

Case story

Good practice management of the antenatal CTG

This case story is based on real events and NHS Resolution is sharing the experience of those involved to help improve the quality of care provided to patients and families, and for the wider benefit of staff. As you read about this incident, please ask yourself;

- Could this happen in my organisation?
- Who could I share this with?
- What can we learn from this?

Topic:

Management of the antenatal cardiotocograph (CTG)

Key points:

- An abnormal antenatal CTG may represent chronic fetal hypoxia.¹
- Consideration should be given to the use of an antenatal CTG classification system (see example CTG sticker) and/or computerised cCTG (CTG).²
- Intrapartum CTG classification may not be appropriate in women who are not in established labour.
- Where there are CTG concerns and fetal wellbeing cannot be further assessed, obtain senior review and consider expediting the birth.
- Clear communication with the woman giving birth, birth partner(s) and maternity team is an essential part of good clinical care.³

Case story

A mother presented to the maternity triage at 39 weeks gestation with a history of ruptured membranes and reduced fetal movements. She was not experiencing any contractions.

Observations were performed and the fetal heart was initially auscultated with a Pinard stethoscope prior to commencing a CTG.

The midwife returned to review the CTG after 15 minutes; it showed a wandering baseline, reduced variability and unprovoked decelerations. The midwife recognised this as an abnormal antenatal CTG. She immediately escalated this to the obstetric registrar using an SBAR (Situation, Background, Assessment, and Recommendation) tool approach.

The registrar attended the mother immediately and performed a rapid assessment and examination, including a speculum examination which confirmed a closed cervical os. The registrar agreed with the midwife's assessment of an abnormal antenatal CTG. The registrar explained to the mother that the abnormality may represent fetal hypoxia and in view of the examination findings, recommended urgent caesarean delivery. The mother gave her consent and the registrar called 2222 to alert all members of the team that an urgent caesarean section was required.

The team worked efficiently and the fetus was delivered in a timely manner. The baby was born in poor condition with markedly acidotic cord gases, but made a good recovery following 72 hours of therapeutic cooling.

There are several areas of notable good practice within this case, including the rapid review and recognition of an abnormal antenatal CTG, clear escalation, and good communication with the mother giving birth and extended maternity team. Unfortunately, there are many more cases reported to the Early Notification scheme where failure to recognise and act upon an abnormal antenatal CTG in a timely manner has resulted in a poor outcome.

Frequent pitfalls include the use of intrapartum criteria to interpret antenatal CTGs and a failure to consider the clinical context.

Considerations for your hospital

- Do local guidelines/protocols exist for the interpretation and management of antenatal CTGs?
- What systems are in place to ensure timely review and escalation of high risk maternity triage women?
- Where are CTGs performed in environments remote from the labour ward?
- How are these assessed and escalated and what would be the pathway for an urgent delivery?
- How do you communicate with families during this process?
- Consider the use of antenatal CTG implementation as recommended in Saving Babies Lives Care Bundle (V2)

Suggestions for in-situ simulation

This case story can be used for in-situ simulation with members of the multi-professional team. It can be conducted on an antenatal ward, day assessment unit or maternity triage area.

Focus on the recognition, actions and escalation processes. Once a decision for delivery is made how is this communicated to the mother and the maternity team? Think about communication with the anaesthetic team and discussions regarding mode of anaesthesia.

Observe whether a member of the team has oversight of the overall clinical context.

Continue the scenario until delivery. Review the time taken from recognition of an abnormal CTG to delivery of the baby.

Observe the communication to the mother giving birth and birth partner(s) during the process.

Debrief following the in-situ simulation, empower clinical teams to voice concerns and discuss the barriers to doing so.

Example of an antenatal CTG classification sticker ⁴

Antenatal CTG Proforma	Reassuring	Non-reassuring		
Baseline rate (bpm)	110 – 160 Rate:	Less than 109 Rate: More than 161 Rate: Sinusoidal pattern for 30 minutes or more	Comments:-	
N.B Rising baseline rate even within normal range may be concern if other non-reassuring features present				
Variability (bpm)	5 bpm or more	Less than 5 bpm for more than 50 minutes	Comments:-	
Accelerations	Present	None for 50 mins	Comments:-	
Decelerations	None	Unprovoked deceleration/s Decelerations related to uterine tightenings (not in labour)	Comments:-	
Opinion	Normal CTG (All 4 features reassuring)	Abnormal CTG (1 or more non-reassuring features)		
Clinical information	Maternal pulse:	Membranes ruptured: Y / N If yes, date and time:	Liquor colour:	Gestation (wks):
Reason for CTG:				
Action: (An abnormal CTG requires prompt review by experienced obstetrician/senior midwife)				
Date:	Time:	Signature:..... Print: Designation:		

What has happened as a result?

This case was referred to NHS Resolution as part of the Early Notification scheme and reviewed by an in-house clinical advisor. No breach of duty was identified. Feedback was provided to the trust, which included commendation of the actions of the maternity team and the case was closed.

In cases where delay in recognising or acting on abnormal antenatal CTGs is felt to have contributed to poor outcomes, legal liability investigations are commenced. The expertise of NHS Resolution staff in clinical negligence claims-handling is used for cases referred to the scheme to proactively assess the legal risk, investigate care, and provide early support to families where liability is established. The scheme is also designed to improve the experience for NHS staff by time limiting the need for protracted involvement in the legal process and rapidly sharing learning from avoidable harm.

It is very important to recognise that no amount of money compensates for the loss of a child or a child living with lifelong neurological injuries. Where poor outcomes occur as a result of deficiencies in care NHS Resolution aims to resolve such cases fairly and as quickly as possible.

The current average damages reserve for a baby with a long term severe brain injury where liability has been admitted is approximately £10 million, the human costs notwithstanding.

References

1. Payne, J. Fetal Distress. September 2016. <https://patient.info/doctor/fetal-distress#>
2. NHS England (2019). Saving Babies' Lives Care Bundle Version 2: a care bundle for reducing perinatal mortality. Available from: <https://www.england.nhs.uk/wp-content/uploads/2016/03/saving-babies-lives-car-bundle.pdf> [Information accessed 19 August 2019]
3. Royal College of Obstetricians and Gynaecologists. Each Baby Counts: 2015 Full Report. London. RCOG, 2017. <https://www.rcog.org.uk/globalassets/documents/guidelines/research--audit/each-baby-counts-2015-full-report.pdf>
4. Winter, C. PROMPT Course Manual (3rd ed.). Cambridge University Press, October 2017.

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