

Wāhi Rua NZMFM Statement

Reporting of Hypo or Hyper-coiled umbilical cords on antenatal imaging

Ultrasound scans demonstrating a fetus with an apparent hyper- or hypo-coiled umbilical cord are being reported on an *ad hoc* basis on community ultrasound reports. **Wāhi Rua NZMFM Network strongly recommends that hyper or hypocoiled cords should not be reported on routine community ultrasound reports.**

The definition of a hyper or hypocoiled cord is based on postnatal examination of the placenta using the Umbilical Coiling Index (UCI). This is defined as the number of cord spirals completed per cm of cord length¹. There is consistency with a normal UCI definition of 0.2 postnatally and 0.4 antenatally¹⁻³.

There is mixed evidence as to whether antenatal UCI correlates with postnatal UCI^{2,4,5}. The antenatal sonographic determination of UCI has a low sensitivity (40%) for predicting the presence of undercoiling or overcoiling as determined by postnatal cord examination¹. This is likely due to reflection of the fact that the umbilical vessels are distended with fetal blood antenatally and this simple mechanical distension will result in a tighter apparent coiling of helical vessels¹. This may result in an over reporting of hyper-coiled cords antenatally. Coiling is also greater towards the fetal end of the cord⁵. There is no evidence that coiling index differs throughout the gestation of pregnancy.

Postnatal findings of an abnormally coiled cord can be associated with various adverse pregnancy outcomes including: increased prevalence of preterm birth < 37 weeks, fetal heart rate abnormalities, need for interventional delivery due to fetal distress, meconium stained amniotic fluid, Apgar scores < 7 at 5 min, fetal growth restricted (FGR) neonates, fetal anomalies, and fetal death^{3,6,7}. The magnitude of association varies between studies¹.

The mechanism of an abnormal coiling index remains speculative^{1,3}.

It should be recognised that the majority of pregnancies with hyper- or hypo-coiled cords have a normal outcome.

Reporting without sufficient evidence creates unnecessary anxiety and increased intervention without clear benefit. Until further research can correlate mechanism and pregnancy outcome with the antenatal imaging of an abnormal umbilical coiling index, Wāhi Rua NZMFM Network strongly recommends that hyper or hypocoiled cords are not reported on routine community ultrasound reports.

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