

An atypical case of edema of the umbilical cord and histological chorioamnionitis in a fetus with normal growth and abnormal umbilical artery Doppler: a case report

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Objective. Chorioamnionitis is a severe condition of pregnancy that increases fetal and neonatal morbidity. It can be distinguished in Clinical and Subclinical/Histologic forms defined by inflammation of the chorion and placenta associated with intrauterine bacterial infection and umbilical infiltration.

Materials and Methods. A 27-year-old primigravida with uncomplicated pregnancy and no comorbidities underwent a routine ultrasound scan at 31 weeks' gestation. The biometric fetal parameters and the amniotic fluid were within the normal range.

The Doppler velocimetry of Umbilical Artery was persistently altered with a pulsatility index of 1.5-1.6, while the Middle Cerebral Artery PI was normal: 2.00.

Several pathological conditions were clinically excluded.

Results. After 12 hours the UA PI was 1.7 (> 95th percentile) with normal PI of MCA 2.17 and a subsequently reduced CPR

(cerebro-placental ratio) 1.27 (2nd centile). The ductus venosus and the umbilical vein Doppler were normal.

The patient was hospitalized and corticosteroids were administered for fetal lung maturation, then a cesarean section was performed for the worsening of UA Doppler. A neonate of 1770 g was born with an Apgar score of 8 at 1st minute and 9 at 5th minute. The umbilical cord showed an increased consistency during clamping and cutting.

The histological examination highlighted edema of the umbilical cord and amniochorial membranes with foci of chorioamnionitis and congested umbilical vessels.

Conclusions. The edema of the umbilical cord linked to a hypothetical funisitis might explain the increase of the resistance in the umbilical artery.

Further studies are required to evaluate the effects of histological chorioamnionitis and funisitis on long-term neonatal outcomes.