True double umbilical cord knot

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DESCRIPTION

A healthy woman in her early 20s, gravida 2 para 0, had labour induced at 41 weeks gestation with oxytocin. There were no intercurrences during gestation. Continuous cardiotocography during labour was reassuring and showed no pathological signs. Vacuum extraction was necessary because of labour arrest.

A male child was born with a nuchal cord and a true double umbilical cord knot (figure 1). Apgar score at minutes 1/5/10 was 8/8/9. No neonatal support was required. The newborn was discharged from the hospital 2 days after birth in good health.

True umbilical cord knot, reported in 1.2% of all pregnancies, is associated with intrapartum fetal distress and increases the incidence of stillbirth by fourfold.\(^1\)\(^2\)

Advanced maternal age, multiparity, previous spontaneous abortion, polyhydramnios and maternal diabetes mellitus are significantly associated with an increased incidence of true umbilical cord knot. Long umbilical cords, male fetuses are also reported to be risk factors.\(^1\)

True umbilical cord knot was significantly associated with adverse pregnancy outcomes namely: stillbirth, lower Apgar scores, preterm birth and small for gestation age with subsequent admission in neonatal intensive care unit.\(^2\) Coexistence of nuchal cord and true knot may have an increased cumulative risk of adverse outcome.\(^3\)

Prenatal diagnosis is possible but challenging due to lack of specific ultrasound findings and inability to evaluate the entire length of the umbilical cord.\(^4\) A sonographic ‘hanging noose’ sign has been described by some authors when a transverse section of the umbilical cord is surrounded by a loop of umbilical cord. The transverse section can be pressured by the surrounding knot, findings that are very characteristic of true knot of umbilical cord.\(^5\)

Despite these risks, there is a lack of evidence and no consensus on antepartum and intrapartum management of umbilical cord knots detected prenatally. Some authors defend that the patient should be informed and participate in decision-making. Most of the patients prefer to initiate delivery ≥37 weeks gestation in absence of fetal compromise. Until then, they recommended daily fetal movement assessment and twice-weekly fetal testing.\(^6\)

There have been no reports until today of double umbilical cord knots with no consequences for the fetus.

Learning points

- True umbilical cord knot is a rare finding and is associated with fetal morbidity and mortality.
- The ultrasound diagnosis is challenging and is often an incidental finding during delivery.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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