



Background: Presence of decreased fetal movements (DFM) is associated with increased rates of adverse pregnancy outcomes including; fetal growth restriction and stillbirth.¹ Alongside medical history and examination, Cardiotocography (CTG) is useful in the assessment of presentations for DFM. A normal CTG has good negative predictive value.² However, abnormal features including complicated variable decelerations and absent variability, may indicate foetal compromise necessitating immediate delivery.

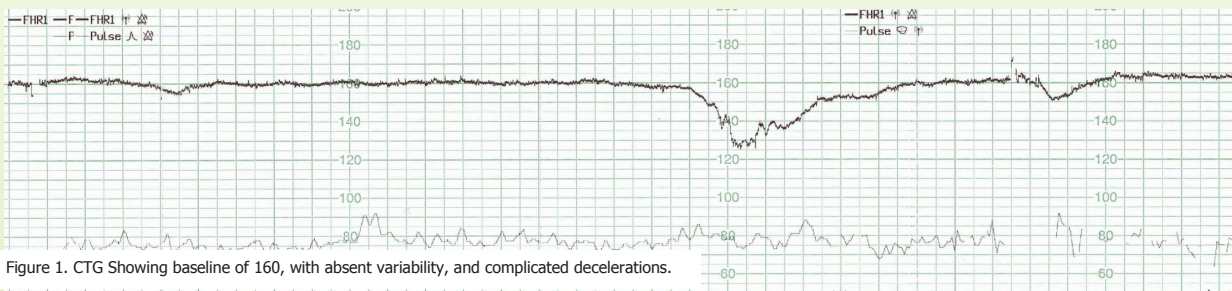


Figure 1. CTG Showing baseline of 160, with absent variability, and complicated decelerations.

Case: A 30-year-old, G2P1, presented with absent foetal movements for 24 hours at 37+5 weeks gestation. Her first baby was born via caesarean section for labour dystocia. Her CTG showed baseline of 160, with absent variability, and repetitive complicated decelerations occurring with painless irregular uterine activity *Figure 1*. An emergency caesarean section was performed due to concerns for fetal wellbeing.

Baby was born with no respiratory effort, cyanosed and with fetal heart rate of 30 beats per minute. APGARs were 1, 3, 4 (at 1, 5, and 10 minutes). Baby was intubated at 24 minutes of life. Initial arterial cord blood gas analysis showed pH 7.07 and Lactate of 13.9, repeat gas at 2 hours of life showed pH 7.21, lactate 18.6, *Figure 2* and decision was made to transfer to tertiary NICU for therapeutic hypothermia.

| | Arterial Cord Blood | Venous Blood 1 hour of life | Venous blood 2 hours of life |
|--------------------------|---------------------|-----------------------------|------------------------------|
| pH | 7.07 | 7.11 | 7.21 |
| BE _{ecf} mmol/L | -16.0 | -21.0 | -20 |
| Bicarb mmol/L | 14 | 9 | 8 |
| Lactate mmol/L | 13.9 | 17.9 | 18.6 |

Figure 2. Serial neonate blood gas analysis

Baby had prolonged NICU admission with multiple issues including hypoxic ischemic encephalopathy (HIE), cardiac injury, acute kidney injury, transaminitis, hyponatremia, and electrical seizures. Baby was discharged home at 24 days of age.

Discussion: Maternal perception of DFM is associated with adverse pregnancy outcomes including; stillbirth, fetomaternal haemorrhage, infection, neurodevelopmental disability, umbilical cord complications, small for gestational age and fetal growth restriction.¹ The Safer Baby Bundle emphasises antenatal education on fetal movements with early presentation to reduce stillbirth rates.³ Identifying CTG features of fetal compromise allows appropriate and timely intervention, aims to reduce adverse outcomes.

In our case the CTG performed, as part of the assessment of the DFM, indicated fetal compromise prompting immediate caesarean section delivery with neonatology support at delivery. Subsequently allowing early detection of HIE, and organising transfer for appropriate treatment. Therapeutic hypothermia has been shown to reduce combined outcome of mortality or major neurodevelopment disability to 18 months of age.⁴

The Safer Baby Bundle aims to create awareness on fetal movement patterns, including both quantity and quality of movements. It also encourages pregnant women to seek immediate health professional advice if there are concerns for changes from the 'normal' fetal movement pattern.

REFERENCES

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4. Jacobs SE, Berg M, Hunt R, Tarnow-Mordi WO, Inder TE, Davis PG. Cooling for newborns with hypoxic ischaemic encephalopathy. *Cochrane Database of Systematic Reviews* 2013, Issue 1.