NHS Resolution

Case story

Delay in recognising placental abruption

Case Story

This case story is illustrative based on real events and NHS Resolution is sharing the experience of those involved to help prevent a similar occurrence happening to patients, families and 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: Delay in recognising Placental Abruption

Key points:

- Although there are certain risk factors that increase the chance of a placental abruption occurring, it can happen in any pregnancy.[1]
- Placental abruption often presents with abdominal pain and vaginal bleeding, however a proportion are 'concealed' with no overt clinical signs.[1]
- It is recognised that blood loss is often underestimated and that the amount of blood loss seen at the introitus may be misleading.[1]
- When a mother is in labour, a regular risk assessment should be undertaken to determine if any changes to her care pathway are indicated, such as place of birth or type and frequency of monitoring.[2]
- Women with antepartum haemorrhage and signs of associated maternal/fetal compromise should be delivered immediately.[2]
- Caesarean sections (CS) should be classified based on their urgency. If there is 'immediate threat to the life of the woman or fetus' category 1 CS is recommended with delivery ideally within 30 minutes of making the decision.[3]

Maternity Story

A 31 year old mother in her first pregnancy booked for midwifery-led care. She underwent routine antenatal care and after an episode of decreased fetal movements in her third trimester underwent an ultrasound scan which showed the baby to be growing within the expected range and no other concerns noted.

At 39 weeks of gestation the mother contacted her local maternity unit at 19:00 complaining of abdominal pain and strong contractions, wondering if her membranes had ruptured as she was losing heavily bloodstained fluid from the vagina. She was advised to wear a sanitary pad and to attend the maternity unit immediately, making her own way in for assessment.

The parents arrived at around 19:45 and saw a different midwife to the one they had spoken to on the phone. The telephone record sheet documented, 'Primiparous, ?spontaneous rupture of membranes, ?labour. Booked for birth centre- wants water birth'. The attending midwife undertook a complete antenatal assessment. The mother's observations were found to be within the expected ranges and the fetal heart was auscultated as normal at 130bpm. The mother was complaining of abdominal pain occurring four times in every 10 minutes and it was documented the mother's abdomen was soft and not tender on palpation, contracting strongly. The sanitary pad was inspected and appeared to be stained with fluid and a patch of fresh blood noted. Vaginal examination at 20:00 revealed the cervix to be 5cm dilated with membranes felt to be intact. There was blood seen on the clinician's glove which was thought to be related to labour.

The mother was transferred to the alongside birth centre, helped into the birth pool and care handed over to another midwife. She was contracting regularly using gas and air (Entonox) for pain relief. Maternal pulse continued to be documented at 80 beats per minute (bpm) and intermittent auscultation was undertaken every 15 minutes with normal values recorded. At 22:30 it was noted that the mother had passed urine, blood and a show but no volumes recorded. At 23:30 the mother was requesting additional analgesia in the form of an epidural. Vaginal examination was performed and the cervix was found to be 6cm dilated with fresh blood noted on the clinician's glove. Arrangements were made to transfer the mother to labour ward for pain relief.

On arrival on labour ward, maternal observations were checked and within the normal range. A cardiotocography (CTG) was commenced which showed reduced variability. Whilst awaiting an anaesthetic review, at 00:15 the baby's heart beat dropped to 65 bpm. The mother was helped onto her left side, the labour ward coordinator was informed and urgent obstetric review requested. After four minutes the baby's heartbeat recovered to a baseline of 158 bpm. The obstetrician was not immediately available but in the meantime a cannula was inserted and blood samples taken. The obstetric doctor arrived at 00:25 and a small patch of fresh blood was noted on the sanitary pad. Vaginal examination revealed the cervix to be 7cm dilated, an artificial rupture of membranes (ARM) was performed with fresh blood and liquor seen. The CTG continued to demonstrate a baseline of 155 bpm and reduced variability. After discussion with the parents a decision was made to start intravenous fluids and observe in light of CTG recovery and cervical progress.

At 00:50 a small blood clot was noted on the mother's sanitary pad and a further bradycardia occurred down to 88 bpm. The mother was helped again onto her left

side and a senior midwife informed the obstetrician. After four minutes the baby's heart rate recovered to 170 bpm. The obstetrician attended and vaginal examination was unchanged at 7cm so decision was made and documented in the notes as 'Plan - caesarean section' at 01:05.

The anaesthetist attended and gained consent for spinal anaesthesia at 01:15. At 01:28 the mother arrived in the operating theatre. CTG was recommenced and the fetal heart was 165 bpm. The spinal was completed at 01:45 and caesarean section commenced at 02:02. On entering the uterus heavily blood stained liquor was noted. The baby was born at 02:06 with 'placental abruption noted and blood clots seen'. Decision to delivery time was 61 minutes, 111 minutes after the first bradycardia.

The baby was blue in colour, floppy and making no respiratory effort and had a heart rate of 70 bpm. Resuscitation was commenced and an emergency '2222' call was made to summon senior paediatric staff. The baby required ongoing resuscitation at 10 minutes, including intubation, and blood was noted around the baby's vocal cords. Only a venous cord blood sample was obtained with a pH of 7.02, base excess of –13.5mmol/L and lactate of 14 mmol/L. On admission to the Neonatal Unit the baby had poor tone and absent primitive reflexes so therapeutic cooling was undertaken. An MRI performed at day six was reported as showing 'appearances consistent with severe hypoxic ischaemic injury'.

Learning Points

This case highlights the importance of regular risk assessment throughout labour and consideration of whether transfer to obstetric-led care is warranted.

- The mother gave a history of blood stained fluid loss at home and fresh blood was noted several times during admission, prior to transfer to labour ward.
- Any vaginal blood loss other than a show, noted on initial assessment or that develops during labour warrants transfer to obstetric-led care and continuous CTG during labour.[1]
- Bradycardia followed by fresh blood seen on ARM should have alerted the team to a potential diagnosis of abruption and plans made to expedite delivery immediately.[2]
- In the context of a pathological CTG, Category 1 Caesarean Section is indicated with an ideal delivery time of within 30 minutes.
- When deciding to expedite birth, clearly informing the team of the degree of urgency required is vital.[2] In this case, the term 'caesarean section' was used without categorisation. During the local incident review it was established that different healthcare professionals within the team had different understandings of the level of concern and urgency of the planned delivery.

Considerations for your hospital

- Do all birth settings in your trust have up to date guidance on the conversion criteria to obstetric-led care and continuous CTG?
- Do you have clear guidance on the categorisation of caesarean sections and recommended decision to delivery times?
- Do you audit the decision making for category 1 and 2 caesarean sections and the decision to delivery times?

What has happened as a result?

Cases like this are referred to NHS Resolution as part of the Early Notification Scheme in light of the neonatal brain injury sustained.

Cases like this will be reviewed to consider whether the events could have been avoided or managed differently. If appropriate, we will work with the family to ensure that they are fully compensated and that they and the staff involved are fully supported throughout the process.

It is very important to note that no amount of money is comparable with the loss of a child or a child living with lifelong neurological injuries. Where poor outcomes occur as a result of deficiencies in care and families are entitled to be fully compensated, we aim to resolve all such fairly and as quickly as possible.

The current compensation cost to the NHS for a baby who has long term severe brain injury is on average £12 million. The human costs to the baby, families and clinical teams involved as a result of such cases are immeasurable.

Resources:

1. RCOG Antepartum Haemorrhage – Green top Guideline No. 63 – November 2011. https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_63.pdf.

2. Intrapartum Care for healthy women and babies – Clinical guidance NICE National Institute for Health and Care Excellence, published December 2014, revised 2018. https://www.nice.org.uk/guidance/cg190

3. Caesarean Birth – Clinical guidance NICE National Institute for Health and Care Excellence, published March 2021.
https://www.nice.org.uk/guidance/ng192/resources/caesarean-birth-pdf-66142078788805