

CASE REPORT**Anesthesia Management at Postpartum et causa Atonic Uteri Bleeding in P3A0H3 Post SCTP Outside Dr. Moewardi Hospital**RTh Supraptomo^{*}, Muhammad Ridho Aditya^{✉*}

Article Info :

Submitted :

19-03-2021

Accepted :

24-04-2021

Published :

26-04-2021

<https://doi.org/10.20961/soja.v1i1.49682>

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m.ridhoaditya.md@gmail.com**ABSTRACT**

Postpartum hemorrhage remains the leading cause of maternal mortality and morbidity worldwide, happens more in developing countries with an estimated mortality rate of 140,000 per year or one maternal death every four minutes

To understand anesthesia management at postpartum et causa atonic uteri bleeding outside Dr. Moewardi hospital

In this case reported 25 years old patient was admitted to the emergency room at Dr. Moewardi Hospital Surakarta, on the 28/11/2019 at 15.30 WIB, sent by Waras Hospital Wiris Boyolali. On examination found the patient in a state of weakness, apathy awareness and blood pressure 90/60, heart rate 130, respiration rate 22, conjunctival anemic and palpable contractions of soft uterine contractions. The patient's condition is in accordance with the manifestation of grade III blood loss. The anesthesiology diagnosis is a 25-year-old woman with Postpartum hemorrhage et causa Atonic Bleeding of Uterine on P3A0H3 post SCTP Outside Dr. Moewardi Hospital + Hypovolemic Shock pro Emergency Laparotomy until Total Abdominal Hysterectomy with Physical Status ASA IVE Plan with RSI general anesthesia Control.

Intraoperative Management of anesthesia uses RSI's general anesthesia technique to control hemodynamics and uses anesthesia drugs that do not worsen the patient's condition. At the time of surgery, we did the transfusion because there was a significant amount of bleeding during the procedure and was categorized as Class IV bleeding.

Anesthesia care of patients with postpartum hemorrhage extends from the antenatal period to the postpartum period. Optimal postpartum hemorrhage management occurs when nurses, obstetricians and anesthesiologists recognize early the potential for excessive bleeding and trigger a 'major obstetric hemorrhage protocol' that describes specific tasks for each team player and the algorithm that must be followed according to etiology, circumstances and time during labor.

Keywords: atonia uteri; postpartum hemorrhage; perioperative management

INTRODUCTION

The American College of Obstetricians and Gynecologists (ACOG) defines postpartum hemorrhage as a cumulative blood loss greater than or equal to 1,000 ml or blood loss accompanied by signs or symptoms of hypovolemia within 24 hours after birth (including intrapartum loss) without considering birth processes.¹ Postpartum hemorrhage remains the leading cause of maternal mortality and morbidity worldwide, happens more in developing countries with an estimated mortality rate of 140,000 per year or one maternal death every four minutes.^{2,3} WHO estimates that of the 529,000 maternal deaths that occur annually, 136,000 or 25.7% of deaths occur in India and two-thirds of maternal deaths occur after giving birth.³ In Indonesia and low-income countries, postpartum hemorrhage is the main cause of nearly a quarter of all mothers die globally.⁴ The main causes of postpartum hemorrhage are uterine atony, placental retention, genital tract trauma, abnormal placenta, placental abruption, and uterine rupture.⁵ The cause of postpartum hemorrhage is 4T which stands for Tone, Trauma, Tissue and Thrombin. Tone is a problem in 70% of postpartum hemorrhage cases, which is caused by atonic of the uterus.^{2,3}

Effective postpartum hemorrhage therapy often requires simultaneous multidisciplinary interventions, such ask for help, assess (vital signs, blood loss) and resuscitate, establish aetiology, ensure availability of blood, ecbolic (oxytocin, ergometrin or syntometrine bolus IV / IM), uterus massage, oxytocin infusion / prostaglandins - IV / per rectal / IM / intramyometrial, shift to theater - exclude retained products and trauma / bimanual compression (conservative; non-surgical), tamponade balloon / uterine packing (conservative; non-surgical), and surgery.⁶

An important role of the surgeon-anesthetist relationship has been shown to improve the quality of care and patient safety.⁷ For antenatal patients who are considered to be at high risk of postpartum hemorrhage, the anesthesiologist plays a role in antepartum and pre-anesthetic consultations. After the anesthesia team has been notified of postpartum hemorrhage, the choices available are largely determined by whether the mother giving birth is under anesthesia care, the amount of blood that is thought to have been lost, the cause of suspected PPH, the proposed surgical or medical management of the patient's postpartum hemorrhage and the patient's hemodynamic stability. Induction agents used

will vary based on the level of instability and hypovolemia of the patient: propofol, etomidate, ketamine, succinylcholine, nitrous, total intravenous anesthesia.⁸

CASE ILLUSTRATION

In this case reported 25 years old patient was admitted to the emergency room at Dr. Moewardi Hospital Surakarta, on the 28/11/2019 at 15.30 WIB, sent by Waras Hospital Wiris Boyolali. On examination found the patient in a state of weakness, apathy awareness and blood pressure 90/60, heart rate 130, respiration rate 22, conjunctival anemic and palpable contractions of soft uterine contractions. From the laboratory results found Hb levels: 6.4 gr%, Hematocrit: 21%, albumin 1.6 The patient's condition is in accordance with the manifestation of grade III blood loss. The patient was then diagnosed with: P3A0H3 post SCTP Emergency + Postpartum Hemorrhage. And the anesthesiology diagnosis is a 25-year-old woman with Postpartum hemorrhage et causa Atonic Bleeding of Uterine on P3A0H3 post SCTP Outside Dr. Moewardi Hospital + Hypovolemic Shock pro Emergency Laparotomy until Total Abdominal Hysterectomy with Physical Status ASA IVE Plan with RSI general anesthesia Control.

DISCUSSION

The patients, accompanied by the doctor and nurse, was referred from Waras Hospital Wiris Boyolali by the ambulance with one access of 18G intravenous line put on her. In the emergency room, we conducted hypovolemic shock management by inserting one more intravenous access using 18G catheter then giving crystalloid Ringer's Lactate 1000 cc and starting transfusion of 1 bag of Packed Red Cell (PRC). We observed the vital sign strictly and communicated with the Obstetrics and Gynecology Department about what procedure would be taken. The evaluation and pre-anesthesia plan for antenatal patients who are considered to be at high risk of PPH is important. The role of the anesthesiologist would ideally begin long before the patient arrives at the delivery room. An antepartum, pre-anesthetic consultation as an outpatient is an important step to prepare and elaborate plans for women considered at high risk to require PPH.^{9,10}

Intraoperative Management of anesthesia uses RSI's general anesthesia technique to control hemodynamics and uses anesthesia drugs that do not worsen the patient's condition. We conducted preoxygenation with 100% O₂ for 3 minutes, gave ketamine 50 mg for pretreatment, propofol 50 mg for induction, and rocuronium

50 mg for muscle relaxant agent. The patient was in head down position and we inserted the Endotracheal Tube with Sellick's Maneuver, made secured fixation, oxygenation, and adequate ventilation. We used sevoflurane 1 vol% combined with O₂ 3 liter/minute and N₂O 1 liter/minute for maintenance during surgery. At the time of surgery, we did the transfusion because there was a significant amount of bleeding during the procedure and was categorized as Class IV bleeding.¹¹

For post-operative management, the patient was admitted to Intensive Care Unit (ICU) with stabile hemodynamics condition. Intravenous paracetamol 1 gram per 8 hours and Ketamine 0.6 mcg/kg/hour was administered for the patient's post-operative pain management.

If PPH is considered to be relatively limited and vital signs stable, the patient can be treated in his delivery room. If surgical laceration repair is needed, the patient is given either an epidural bolus with rapid onset local anesthesia (eg, chlorprocaine or lidocaine).

In patients without an epidural catheter, small doses of intravenous opioids will be appropriate, together with local anesthesia prescribed by obstetricians to the site of recovery, or even paracervical blocks.¹²

Sedation can be done by administering minimal doses of opioids (usually fentanyl) and benzodiazepines (usually midazolam), and can be a block of paracervical sedation. plus a minimum dose of ketamine.¹³

If patient experiences a more significant blood loss (> 1000 ml), or for patients who are expected to require more extensive surgical intervention, transfer to the operating room is the last chance for the anesthesiologist to place a neuraxial block.¹

This patient was admitted to the ER of RSUD Dr. Moewardi with a diagnosis of Post Partum Hemorrhage ec Atonia Uteric in P3A0H3 Post SCTP Outside RSUD Dr. Moewardi + Hypovolemia Shock. In this patient, ICU was observed for 24 hours and then transferred to the obstetric recovery room. Some guidelines said that after severe shock and massive blood transfusion the patient needed to be monitored for possible signs of multi-organ failure. After it is felt safe, the patient is transferred to the ward to continue administering the transfusion if needed and to treat the wound.

CONCLUSION

Anesthesia care of patients with postpartum hemorrhage extends from the antenatal period to the postpartum period. Optimal postpartum hemorrhage management

occurs when nurses, obstetricians and anesthesiologists recognize early the potential for excessive bleeding and trigger a 'major obstetric hemorrhage protocol' that describes specific tasks for each team player and the algorithm that must be followed according to etiology, circumstances and time during labor. Implementation of algorithms and protocols for massive transfusion and additional resources, clarification of each task, improvement of the communication process, debriefing and auditing, and introduction of the important role of the anesthesiology team during these steps are very important. Taking patient care to a higher level of care (ICU) when needed is very important, and offering tailored postpartum pain protocols will improve recovery after childbirth as in massive obstetric bleeding.

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