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Case Report

In Utero Fetal Death Associated with a Tight Double Circular Umbilical Cord on Term Pregnancy About a Case at Thelac Tele De Bamako Clinic

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Abstract

The majority of these circulars are loose and of no consequence to the fetus. However, rare cases can be discovered by unexplained fetal death and prompt the practitioner to establish a causal link.

Methodology: We present here an illustrated clinical case of fetal death associated with a tight double circular of the umbilical cord.

Results: This is a 25-year-old patient with a pregnancy well followed by an obstetrician-gynaecologist with 06 quality prenatal consultations. The clinical and biological monitoring parameters have been well recorded in the antenatal diary and do not show any abnormalities. Emergency obstetric ultrasound did not reveal fetal cardiac activity with a cephalic presentation. The fetal weight was 3270 g, it had a tight double circular from the umbilical cord to the neck on color Doppler. The amniotic fluid was normal.

Her labour went smoothly as normal with the peculiarity of the absence of foetal heart sounds, allowing after 5 hours the spontaneous delivery of a macerated stillborn with a double circular serum around the neck. The stillborn was male; weighing 2500g; Size: 49 cm. The length of the cord was 80 cm. Feto-placental examination revealed skin detachment in places.

Keywords: Pregnancy; Emmel Test (ET); Rupture of Membranes (RPM)

Introduction

The circular umbilical cord corresponds to a winding of the umbilical cord in one or more turns of the spiral around the fetal neck. The prevalence of this situation varies worldwide from 5.5% to 35.1% [1]. The majority of these circulars are loose and of no consequence to the fetus. The discovery of unexplained fetal death may prompt the practitioner to establish a causal link. However, predictors of perinatal mortality in umbilical cord circular disease are often not well established [3,4]. After a careful analysis of pregnancy and delivery follow-up, we ruled out all other underlying causes of perinatal mortality. It should be noted that in a high proportion of cases, even after an autopsy and swabs, the death remains unexplained. It may have been caused by an umbilical cord 'accident': either a knot has formed around the neck

and in this case it is found at birth, or the baby has compressed his cord for a prolonged time, causing oxygen to stop. But there is no need to fear that one in three or four children is born with the cord wrapped around their neck or arm without any dramatic consequences [3,4]. Here we present the illustrated case of foetal death associated with a tight double circular of the umbilical cord.

Case Observation

She is a 25-year-old first-time mother, married, a nurse by profession with no known medical-surgical history, who consulted for painful uterine contractions during a pregnancy of 38 weeks of amenorrhea (AS). This is a pregnancy well followed by an obstetrician-gynecologist with 06 quality prenatal consultations. The clinical and biological monitoring parameters have been well recorded in the antenatal diary and do not show any abnormalities.

Indeed, the history of pregnancy reveals:

- A date of the last menstrual period dating back to 15/07/2017 i.e. 38 SA
- 06 prenatal consultations carried out at the Lac Télé polyclinic by an obstetrician-gynaecologist (blood pressure values were normal, pulse normal, temperature normal, HU values normal for age, normal urine dipsticks, no pathological leucorrhea, vaginitis), two doses of tetanus vaccination carried out; antimalarial chemoprophylaxis provided by 03 doses of sulfadoxine-pyrimethamine; prevention of anaemia was ensured by continuous intake of iron plus folic acid until the time of delivery. No associated pathologies were observed during follow-up.
- A prenatal work-up was done and included a positive Rh A group; a negative Bordet Wassermann (BW); a negative Emmel test (ET); negative toxoplasma serology, negative albuminuria and glycosuria, HIV-negative serology; Three obstetric ultrasounds were performed, including one in the first and two in the third trimester without any abnormalities detected.
- The examination of admission to the delivery room: During the interrogation, we noted an absence of active fetal movements since the beginning of the contractions, i.e. two hours prior to her admission to the clinic. We did not find any notion of premature rupture of membranes (RPM); no fever; dysuria, pollakiuria.

On physical examination: The patient was in good general condition; a clear conscience with a Glasgow = 15/15; no oedema of the lower limbs, temperature (To) = 37 °C; TA: 120/70 mm hg; respiratory rate: 16 cycles/min; negative dipstick proteinuria.

On examination of the breasts: They are symmetrical, anodular, gravid in appearance.

Cardiovascular: audible, regular BDC with no murmur or added noise, with a maternal pulse: 70 beats per min

Pulmonary system: harmonious, symmetrical thorax, vesicular murmurs perceived, vocal vibrations well transmitted, respiratory rate: 16 cycles/min.

Abdomen: voluminous, longitudinally developing gravid uterus; uterine height: 32 cm; 2 contractions every 10 minutes; fetal back to the left; cephalic presentation; BCF not perceived on Pinard.Au vaginal examination stethoscope: the cervix was effaced, short (0.5 cm), dilated to 2 cm; cephalic presentation in OIGA engaged at level 0 in a clinically normal pelvis. The glove came back stained with mucous plug. A partogram has been introduced for monitoring labour work. The labour progressed normally with the peculiarity of the absence of the sounds of the foetal heart, allowing after 5 hours the spontaneous delivery of a macerated stillborn with a double circular serum around the neck. The stillborn was male; Weighing 3,500g; Height: 49cm. The length of the cord was 80 cm. Feto-placental examination reveals skin detachment in places. The placenta weighed 550 grams.

Ultrasound aspects

Emergency obstetric ultrasound did not reveal fetal cardiac activity with a cephalic presentation. The fetal weight was 3270 g, it presented a tight double circular from the umbilical cord to the neck on color Doppler in the context of meconium amniotic fluid.

Fetal biometrics return to a gestational age of 38 Weeks.

The placenta was well inserted away from the maturing grade III cervix.

Amniotic fluid was normal for the age of pregnancy. On Doppler scans, the circular velocities were zero with a resistance index (IR) = 0. Morphologically, the umbilical artery was normal.

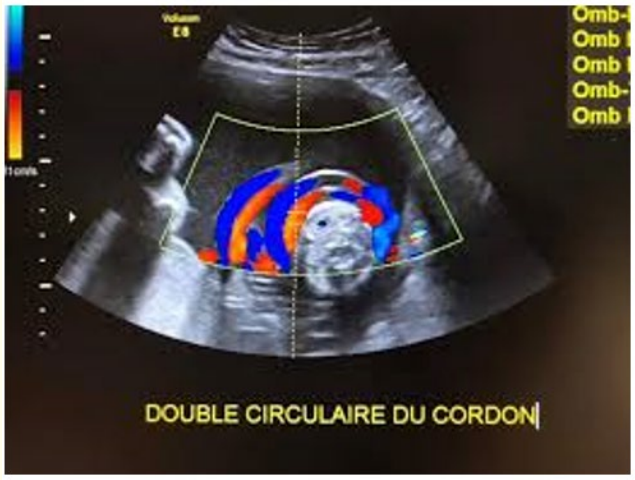

Figure 1: Obstetric ultrasound, axial section showing a double circular umbilical cord at the neck of a 38-week gestation of amenorrhea.

Figure 2: Tight double circular umbilical cord around *the* neck at the time of fetal expulsion.

Discussion

We present here a case of fetal death in utero associated with a double circular renatal follow-upwithout particularity. Fetal death by strangulation requires the presence of numerous circular, early and tight motions with a deep cord impression, the presence of facial petechiae, and subconjunctival hemorrhages [1]. However, risk factors independent of the double circular have been found, namely the long cord and primiparity. The Doppler study of venous blood flow shows disturbances in venous blood corresponding to late decelerations. Guindo D O [2] in Mali found in 2006 1.81% (1/55) of foetal deaths due to a tight knot of the horn. Moutongo [2] found in his study 2.22% of foetal death in utero related to funicular abnormalities (double and tight knots of the umbilical cord). According to Dubois., *et al*. [3], the closer one gets to the term, the more frequent funicular complications become. Mercier., *et al*. [3] found 3.45% fetal death in utero, Mounzer [4] found 4.7%. These fetal deaths are almost always late and unpredictable. The etiology not found accounted for 21.8% in the study by Guindo D O [2]; 8.89% for Moutongo [5]; Mounzer [6] 14%; Lansac and collar [7,8] showed that in 20 to 50% of cases, the cause of fetal death remains mostly unknown despite our current diagnostic methods. In our case, the audit of this death led to the conclusion that there was a tight double circle as an etiological factor given the absence of maternal and fetal pathology detected at the NPC, on examination of the fetus and placenta.

Conclusion

Fetal death in utero is a common pathology but association with umbilical cord circulars is rare. When the circular umbilical cord is doubled and tightened around the neck like a cord knot. It could be a cause of unexplained fetal death. It is always a tragedy for the parents and a failure for the obstetrician. It is necessary to reassure the woman and her family about the prognosis of subsequent pregnancies.

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