

Case story

Good practice: management of shoulder dystocia



Early Notification

Case story guidance

Background

In [Advise, resolve and learn Our strategy to 2025](#), our second strategic priority is to share data and insights as a catalyst for improvement and our third is to collaborate to improve maternity outcomes. Aligned with these aims we have gathered together learning from our Early Notification Scheme and produced a number of case stories to help support learning from harm identified through claims.

These resources

Our case stories are illustrative and based on recurring themes from real life events. These experiences have been highlighted and shared with you, to help identify potential risks in your clinical area, promote learning and prevent fewer incidents like these occurring in the future.

How to use the case stories

There are various ways you may use the case stories, from individual self-directed learning to support continuous professional development to using them in a team environment. The idea is that by learning from the experience of others, maternity unit staff will be able to change their approach to care.

As you read or discuss the examples of incidents that we are sharing we ask you to consider the following:

- Could this happen in my organisation?
- What changes within my organisation or team might I consider after reading the material, including individual practice?
- What information should I share with the team?
- How can I share the learning from this case story?
- Who else needs to know?

Practical applications

1. Consider the key elements of the case story and through reflection apply the learning to influence your practice in the future.
2. Use this case study as a point of discussion at appropriate multi-disciplinary team meetings, safety huddles, and/or human factor's training.
3. Use this case study to create a multi-disciplinary simulation in the clinical area or on mandatory training.
4. Review your claims scorecard to identify whether there are any themes which relate to this case story and identify where improvements could be made.

Case story

This case story is illustrative based on a range of examples of real events. 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: The management of shoulder dystocia.

Key points:

- To understand the importance of a fully informed antenatal discussion pertaining to the risk factors associated with large for gestational age infants with respect to shoulder dystocia and possible outcomes for the baby should this occur
- Importance of being alert to the signs of shoulder dystocia
- Management of the shoulder dystocia

Maternity story

Mrs A is a South Asian woman, who booked for antenatal care at 8+4 weeks in her first pregnancy. Her Body Mass Index (BMI) was 25kg/m². She was classified as low risk and was booked on a midwifery led care pathway. In view of her ethnicity, a plan was made for an Oral Glucose Tolerance Test (OGTT) at 24 weeks.¹

Mrs A attended her scheduled antenatal appointments and there were no concerns identified. Her antenatal screening was all normal.

At 24 weeks Mrs A attended for her planned OGTT when she was screen positive for gestational diabetes with a fasting glucose level of 6.0mmol/l and a two hour glucose of 8.4mmol/l.¹ Mrs A was informed of the results and a follow-up appointment was arranged with the obstetric and diabetic teams the next day.

Mrs A was seen in the joint diabetes and obstetric antenatal clinic when her gestational diabetes was discussed.¹ Information was provided about the importance of good blood glucose control to optimise outcomes, including the risk of fetal macrosomia and induction of labour/or caesarean section, risks of birth trauma (for her and her baby) including third and fourth degree perineal tears, shoulder dystocia and brachial plexus injury.

Mrs A was taught home glucose monitoring aiming for target glucose below 5.3mmol/l in the morning before food and below 7.8mmol/l one hour post prandially. Dietary advice was also provided verbally and supported with written information. Serial ultrasound scans (USS) for growth were planned at 28, 32, and 36 weeks.

An USS at 28 weeks identified increased growth velocity with an abdominal circumference (AC) >95th centile and antenatal review identified that Mrs A's blood glucose measurements were raised above the target range. Oral Metformin was prescribed and a follow up appointment arranged in two weeks. The increased risks for mother and baby, associated with a large for gestational age baby were discussed, including: operative delivery, postpartum haemorrhage (PPH) and third and fourth degree perineal tears, shoulder dystocia and associated consequences: brachial plexus injury, fracture of the humerus or clavicle and birth asphyxia.² The obstetrician documented a detailed plan of care, including a full review in the joint obstetric and diabetic antenatal clinic at 34 weeks for a further discussion regarding care options and mode of birth.¹

During the antenatal appointment at 34 weeks the obstetrician reviewed Mrs A's USS and her blood glucose record with her. The fetal growth continued to follow the 95th centile for estimated fetal weight although the blood glucose measurements were controlled within the agreed target measurements. Mrs A expressed a wish to birth on the labour ward as she was considering epidural anaesthesia. The obstetrician explained that as the estimated fetal weight (EFW) was over 4kg, this needed to be considered as part of any care plans for birth.² There was a discussion of the risks and benefits of expectant care, induction of labour and elective caesarean birth with Mrs A. Mrs A was advised that the risk of shoulder dystocia and brachial plexus injury was also increased related to her gestational diabetes.² The obstetrician also explained that shoulder dystocia may have a small increased risk of the baby suffering a hypoxic brain injury that may lead to cerebral palsy or neonatal death.

The Royal College of Obstetricians and Gynaecologists (RCOG) leaflet³ on elective Caesarean Section (CS) was provided for her to read at home and an agreement to discuss and agree a plan of care was made at the next antenatal review.

At the 36 week antenatal review, it was noted that the most recent USS indicated that fetal growth trajectory and estimated fetal weight continued on the 95th centile, the mode of birth discussion was revisited and Mrs A indicated that while she understood the associated risk of shoulder dystocia, her preference was for a vaginal birth, particularly as she was planning more children in future.

The obstetrician documented that they supported Mrs A's decision and that as well as discussing the risks of brachial plexus injury, fractures of the humerus or clavicle, they had explained that there was a risk of hypoxic ischaemic encephalopathy (HIE) and neonatal death as a possible consequence of shoulder dystocia should it occur. A plan of care was documented in the hand-held maternity records, including birth at the hospital maternity unit.

Labour commenced spontaneously at 39 weeks. Mrs A called the maternity unit to report that her membranes had ruptured and there was clear liquor draining. When asked, she reported feeling normal fetal movements and that she had no other concerns. The contractions had increased and were now 4:10 lasting approximately 45 seconds. Mrs A was asked to attend the labour ward for assessment.

Mrs A arrived at the hospital at 16:00, a full clinical assessment was completed,

including abdominal palpation. The fetal presentation was cephalic, 4/5ths palpable and an occipito-anterior (OA) position. Maternal observations including blood glucose were within normal limits and a cardiotocograph (CTG) was commenced to assess fetal wellbeing. Vaginal examination at 16:20 identified Mrs A's cervix was fully effaced and 5cms dilated, the membranes were absent and clear liquor was draining. The CTG was classified as normal at 16:50.

The obstetrician attended to review Mrs A and confirm the plan of care. They offered her the choice of continuing with labour, or CS in view of the suspected large for gestational age baby.⁴ Mrs A confirmed that she was aware of the associated risk of shoulder dystocia however she wished to continue to aim for a vaginal birth. A plan was made for further assessment of progress in four hours and hourly fresh eyes review of the CTG. Pain relief options were discussed with Mrs A and she indicated her preference for gas and air initially.

Mrs A began to feel an urge to push at 23:30 and was encouraged to breathe through the contractions as there were no external signs of full dilatation of the cervix. At 00:20 vaginal examination identified that Mrs A's cervix was 9cms dilated and the presenting part had descended slightly to 1cm below the ischial spines. There were no fetal heart rate concerns. The findings were explained to Mrs A.

Labour progressed with Mrs A experiencing an increasing urge to push. Active pushing commenced at 01:45. The midwife alerted the labour ward co-ordinator and the senior obstetrician, and the neonatal team and informed them of progress to date and a potentially increased risk of shoulder dystocia.

The second stage progressed over the next hour, however there was slow advancement of the fetal head despite good maternal effort. The fetal heart rate was normal throughout. As there had been minimal descent of the presenting part, which remained at 1cm below the ischial spines, the midwife requested an obstetric review.⁵

The obstetrician attended and completed a full clinical review, including assessment of the frequency of contractions and a vaginal examination. Mrs A's cervix was fully dilated, the membranes were absent and there was clear liquor draining. There was a left occipito-anterior position (LOA) and the presenting part was just visible with maternal effort during contractions; 1cm below the ischial spines on examination. The obstetrician explained the findings and the possible options to Mrs A, including assisted vaginal birth and CS. The risks and benefits of both were discussed and Mrs A accepted the obstetrician's recommendation to expedite the birth using a ventouse.⁶

Mrs A agreed and was assisted into lithotomy, a pudendal block was administered and the ventouse cup was applied to the flexion point on baby's head. There was progressive descent over three tractions, with the head delivering at 03:23. Despite good maternal effort with the next contraction, and the application of routine axial traction,² there was no restitution of the head, and the shoulders did not deliver. The obstetrician communicated there was a shoulder dystocia,² and an emergency call was put out for additional support.

Roles were assigned to team members as they arrived, a midwife was tasked with keeping records of interventions, including the time and duration. The neonatal team arrived and began to prepare for the birth of the baby.

With the additional help, the obstetrician requested assistance to move Mrs A into McRoberts² hyperflexing the hips after Mrs A's legs had been removed from the lithotomy stirrups. Once this was completed and the maternal buttocks had rotated slightly off the bed consistent with accurate execution of McRoberts' the obstetrician attempted to deliver the baby. This was unsuccessful and an additional midwife applied external suprapubic pressure (SPP) on the left side over the anterior shoulder in a downward and lateral direction², while the obstetrician made another attempt to deliver the baby, again without success. A decision was made to commence internal manoeuvres which was explained to Mrs A. The episiotomy performed during the ventouse was extended and provided additional space to facilitate the internal manoeuvres.²

The obstetrician commenced internal manoeuvres, pressing on the posterior aspect of the posterior shoulder in an attempt to adduct the shoulders with corresponding SPP from a midwife. This was not successful and therefore the obstetrician aimed to deliver the baby's posterior arm by grasping the baby's wrist and withdrawing it from the vagina in a straight line.² This manoeuvre was successful and the baby was born at 03:27 – three minutes after the head was delivered.

The baby was pale and floppy, with a heart rate less than 60bpm. The obstetrician clamped and cut the cord and handed the baby to the care of the neonatal team. Blood was taken from the umbilical cord for cord gases.

The baby was transferred to the resuscitaire, dried and stimulated and five inflation breaths were administered with chest rise seen. The heart rate began to rise, ventilation breaths commenced. Ventilation breaths continued and at two minutes of age respiratory effort was observed. The baby continued to have irregular respiratory effort and was intubated at four minutes of age, the heart rate was above 100bpm and they remained floppy. The baby was briefly shown to their parents and transferred to the neonatal unit for ongoing care. The baby was assessed and was determined to have met criteria A and B for cooling. The baby was cooled for 72 hours and rewarmed. An MRI on day five showed some changes consistent with HIE consistent with an acute profound pattern of injury.

A debrief session was held with the clinical teams involved in this incident to provide support and facilitate reflection.

Neonatal outcome

The baby was discharged home at seven days of age on exclusive breast feeds. The baby attended neonatal clinic for routine follow up at six months of age and was found to have normal tone and age appropriate developmental milestones. The baby continued with planned neonatal follow up until two years of age to assess development. The baby met all milestones and was subsequently discharged.

Learning Points

This case highlights the importance of:

- Detailed antenatal discussion and counselling regarding mode of birth where there is an increased risk of shoulder dystocia
- Being alert to the risk factors that may increase the risk of shoulder dystocia in labour and communicating these to the team when confirming the plan of care at presentation in labour
- Prompt recognition and diagnosis of shoulder dystocia
- Excellent communication to alert the team to the obstetric emergency
- Good team work to assist with changing the maternal position and external manoeuvres
- Commencing appropriate manoeuvres in a sequential manner, as illustrated, and being aware of appropriate alternatives for example moving to all-fours position
- Minimising the head to body delivery interval because HIE and/or long term neurological injury is uncommon when the head body delivery interval is less than five minutes.
- Good documentation of the time the emergency call was put out, the order of any manoeuvres including the time and duration, the staff present and the head to body delivery interval, and noting which arm was anterior to aid in the examination of the baby

Considerations for your hospital

- Are antenatal information leaflets provided to women to inform decision making when there is an increased risk of shoulder dystocia?⁷
- Does your obstetric emergency training meet the requirements of the Maternity Incentive Scheme Safety Action 8 and the core competency framework?^{8 9}
- Do your teams undertake ad-hoc skills drills to practise managing a shoulder dystocia?
- Are there pro-formas available to facilitate documentation of key information during a shoulder dystocia?
- Do you regularly audit the documentation completed during shoulder dystocia to demonstrate that the relevant information is captured in sufficient detail?
- Do you provide staff with opportunities to debrief following an obstetric emergency?

What has happened as a result?

This case story is illustrative. If a similar case were to occur in real life, then it would be referred to NHS Resolution's Early Notification Scheme. NHS Resolution's in-house, specialist teams will review all available information about the care received, to decide whether there is any evidence of substandard care which could potentially result in compensation.

The expertise of NHS Resolution staff is used to proactively assess the legal risk, investigate care, and provide early support to families where liability is established.

NHS Resolution supports an open, transparent discussion between clinicians and families following adverse events.¹⁰ 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.

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, NHS Resolution aims to resolve all such claims or cases 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 £13.5 million. The human costs to the babies, families and clinical teams involved are immeasurable.

Resources:

1. NICE Diabetes in pregnancy (NG3) February 2015
[Diabetes in pregnancy: management from preconception to the postnatal period \(nice.org.uk\)](https://www.nice.org.uk/guidance/ng3)
2. RCOG Green Top Guideline 42 Shoulder Dystocia March 2012
[Shoulder Dystocia \(Green-top Guideline No. 42\) | RCOG](https://www.rcog.org.uk/guidance/green-top-guidelines/green-top-guideline-no-42-shoulder-dystocia)
3. RCOG Considering a caesarean birth patient information leaflet August 2022
[Considering a caesarean birth patient information leaflet | RCOG](https://www.rcog.org.uk/guidance/patient-information-leaflets/considering-a-caesarean-birth)
4. NICE Intrapartum Care for women with existing medical conditions or obstetric complications and their babies (NG121) March 2019
[Intrapartum care for women with existing medical conditions or obstetric complications and their babies \(nice.org.uk\)](https://www.nice.org.uk/guidance/ng121)
5. NICE Intrapartum care for healthy women and their babies (CG190) December 2022
[Intrapartum care for healthy women and babies \(nice.org.uk\)](https://www.nice.org.uk/guidance/cg190)
6. RCOG Assisted Vaginal birth (Green-top Guideline 26) April 2020
[Assisted Vaginal Birth \(Green-top Guideline No. 26\) | RCOG](https://www.rcog.org.uk/guidance/green-top-guidelines/green-top-guideline-no-26-assisted-vaginal-birth)
7. RCOG Shoulder dystocia patient information leaflet
[Shoulder dystocia patient information leaflet | RCOG](https://www.rcog.org.uk/guidance/patient-information-leaflets/shoulder-dystocia)
8. Maternity Incentive Scheme –Year 4
[MIS-year-4-relaunch-October-2022-v5-Final-HV-approved-1.docx \(live.com\)](https://www.live.com/MIS-year-4-relaunch-October-2022-v5-Final-HV-approved-1.docx)
9. NHS England Core competency Framework December 2020
[core-competency-framework.pdf \(england.nhs.uk\)](https://www.england.nhs.uk/core-competency-framework.pdf)
10. NHS Resolution Saying Sorry June 2017
[Saying Sorry](https://www.nhs.uk/resolution/saying-sorry)



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