

Usefulness of telemetric cardiotocography in detection of fetal compromise due to the true knot in umbilical cord

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The development of prenatal telemedical systems was accelerated during the COVID-19 pandemic. Pregnant patient seems to be a prime candidate for mobile health applications for prenatal monitoring among which tele-CTG is the most promising [1].

Tele-CTG device enables self-examination at home with an 24/7 access to specialists and unlimited number of tests. Each test is analysed by professional medical staff on-line. The system provides an app for patient's communication with caregiver [1–4].

A 24-year-old patient at 39 weeks of first pregnancy was equipped with tele-CTG device (Carebits system KTG Sig-mafon) to monitor fetal heart rate at home after she reported decreased fetal movements during the prenatal visit. The following morning she registered for 30 minutes tele-CTG session (Fig. 1A). The midwife who checked this record asked patient to repeat CTG. As the repeated CTG remained abnormal (Fig. 1B), the patient was asked to go immediately to the nearest hospital and at the same time her doctor received SMS message informing him about this situation.

Within 45 minutes she appeared at the OB/GYN admission ward of the University Hospital No. 4 in Lublin were after initial examination including CTG (Fig. 1C) showing persistent tachycardia, it was determined that she was qualified for immediate cesarean section. A true knot in the umbilical cord (Fig. 1D) was detected during caesarean delivery of a male neonate with a birth weight of 3320 g who received 10 points in Apgar scale.

Tele-CTG proved in this case to be useful in detecting fetal compromise due to true knot in umbilical cord. Although indications for telemetric cardiotocography remain to be defined, patients with post term pregnancy and gravidae with fetal movements abnormalities may be beneficiaries of this technique [5].

Article information and declarations

Conflict of interest

All authors declare no conflict of interest.

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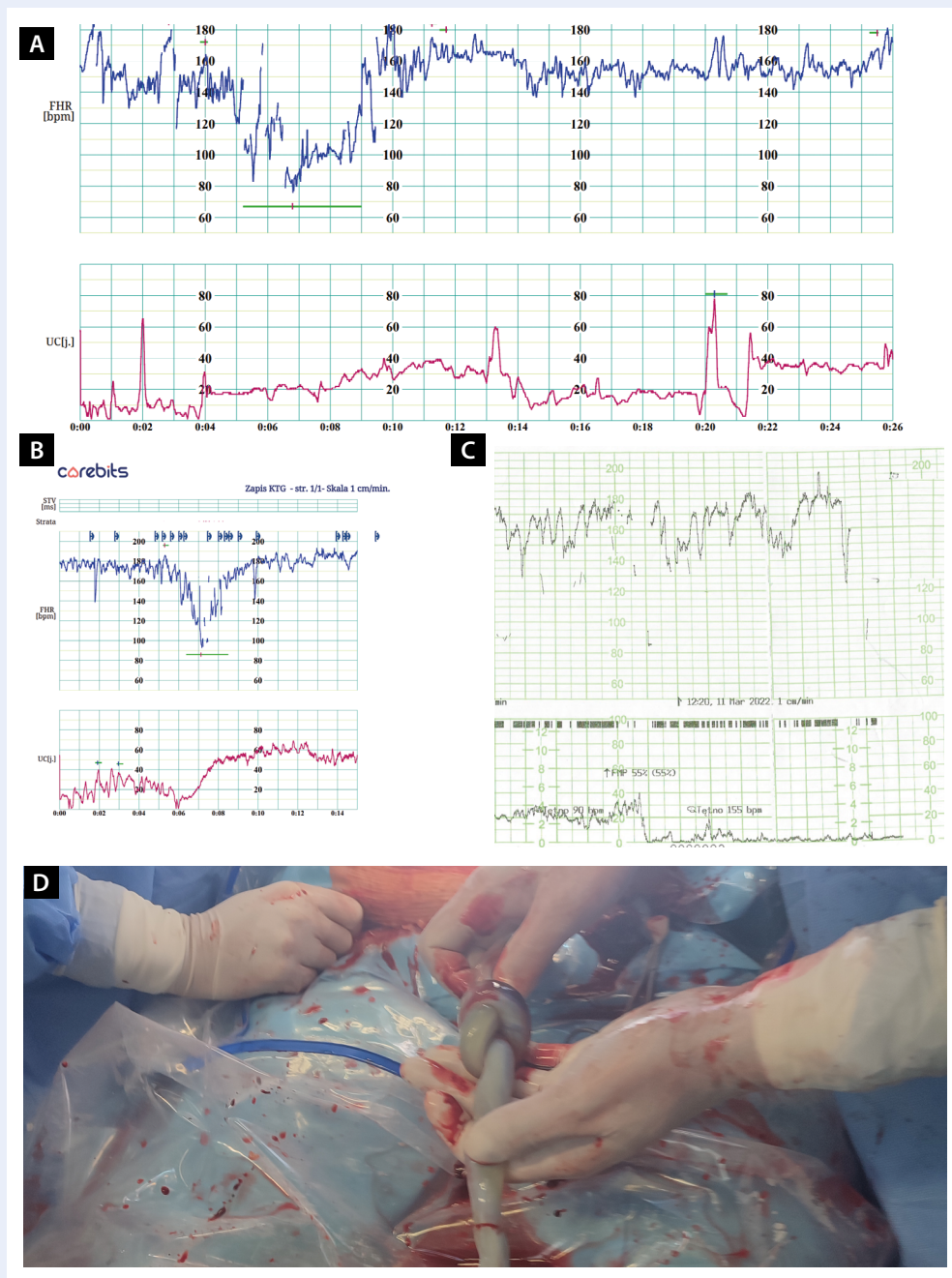


Figure 1. A. 30 minutes tele-CTG session registered in the morning; B. Repeated CTG — abnormal; C. CTG repeated at the OB/GYN admission ward — showing persistent tachycardia; D. True knot in the umbilical cord

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