



Serpentine Aneurysm of the Placenta with Good Fetal Outcome

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Case Report

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Abstract

We report an exceedingly rare case of placental serpentine aneurysm. A 21-year-old gravida 3 para 1-0-1-1 with the history of a prior C-section presented at 35 weeks of gestation with the complaint of decreasing or absent fetal movements, previously there were no complications during her pregnancy. She underwent an emergent C-section due to non-reassuring fetal heart tones and delivered a female infant weighing 2145 grams without malformation and Apgar scores of 6 and 8 at 1 and 5 minutes. The premature neonate was admitted to the neonatal intensive care unit (NICU) and was discharged a few days later in good health and has done well since.

The placenta weighed 768 grams with a three-vessel umbilical cord. The fetal surface was blue-gray and had multiple markedly dilated tortuous vessels (ranging in diameter from 0.5-1.4 cm) which were attached to a single area on the fetal surface. A Verhoeff-Van Gieson stain was negative for elastic fibers. The placental disc had a 7.1 cm peripheral infarct involving approximately 10% of the disc. There have been 3 cases reported previously in which two were associated with intrauterine growth restriction and one with molar transformation. In conclusion, placental serpentine aneurysm is a rare finding and unlike prior cases was associated with prematurity, decreased fetal movements, and nonreassuring fetal heart tones; a good outcome occurred because of prompt medical intervention.

Keywords: Aneurysm; Placental Serpentine Aneurysm; Decreased Fetal Movement; Nonreassuring Fetal Heart Tones; Prematurity

Introduction

The successful development of placental vasculature plays a critical role in fetal development and growth and any abnormality in the umbilical or chorionic vasculature may significantly affect fetal development [1,2]. Despite the many differences in the structure of placental and umbilical cord vessels aneurysms are very uncommon and may cause critical complications. We report a case of serpentine aneurysms of placental surface vessels associated with prematurity and decreased fetal movement in an otherwise normally developed neonate.

Case Report

A 21-year-old gravida 3, para 1-0-1-1, with a history of a prior C-section presented to the emergency department at 35 weeks of gestation with the complaint of decreased to absent fetal movement. She subsequently underwent an emergent low transverse C section due to non-reassuring fetal heart tones. The placenta weighed 768 grams with a normal three-vessel umbilical cord. The fetal surface was blue-gray and had multiple markedly dilated tortuous vessels (ranging in diameter from 0.5-1.4 cm) which were attached to a single area on the fetal surface. A Verhoeff-Van Gieson

stain was negative for elastic fibers. The placental disc had a 7.1 cm peripheral infarct involving approximately 10% of the disc. The premature female neonate weighed 2145 grams with Apgar scores of 6 and 8 at 1 and 5 minutes and was admitted to the neonatal intensive care unit for a few days. No congenital abnormalities were found and she was discharged in good health and has done well since (Figure 1).

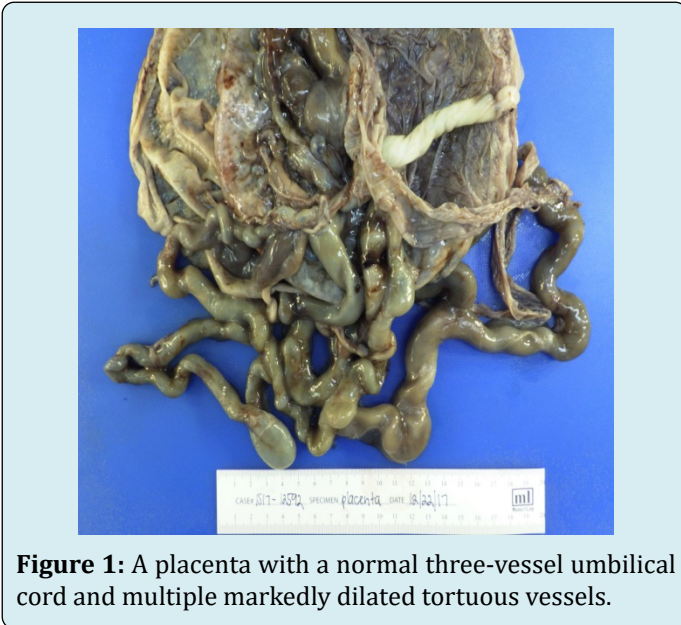


Figure 1: A placenta with a normal three-vessel umbilical cord and multiple markedly dilated tortuous vessels.

Discussion

Similarly, to the umbilical cord, aneurysms may occur in chorionic vessels. Dilation of vessels has been previously reported; Lee, Chi, and Cha reported a case with dilation of the chorionic vessels arising from the umbilical vein with an otherwise normal umbilical cord which was accompanied by placentomegaly. They described growth restriction and anemia in the neonate because of membranous insertion of the cord². Also, Kaido, et al. [3].

Reported a case with placentomegaly and markedly dilated chorionic vessels with an infant with no abnormalities; however, the mother developed hypotension, anemia, and DIC requiring blood transfusion³. Lemtis presented the most extensive study of placental aneurysms, finding them in as often as 2.5% of placentas, and reported serpentine as the least frequent type of placental aneurysms. Lemtis also

reported intrauterine growth restriction as the most common fetal consequence of placental aneurysms [4]. Zhang and Benirschke presented two cases of placental aneurysms, one associated with severe intrauterine growth restriction and fetal thrombocytopenia and the other case was associated with molar transformation of placental villous tissue. Which was similar to the case reported by Lemtis [5]. Whereas in our case the premature neonate was discharged a few days after admission to the NICU without any complications. McDermott and Gillan showed that reduced fetal blood flow may lead to placental infarction and showed it as the mechanism of infarction in the placenta [6], however, in our case while placental infarction was present, we can only speculate on its cause.

Conclusion

In conclusion, placental serpentine aneurysm is a very rare pathologic finding and has previously been reported as being associated with fetal and infant consequences including intrauterine growth restriction, and thrombocytopenia; our case demonstrated the adverse consequences of fetal distress which if promptly recognized may result in a good outcome.

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