

Velamentous insertion of the umbilical cord in monochorionic triplet pregnancy: life-saving condition?

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DESCRIPTION

A 26-year-old gravida 2 para 1 woman had a mono-chorionic-triamniotic (MT) triplet pregnancy that was eventually terminated by emergency caesarean section at week 31 of gestation owing to rapid changes in cervical length. She was referred to our hospital at week 9, and a diagnosis of MT triplet pregnancy was confirmed (figure 1A). Ultrasonography at week 13 revealed marginal insertion of the cord in one fetus (figure 1B) and velamentous insertion in another (figure 1C). She was admitted to our hospital in week 25 owing to the threat of preterm labour. Prenatal ultrasound assessment showed the amniotic volumes were normal in all three sacs; no obvious discordance despite suspected small for gestational ages. Fetal bladders were filling regularly in the three fetuses; pre-delivery umbilical artery resistance indexes were within the normal range. The body weights of the three infants were 1230, 1254 and 1400 g. The Apgar score at 1 and 5 min were 7/8, 8/9 and 8/9; the pH of the umbilical vein were 7.29, 7.28 and 7.29; the haemoglobin concentrations were 155 g/L, 163 g/L and 173 g/L, respectively. Grossly, the common placenta was visibly divided into three equal parts by amniotic membranes

with the appearance of a three-pointed star, similar to a Mercedes-Benz logo (figure 1D). One cord was attached to the middle of the shared placenta, and the other two revealed marginal insertion and velamentous insertion of the cords, which were comparable to the prenatal ultrasound findings at week 13.

Fetal loss, twin-to-twin transfusion syndrome (TTTS) and discordance are the most common complications in monochorionic twin pregnancies. Marginal/velamentous cord insertions that are frequently observed in monochorionic twin pregnancies have been recognised as a potential risk factor for adverse perinatal outcome.^{1,2} Why did all three fetuses in the present case survive without any complications? We observed that a combination of normal, marginal and velamentous cord insertions in a monochorionic triplet pregnancy appeared to be ideal, with the advantage of increasing the distance of the cord insertion sites from each other. Does it mean that marginal and velamentous cord insertions contribute to the absence of TTTS? Can marginal/velamentous cord insertions in monochorionic triplet pregnancy play a role in reducing the risk of lethal vascular anastomoses since early gestation? Or it is just an exceptional case? We cannot base our conclusions on a single rare case. Further studies analysing the relations are warranted.

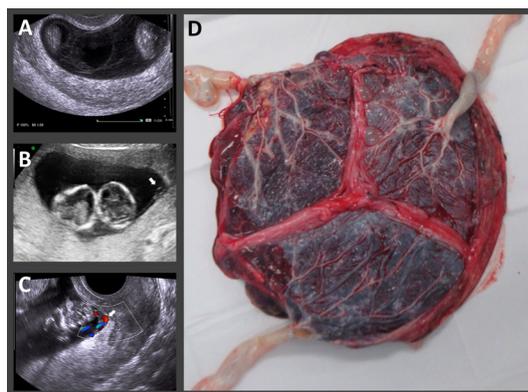


Figure 1 (A) A monochorionic-triamniotic triplet pregnancy diagnosed at week 9 of gestation. (B) Marginal insertion of the cord was observed in one fetus via transabdominal ultrasound, and (C) velamentous insertion of the cord was observed in another fetus via transvaginal ultrasound at week 13 of gestation. (D) Gross view of the placenta. The placenta was visibly divided into three equal parts by amniotic membranes with an appearance similar to a Mercedes-Benz logo. Marginal insertion in one fetus and velamentous insertion of the umbilical cord in another fetus were observed, which were comparable to the prenatal ultrasound findings at week 13 of gestation.

Learning points

- ▶ Marginal/velamentous cord insertion that is frequently observed in monochorionic twin pregnancies has been recognised as a potential risk factor for adverse perinatal outcome. However, its role in triplet pregnancy is unclear.
- ▶ We present a rare case of monochorionic triplet pregnancy in which abnormal cord insertions may have possibly contributed to the absence of lethal vascular anastomoses. Further studies analysing the relations are warranted.

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