Original Summary

Maternal/Childbirth Event (3) - 11-22-2024

Board of Registration in Medicine

File State: New

Owner: Erin Long - QPSD Quality Analyst

Entered Date: 11-22-2024

Fields labeled with an asterisk(*) are required.

Quality and Patient Safety Division

THE MASSACHUSETTS BOARD OF REGISTRATION IN MEDICINE (BORIM), THROUGH ITS PATIENT CARE ASSESSMENT (PCA) REGULATIONS, (243 CMR 3.00-3.14), IS RESPONSIBLE FOR ENSURING THAT ALL MASSACHUSETTS HOSPITALS AND AMBULATORY CLINICS, AS A CONDITION OF DEPARTMENT OF PUBLIC HEALTH (DPH) LICENSURE, HAVE QUALIFIED PCA PROGRAMS. THE REGULATIONS REQUIRE THAT HOSPITALS SUBMIT REPORTS OF QUALITY ASSURANCE ACTIVITIES (243 CMR 3.07) AND REPORTS OF UNEXPECTED PATIENT OUTCOMES KNOWN AS SAFETY AND QUALITY REVIEW (SQR) REPORTS (243 CMR 3.08). THROUGH THE SUBMISSION OF THESE REPORTS, HOSPITALS AND AMBULATORY CLINICS DEMONSTRATE TO THE BORIM THAT THEY HAVE ROBUST SYSTEMS AND PROCESSES IN PLACE TO IDENTIFY ADVERSE EVENTS, CONDUCT INTERNAL REVIEWS, AND IMPLEMENT CORRECTIVE MEASURES TO PREVENT A RECURRENCE AND TO IMPROVE PATIENT CARE.

Date and Facility Site

EVENT DATE AND HCF SITE

Date Event Occured	05-06-2022
File Owner	Erin Long - QPSD Quality Analyst
Site	[redacted]
Facility Type	Acute Care Hospital
Cohort Teams	Acute 100-149 beds

Patient Involved in Event

PATIENT DETAILS

Date of Birth	03-08-1997
Age	25 years
Gender	Female
Race	White or Caucasian
Ethnicity	American
Admission Date	05-06-2022

Type of Patient Affected	Inpatient
Admitting Diagnosis	Labor

Maternal/Childbirth

GENERAL INFORMATION ABOUT THE MATERNAL / CHILDBIRTH EVENT

Maternal and Neonatal Event Type	Post-Partum Hemorrhage

Maternal/Childbirth Event Details

DETAILS OF THE MATERNAL / CHILDBIRTH RELATED EVENT

Maternal/Childbirth process or procedure involved	Birthing Process (Labor & Delivery)
Who was affected by the event?	Mother

Safety and Quality Review

SAFETY AND QUALITY REVIEW FORM

Type of Report	Complete Report

A preliminary report should only be chosen if the investigation and/or report is NOT complete and additional information will be added in the future

Type of Event	Type 4

Type 1- Maternal Death related to delivery Type 2- Death in the course of, or resulting from, elective ambulatory procedure Type 3- An invasive diagnostic procedure or surgical intervention performed on the wrong organ, extremity, or body part Type 4- Death or major or permanent impairment of bodily function that was not ordinarily expected as a result of the patient's condition on presentation

Harm Level	Temporary harm
NQF Serious Reportable Event (SRE)?	No
Was this patient transferred to another facility	○ Yes ◉ No ○ Not applicable ○ Unknown/Unsure
Was there any consideration to transfer the patient to a higher level of care, but an inability to do so?	○ Yes ◉ No ○ Not applicable ○ Unknown/Unsure

Facility Staff Involved in Event

Narrative of the Event	The patient is a 25-year-old G1P0 at 36 3/7 weeks who presented to L&D at 7:15 am on 5/6/22 reporting spontaneous rupture of membranes (SROM) of clear fluid at approximately 6 am with contractions every 2-3 minutes in the past hour. Pregnancy was complicated by hyperemesis gravidarum. Medications included PNV and iron supplementation. PMH included asthma.

Timeline:
7:20am-Patient was placed on the EFM with noted FHR 130-140s, moderate variability, no accelerations, no decelerations, contractions noted every two-three minutes.
7:35am- Initial sterile vaginal examination (SVE) performed by RN was 6/100%/0 (dilation/effacement/station) with vertex presentation. Patient was assessed at low risk for hemorrhage. VS 98-102-20 BP 110/62. Pain was rated 10/10 with contractions. The RN informed the Certified Nurse Midwife (CNM) of the patient's arrival and of her assessment. The patient was well known to the CNM as she had cared for the patient in the prenatal period.
7:50am- The patient complained of needing to push. The CNM had arrived at the bedside and performed a SVE at 7:55am which showed the patient to be 10/100/ 3. The RN called for assistance for imminent delivery.
8:02am- A vigorous 2.7 kg male infant was delivered with Apgar's of 8/9.
8:07am-Placenta was delivered without difficulty and initially was reported to be intact. Immediately after delivery of the placenta, the uterus was noted to be boggy with brisk vaginal bleeding. Fundal massage was performed.
8:12am- The patient did not have intravenous access. Oxytocin 10 units IM was administered. HR 106 BP 100/62.
8:16am- Misoprostol (Cytotec) 800 mcg was administered sublingually. The patient continued to experience brisk vaginal bleeding and the uterus remained boggy despite uterotonics and fundal massage.
8:23am-Manual removal of retained products was accomplished with later inspection of the placenta revealing it to not be intact. The Quantitative Blood Loss (QBL) was noted to be 650mL. Patient's temp was 96.3 HR 116-125 BP 92/54. The CNM opted to not insert intravenous line and provide IVF as the patient was able to tolerate PO fluids and bleeding appeared to have stopped.
9am-The patient was assisted to BR to void whereby patient had a syncopal episode with brief LOC. She was assisted to back to bed. BP 80/45 HR 126. The CNM was informed. Patient was asked to drink additional fluids.
9:15am- HR 114 BP 96/52. Patient reported feeling better. Uterus was reported to be firm with moderate vaginal bleeding noted.
9:30am-Patient was transferred to post-partum unit. HR 114 BP 98/56.10:05am
10:05am-The post-partum RN arrived to greet and assess the patient. Brisk vaginal bleeding was noted, and the uterus was boggy. BP 82/54 with HR 130. The RN requested that the L&D RN return while performing fundal massage. The on call CNM was paged but was attending another birth. The Laborist and back-up obstetrician were unable to immediately respond as they were performing a cesarean section. Oxytocin 10 units IM and Methergine 0.2 mg IM were ordered.
10:10am- Medications were administered and two L&D RNs arrived for additional assistance. Fundal massage continued. The L&D RN started a large bore intravenous line and initiated IVF wide open. The patient was catheterized for 90mL of urine.
10:15am-The patient's uterus remained boggy with brisk bleeding observed. BP 72/58 HR 136. The patient was awake but drowsy and confused to place and time. The L&D nurse called for the MTP to be initiated. An OB-RRT was called and a request for a General Surgeon was made to assist in the OR to relieve the backup obstetrician. The IV therapist arrived and started a second large bore intravenous line and obtained labs. Oxytocin and LR were administered intravenously.
10:18am- The anesthesiologist arrived HR 136 BP 72/60, temperature was 95.9 F. Pre-operative anesthesia consent obtained from the patient's spouse.

10:22am-Vaginal bleeding continued to be brisk. The backup obstetrician arrived and verbally consented the spouse for a D&C. The patient was taken to the OR. HR 132 BP 74/58. Estimated blood loss (EBL) in post-partum was 1 L.
10:28am- The patient arrived in the OR. Anesthesia provided GETA and utilized warm IV fluids and upper extremity warming blanket. In the OR, the physician performed a D&C and evacuation of placental fragments with resolution of bleeding. Uterus was noted to be firm. Lab results from postpartum unit returned with H&H 6.2/23 (prenatal Hgb was 10.5 and HCT was 33) plat 98, fibrinogen 140 INR 1.9.
11:20am- Surgery ends. QBL in the OR was 1.2L. Patient transferred to the ICU for recovery and observation. VS 102/58, HR 114. Uterus firm with light to moderate vaginal bleeding noted.
12:30pm- A total of 4u PRBC, 2u FFP, I unit Cryoprecipitate, TXA was administered in the OR and during first hour of recovery in ICU. VS 100/54 HR 118, temperature 97.6. Labs: Repeat labs: WBC 16.3 H& H 7.8/28 plat 96 INR 1.6. Fibrinogen 178. Lactate 1.5. While in ICU, additional blood products were administered for a total of 6u PRBC, 4U FFP, I unit cryo, and I unit platelets with calcium and electrolyte replacement over the next 12 hours. ABG upon arrival to ICU ABGs were 7.23/30/88/17. Uterus remained firm at umbilicus with light to moderate vaginal bleeding noted.
Patient was extubated and serial labs showed improvement with H&H 9.5/31 plat 124, INR 1.2 fibrinogen 245 upon discharge from the ICU on day 2.
Patient was able to be discharge to home on hospital day five.

Internal Review

INTERNAL REVIEW DETAILS

Event Reviewed by

Committees

- PCA Committee
- Medical Executive Committee
- Board Quality Committee
- Pharmacy and Therapeutics Committee
- Peer Review Committee
- Patient Safety Committee
- Hospital Quality Council

Internal Review Findings

- Communication at Transfer of Care
- Credentialed Provider Skill/Judgement
- Delays in Diagnosis or Treatment
- Equipment related
- Non-Credentialed provider skill/judgement

If other, please list

Description of Results of Internal Review

1. The specialty specific reviewer (OB/GYN) reviewed the case on 5/27/22. Concerns were identified regarding the management of the second stage of labor.

• Hemorrhage risk assessment was not performed at the start of the second stage. Patient had a precipitous delivery with a preterm infant which increased her risk of post-partum hemorrhage (PPH). A type and screen and baseline CBC would have been indicated.
• There was no attempt to initiate an intravenous line after delivery and provide both fluid resuscitation and intravenous oxytocin. The reviewer

noted this as a variance as the patient was clearly orthostatic with vital signs trending in the wrong direction. This may have been better identified if an early warning system had been in place.
• Misoprostol was given as a second line drug rather than methylergonovine IM.
• Type and screen was not ordered. The initial QBL of 650mL warranted increased surveillance and response readiness which was not appreciated. The placenta was inspected by the CNM and found to be intact. The reviewer questioned if there were any thoughts of using ultrasound to ensure complete uterine evacuation. Pathology and exam in the OR later revealed that there were placental fragments missing.
• In interview, the CNM reported that she had been on for over 24 hours and very busy during the overnight shift. She was scheduled to complete her shift at 7:30am. She chose to remain and care of the patient as the patient was well known to her. The CNM endorsed fatigue and a bias regarding her observations of an intact placenta and the patient's previously expressed preferences for a "low intervention" birth as explanation for not appreciating the condition of the placenta and not initiating an intravenous line and intravenous oxytocin. The CNM also reported that in hindsight, she should not have stayed and cared for the patient as she had been on call for greater than 24 hours during a very busy time and had been extremely fatigued.
• Given the patient's initial hemorrhage, it would have been prudent for the Laborist to have been updated regarding the patient prior to her transfer to the postpartum unit. The process and policy for backup Obstetrical support was reviewed and no issues were identified. There was a high volume and high acuity on the unit which resulted in the Laborist and back-up obstetrician being immediately unavailable. The Laborist appropriately contacted the in-house general surgeon who was able to immediately respond. Alternatively, the Chief of Obstetrics may have been contacted. Please see policy for Contingency (Back-up) Obstetrical Support.
2. The specialty specific reviewer (Anesthesia) reviewed the case on 6/10/2022. The Anesthesiologist responded quickly when called and there were no care concerns identified. The process and policy for backup Anesthesia support was reviewed and no issues were identified. Please see policy for Contingency (Back-up)Anesthesia Support. Given the patient's initial hemorrhage, it may have been prudent for the anesthesiologist to have been updated regarding the patient prior to her transfer to the postpartum unit.
3. Nursing review was completed on 5/22/22. Opportunities were identified in the following areas:
• The post-partum hemorrhage (PPH) protocol for a vaginal QBL > 500mL was not followed. Labs were not drawn. The patient was transferred to the post-partum unit soon after delivery due to a very busy L&D unit with patients waiting to be admitted. The patient had a significant blood loss and subsequent syncopal episode. The patient's agreement that she "felt better" provided a false sense of reassurance and the acuity and high volume of patients on the unit contributed to a drift from protocol.
• Risk assessment was indicated at the beginning of the second stage but not documented. The nurse did not recall the assessment. The precipitous birth and gestational age increased the risk of hemorrhage which was not appreciated.
• There was insufficient hand off by nursing. The original L&D nurse taking care of the patient had assumed care of another patient. The new nurse recovering the patient did not convey the severity of the initial hemorrhage or the subsequent syncopal episode to the postpartum nurse.
• No hemorrhage cart on post-partum unit. The only cart is located in L&D.

• There was no ability to perform QBL on the post-partum unit due to lack of education, equipment, and supplies. Therefore, EBL was performed while the patient was in postpartum which may have been underestimated.
• No PPH drills in the postpartum unit. There have been poorly attended semiannual drills in L&D.
• The L&D RN appropriately called for the MTP and OB-RRT.
4. The case underwent additional reviews by OB/GYN and Anesthesia Department Chiefs. No additional concerns were identified. The process and polices for backup obstetrician and general surgeon support were reviewed. No concerns were identified. The Laborist and backup obstetrician involved in this event appropriately contacted the on call General Surgeon who was in house and quickly responded to the L&D allowing the backup obstetrician to respond to the patient in the postpartum unit. Please see attached policy. Findings were accepted.
5. The multidisciplinary Professional Practice Evaluation Committee reviewed the case on 7/21/2022 and accepted the specialty specific review findings.

Quality Improvement Measures or Corrective Actions

Safety and Quality Improvement Measures

- Clinician related measure- Credentialed provider action
- Clinician related measure- Non-credentialed provider action
- Moderate action- Enhanced surveillance and auditing
- Moderate action- Equipment and/or processes standardization
- Weaker action- Education
- Weaker action- Policy/Protocol implementation, revision

If other, please list

Description of Quality Improvement Measures or Corrective Action

• CNM provider: CME on post-partum hemorrhage. Collegial Intervention accepted.
• Increase frequency of mandatory PPH simulation drills to monthly for the next six months including the postpartum staff and off shift times in the rotation. Will then hold quarterly drills. See attached educational materials.
• Implementation of an Early Warning System (EWS) to highlight abnormal vital signs and assessments in labor & delivery and post-partum unit. Education for nurses and credentialed providers occurred prior to initiation.
• Hemorrhage Risk Assessment policy reviewed and amended to include frequency of assessment and actions to take with each level of risk. Nurse Manager will monitor for compliance for a three-month period and report compliance rates at department and staff meetings.
• Review of policy regarding criteria for transfer and hand-off from L&D to the post-partum unit. Include policy attestation for all L&D and post-partum employees. Will incorporate handoffs in drills and simulation. See policy attached.
• Addition of a hemorrhage cart in post-partum unit.
• Inclusion of post-partum nursing staff in education and resources provided to postpartum unit regarding assessment of QBL. To be completed by November 30, 2022.

Credentialed Health Care Provider(s) Data and Findings

WHEN APPLICABLE, PLEASE PROVIDE DE-IDENTIFIED PERFORMANCE DATA AND ANALYSIS FOR INVOLVED CREDENTIALED HEALTH CARE PROVIDERS.

Credentialed Health Care Provider Data and Findings	The Certified Nurse Midwife (CNM) joined the ABC Medical Center Staff in 2018. The CNM has met expectations in Ongoing Professional Practice Evaluation (OPPE), compares as expected, and is not an outlier compared to her peers during the period Q1 2020-Q4 2021. Metrics include volume, complications, post-partum infections, cesarean sections, admission to NICU, maternal and neonatal mortality, and breastfeeding rates. From Q1 2020 through Q4 2021, the Department of Obstetrics and Gynecology has had 35 events subjected to peer review. Volume of deliveries for this time was 3,082. Of the events subjected to peer review, 8 were attributed to Certified Nurse Midwives and only the current event is attributed to this CNM. This provider has no record of disciplinary actions by ABC Medical Center. The provider has not been previously involved in any case submitted as a SQR report. The Chair of Obstetrics and Gynecology and the Director of Midwifery Services have no concerns about this provider.

Attachments

ATTACHMENTS

No Attachment

Follow-Up on File

HEALTHCARE FACILITY- USE THIS SECTION TO ADD FOLLOW-UP ONLY AFTER A SUBMISSION HAS BEEN MADE. QPSD WILL ADD FOLLOW-UP TO A SUBMISSION ONCE THE REVIEW IS COMPLETE.

Follow-Up Actions
Not Specified

End of Form