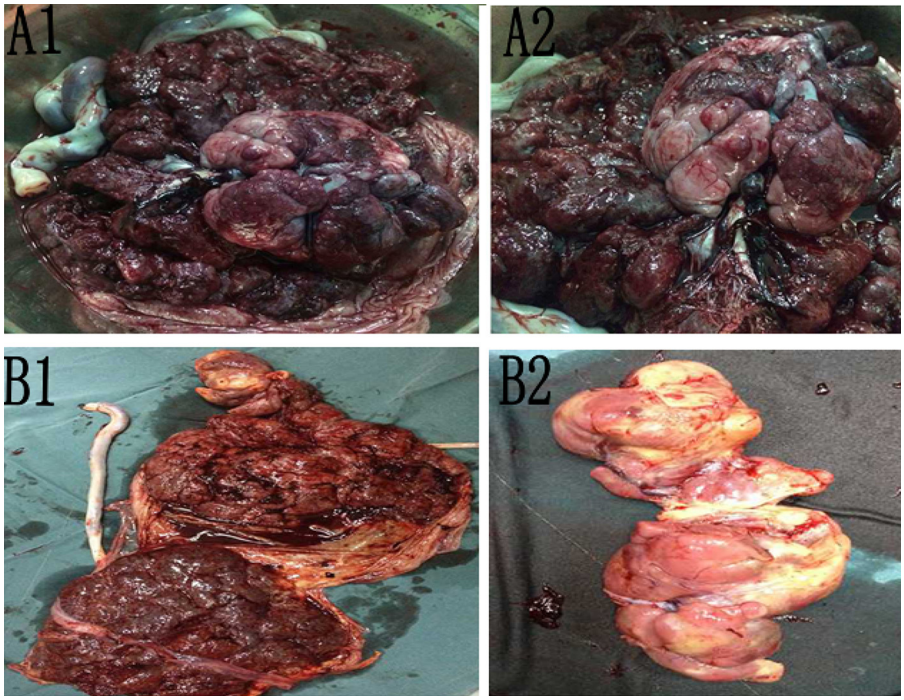

Fig. 2. Macroscopic view: chorioangioma clearly delineated on the maternal surface of the placenta and near the cord insertion (A1 and A2 from case 26). Chorioangioma was located in the placenta margine; (B1 and B2 from case 17, twin pregnancy).