DOI: 10.5281/zenodo.3685677
UDC: 618.382-06:[618.33+618.5]

Umbilical cord coiling abnormality as a predictor of maternal and fetal outcomes

Alina Alsatou

Department of Obstetrics and Gynecology, *Nicolae Testemitsanu* State University of Medicine and Pharmacy
Chisinau, the Republic of Moldova

Author's ORCID iD, academic degrees and contributions are available at the end of the article

Corresponding author: linka-05@mail.ru
Manuscript received February 05, 2020; revised manuscript February 27, 2020; published online March 10, 2020

Abstract

Background: The umbilical cord forms connecting link between the fetus and placenta through which the fetal blood flows to and from the placenta. Its three blood vessels pass along the length of the cord in a coiled or helical fashion (spiral course). The aim of the study was to evaluate umbilical cord coiling abnormalities and determine its relationship with maternal and perinatal outcomes.
Material and methods: The study included 190 patients divided into 2 groups: L_1 – 95 patients with UC abnormalities and L_0 – 95 with normal UC. The umbilical cord index was measured after delivery of the adnexal complex, which was defined as the total number of coils divided by the total length of the cord in centimeters.
Results: The hypo- and hypercoiling umbilical cord suggests the high risk of fetal distress ($p<0.0001$), instrumental vaginal deliveries, the admission of the newborn in the neonatal intensive care ($p<0.0001$) and perinatal morbidity, which demanded a transfer to other medical facilities ($p<0.05$). UC torsion was associated with insufficiency of placental circulation, IUGR, fetal hypoxia and fetal mortality ($p<0.05$). The straight cord had significant correlation with maternal infections, antenatal mortality and preterm labor in anamnesis, placental insufficiency, IUGR and neonatal morbidity ($p<0.05$).
Conclusions: Umbilical coiling index was found to be an important predictor of adverse maternal and perinatal outcomes. To conclude, abnormal umbilical coiling index is associated with an increased rate of adverse antenatal and neonatal features. The association shows wide variations in the numerous studies done so far.
Key words: umbilical cord, coiling abnormality, straight cord, perinatal outcome.

Cite this article
Alsatou A. Umbilical cord coiling abnormality as a predictor of maternal and fetal outcomes. *Mold Med J.* 2020;63(1):29-32. doi:10.5281/zenodo.3685677