RISK CASE STUDY

Case: Maternal Cord Prolapse

Abstract:

A maternal patient attempting a breech delivery suffered a cord prolapse. Expert review of the team's response to the obstetrical emergency was considered indefensible.

Key Words:

Obstetrical Emergency

Breech

On Call and Contingency Plans

Operating Room

Caesarian section

Communication

Escalation

Attendance at Birth

Role Confusion

Case summary:

The hospital was notified of a laboring maternal patient on route to hospital with a breech presentation. It was a statutory holiday. The nursing team assumed a trial of vaginal delivery was planned as a caesarian section was not booked. Upon arriving, the patient reported contractions occurring every five minutes for the last two and half hours.

Electronic fetal monitoring (EFM) was applied by nursing. Five minutes after admission, the fetal heart rate (FHR) was noted to be 145-155 beats per minute (bpm) with average variability with contractions every 3-4 minutes, lasting 20 to 40 seconds, and rated as mild to moderate in intensity. The obstetrician (who was off site) was notified of the patient's arrival. According to the nurses, the obstetrician gave orders that a vaginal exam was not to be performed by nursing; he would perform the exam once he was arrived in 20 minutes.

For the next 45 minutes, the FHR baseline ranged from 125-140 bpm. The variability was noted to be average. Contractions were noted to be moderate in intensity.

Fifteen minutes later, the contractions were noted to occur every 2 to 5 minutes lasting 40-50 seconds and moderate to strong in intensity. Another fifteen minutes later the nurse documented that patient requested to walk around and the EFM was discontinued. Once discontinued the patient was monitored via intermittent auscultation (IA).

Shortly after the EFM was discontinued, the FHR was noted to be 100 bpm with contractions occurring every 2-3 minutes, moderate to strong in intensity. The obstetrician was immediately called. He indicated that he would arrive within five minutes.

Arriving seven minutes later, the obstetrician performed a vaginal exam which revealed that the patient was 8cm dilated, followed by a sudden rupture of membranes and a cord prolapse. The obstetrician requested that switchboard call the operating room (OR), OR team and pediatrics to attend an emergency caesarian section. Three minutes later fetal bradycardia was detected by the nurse. The patient's bed was adjusted to protect the cord but the FHR could not be located. The team took the patient directly to the OR.

The OR was on another floor. During transit the obstetrician implemented decompression measures and at one point elected to go ahead to the OR. Arriving four minutes later, the OR doors were locked and were ultimately opened by the obstetrician who entered the OR a different way.

Recognizing the OR team and pediatrician were off site after normal business hours on a statutory holiday, an emergency physician and nurses responded to the switchboard's pages. Unfamiliar with the OR setup the nurses attempted to set up the room and prepare the patient; the obstetrician realized within 10 minutes that a caesarian section was

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no longer a feasible clinical option. The infant was born in a footling breech presentation following difficulties extracting the infant's head. The infant was born limp, unresponsive with Apgar scores of 1, 3 and 5 at 1, 5 and 10 minutes respectively. A pediatrician who happened to be in the building attended and assumed the neonatal resuscitation efforts. The infant was moved to the nursery while awaiting the arrival of the pediatric transport team. The infant was ultimately diagnosed with acute near total hypoxic ischemic brain injury.

Medical legal findings:

While expert review was generally supportive of the nursing care provided, noting the nurses' rapid response to the fetus' sudden drop in heart rate, concerns were raised with regards to their lack of response when the obstetrician did not arrive within the expected timeframe.

The experts questioned whether an earlier vaginal exam would have resulted in a more timely response to the pending cord prolapse as the OR team was onsite shortly after the patient's admission to hospital. The experts also noted that the nurses' ability to monitor the progress of labour was hampered by not performing a vaginal exam. The obstetrician denied advising the nurses not to conduct a vaginal exam however he recalled indicating that he would perform the exam upon his arrival.

Expert review was also critical of the care and decision of the obstetrician. Despite knowledge that the fetus was in a breech position and that OR nurses and pediatrician were not onsite after hours, the obstetrician took no steps to contact them or anaesthesiology of the pending vaginal breech delivery.

A significant area of concern identified was the location and availability of the OR, and on call practices for OR staff after normal business hours and during statutory holidays. The review revealed that once the caesarian section was called, neither the obstetrician or nurses considered the need to notify anaesthesiology to attend as they assumed it would 'just happen'. Further, switchboard was unfamiliar with the informal contingency plan if on call OR nurses and pediatrician were not responding in a timely manner.

The care provided to the fetus once the cord prolapse was identified was considered indefensible by expert reviewers. The obstetrician acknowledged that he stopped decompressing the presenting part during transit to the OR knowing the risks of hypoxia to the baby and did not provide any instruction to nursing staff to carry out this intervention at any time thereafter. Experts questioned, however, whether the nurses independent of any direction from the physician ought to have known to institute this intervention as per hospital policy. Further investigation indicated that once in the OR, neither the obstetrician nor nurses applied decompression leaving the fetus in a potentially hypoxic state for a period of nine minutes. The team acknowledged the need for ongoing decompression however they were unable to explain why it did not occur.

To complicate matters, the obstetrician wrote a letter to hospital administration about the lack of OR staff, laying blame on the hospital for the infant's poor outcome.

Reflections:

1. Instructions were not given for the nurses to resume decompression of the presenting part while the physician went ahead to the OR. Is decompression an intervention within the scope of practice of all L&D nurses? Can nurses initiate this intervention in the absence of a physician or midwife order?
2. In line with the hospital policy, continuous EFM was applied to the patient. Reflecting on your local policy, is EFM recommended/required for women trialing an in-hospital breech delivery? Is IA a

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reasonable option? Can/should a patient be 'forced' to comply with hospital policy for EFM (if that is hospital policy)? What should take place if the patient choice for fetal surveillance methods conflicts with hospital policy?

3. The labour and birth occurred on a statutory holiday with reduced and off site OR staff availability. What proactive measures should have been implemented by the hospital and healthcare providers to reduce the confusion and expedite attendance at delivery given the circumstances? Describe the measures in place at your hospital.
4. Prompt recognition and reliable response to obstetrical emergencies is required in all birth locations. Describe some of the system, team and healthcare provider barriers impacting a team's response to an obstetrical emergency? What role does frequent interdisciplinary obstetrical emergency drills and simulation play in ensuring care reliability and patient safety?
5. This birth took place in a small urban hospital. Discuss whether the same attendance at labour/delivery 'standards' for obstetrical care is applicable to all hospital birth settings (e.g. small/rural hospitals to large teaching facilities to midwifery led birth centres) regardless of their local human and physical (e.g. operating room) resource constraints. Describe some of the benefits and risks associated with creating a different or separate care standard to accommodate birth locations and varying local resources.
6. Nurses and other regulated health professionals have a professional obligation to advocate for their patients where there is a concern as to the care plan and/or where the paged physician is not responding as timely as required.
    a. Describe some of the barriers to 'speaking up' or aggressively advocating for a patient when indicated. How can a program/unit's hierarchy and culture impact effective team communications? What is required to support healthcare providers to report concerns and speak up where indicated?
    b. Describe some communication best practices to ensure both the sender and receiver understand the severity of the situation and the desired outcome of the communication? What barriers could impact the effective use the chain of command/escalation process?

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