Case Report

On Going Losses After Hysterectomy Et Causa Uterine Atony

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ABSTRACT

Introduction: Postpartum hemorrhage (PPH) is an important cause of maternal mortality (MM) around the world. Seventy percent of the PPH corresponds to uterine atony.

Background: Postpartum hemorrhages are obstetrical complications, which can rapidly become life threatening. They are defined as follows: a blood loss of either more than 500 ml after vaginal delivery or more than 750 ml after a Cesarean section. This type of hemorrhage is described as severe when the blood loss consists of more than 1500 mL, more than 500 mL/min, or when hemoglobin concentration drops by at least 4 g/dL. They can either be primary, when a blood loss of more than 500 mL occurs over the first 24 hours postdelivery, or secondary, when excessive bleeding occurs between the first 24 hours and 12 weeks post-delivery.

Case A 28-year-old G1P1 postpartum with uncomplicated caesarian sectio, is readmitted to operating theatre four hours after delivery due to increased vaginal bleeding. She reports that the bleeding began on the first hour after delivery and has increased in severity each subsequent hour. The obstetrics team has ruled out uterine atony as the cause of bleeding.

Conclusion: Patients with severe hemorrhage and hypovolemic shock, the most important therapy is intravascular volume resuscitation, to reduce the possibility of target organ damage and death. The current proposals of transfusion therapy in massive hemorrhage point is early transfusion of blood products and use of fresh frozen plasma, in addition to packed red blood cells, to prevent maternal deaths.

Keywords: Hemorrhage management, Pregnancy, Uterine atony.

Introduction

Postpartum hemorrhage (PPH) is an important cause of maternal mortality. After establishing PPH (>or=500 mL blood loss) and severe PPH (SSPH) (>or=1000 mL blood loss) as main outcomes the prevalence of PPH and SPPH is approximately 6% and 1.86% of all deliveries. Maternal mortality due to postpartum hemorrhage (PPH) continues to be one of the most important causes of maternal death worldwide. PPH is a significantly underestimated obstetric problem, primarily because a lack of definition and diagnosis(Ford, Patterson, Seeho, & Roberts, 2015; Pinas Carillo & Chandraharan, 2014)the Centre for Maternal and Child Enquiries (CMACE

Postpartum hemorrhage is traditionally defined as blood loss greater than 500 mL during a vaginal delivery or greater than 1,000 mL with a cesarean delivery, occurs in up to 18 percent of births. Blood loss exceeding 1,000 mL is considered physiologically significant and can result in hemodynamic instability(Rahil, Setiawan, Fadililah, Khasanah, & Sucipto, 2020). Even with appropriate management. However, significant blood loss can be well tolerated by most young healthy females, and an uncomplicated delivery often results in blood loss of more than 500 mL without any compromise of

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the mother's condition. Early postpartum hemorrhage occurs within 24 hours of delivery and late postpartum hemorrhage occurs 24 hours to 12 weeks after delivery. Most cases of postpartum hemorrhage are early postpartum hemorrhage. With many women delivering outside of hospitals and early postpartum hospital discharge being a growing trend, postpartum hemorrhage that presents to the emergency department may be either early or late. These patients are usually critically sick and warrant early surgical and medical intervention(Anderson & Etches, 2007; Ducloy-Bouthors et al., 2011; Girard, Mörtl, & Schlembach, 2014).

Here we are reporting one case of postpartum hemorrhage in our hospital and was managed successfully.

Case Report

A 28-year-old G1P1 postpartum with uncomplicated caesarian sectio, is readmitted to operating theatre four hours after delivery due to increased vaginal bleeding. She reports that the bleeding began on the first hour after delivery and has increased in severity each subsequent hour. During her antenatal check up, she was diagnosed to have macrosomia. On arrival, she was conscious but irritable, blood pressure unrecordable, pulse rate 150/min, respiratory rate 50/min and gasping, so the patient was immediately intubated. Hb was 6.4 gm%, platelets 50,000/µL and INR 2.15. The obstetrics team has ruled out uterine atony as the cause of bleeding. Blood and blood products were arranged and total hysterectomy was done. Patient was transfused 4 PRC, 4 FFP, 4 cryoprecipitate and 4 platelet products in the O.T. Patient was shifted to ICU ward, but one hour later she was still in unstable hemodynamic although fluid resuscitation has done, suspected on going losses. Once again, the patient was readmitted to the O.T. The obstetrics team has inserted tampon abdominal packing to stop the bleeding. They removed it 5 days later. Table 1 shows the haematological reports of the patient during first eight days of ICU stay.

On first postoperative day, patient was having bleeding per vagina, hematuria, Ryle's tube bleed, bleeding from suture line and from nostrils. Patient was diagnosed to be in disseminated intravascular coagulation and 2 FFPs, 2 single donor platelets and 2 whole blood transfusion was given. Blood pressure still dropped and patient was taken on inotropic support of dopamine and norepinephrine. After this the patient's blood pressure improved to 120/70mmHg, pulse rate was 128/min, SpO2 99%, central venous pressure 10 cm of normal saline and urine output was adequate. For next four days patient was kept on complete ventilatory support after adequate sedation and paralysis. On third post operative day, patient had bilateral lung shadows on X-ray and a differential diagnosis of transfusion related acute lung injury (TRALI), ARDS, lung infection or fluid overload was kept. Ventilatory support was extended for a total of eight days after which the patient was weaned off from invasive ventilation. Patient was still weak and tachypnoic so a noninvasive ventilatory support was extended for three more days. Presently she has been shifted to ward in a stable condition.

Discussion

Risk factors for postpartum hemorrhage include a prolonged third stage of labor, multiple delivery, episiotomy, fetal macrosomia, and history of postpartum hemorrhage. However, postpartum hemorrhage also occurs in women with no risk factors, so physicians must be prepared to manage this condition at every delivery. Strategies for minimizing the effects of postpartum hemorrhage include identifying and correcting anemia before delivery, being aware of the mother's beliefs about blood transfusions, and eliminating routine episiotomy. Reexamination of the patient's vital signs and vaginal flow before leaving the delivery area may help detect slow, steady bleeding(Ford et al., 2015; Pinas Carillo & Chandraharan, 2014)the Centre for Maternal and Child Enquiries (CMACE

The best preventive strategy is active management of the third stage of labor. Hospital guidelines encouraging(Wahyuningsih, Kusmiyati, & Khasanah, 2020) this practice have resulted in significant reductions in the incidence of massive hemorrhage. Active management, which involves administering a uterotonic drug with or soon after the delivery of the anterior shoulder, controlled cord traction, and, usually, early cord clamping and cutting, decreases the risk of postpartum hemorrhage and shortens the third stage of labor with no significant increase in the risk of retained placenta. Compared with expectant management, in which the placenta is allowed to separate spontaneously aided only by gravity or nipple stimulation, active management decreases the incidence of postpartum hemorrhage by 68 %(Anderson & Etches, 2007; Ducloy-Bouthors et al., 2011; Girard et al., 2014).The diagnosis of postpartum hemorrhage begins with recognition of excessive bleeding and methodic

Table 1: Haematological reports of patient during Hospital stay

Parameter	*Day 1*	*Day 2*	*Day 3*	*Day 4*	*Day 5*	*Day 6*	*Day 7*	*Day 8*
Hb g/dl	8.4	10	7.4	5.8	8.0	8.0	10.1	10.9
TLC 103/µL	12.2	5.5	5.5	9	17.2	19.0	17.8	19.6
Plt 103/µL	60	70	28	125	39	81	68	88
Hct (%)	26.1	31.5	23.3	17	25.1	25.1	32.2	34.8
INR	2.2	2.4	1.4	1.2	1.1			

Table 2: The "Four Ts" Mnemonic Device for Causes of Postpartum Hemorrhage (Taken from Anderson JM, Etches D. Preventiom and Management of Postpartum Hemorrhage. Am Fam Physician. 2007 Mar 15;75(6);875-882.)

Four Ts	*Cause*	*Approximate Incidence (%)*
Tone	Atonic uterus	70
Trauma	Lacerations, hematomas, inversion, rupture	20
Tissue	Retained tissue, invasive placenta	10
Thrombin	Coagulopathies	1

examination to determine its cause. The "Four Ts" mnemonic (Tone, Trauma, Tissue, and Thrombin) can be used to detect specific causes (Table 2).

PPH is a leading cause of death and morbidity relating to pregnancy. Causes of postpartum hemorrhage are uterine atony, trauma, retained placenta, and coagulopathy. Uterine atony is the leading cause of PPH. Women with PPH in a pregnancy are at increased risk of PPH in a subsequent pregnancy. (3-5) Risk factors leading to increased risk of PPH are:

- Emergency Caesarean section(CS) (9 times risk)
- Elective CS (4 times risk) - especially if >3 repeat procedures
- Retained placenta (5 times risk)
- Medio-lateral episiotomy (5 times risk)
- Operative vaginal delivery (2 times risk)
- Labour of >12 hours (2 times risk)
- >4 kg baby (2 times risk)
- Maternal pyrexia in labour (2 times risk)

If pharmacological measures fail to control the haemorrhage, one should resort to early surgery:

- Bilateral ligation of the uterine arteries or bilateral ligation of the internal iliac (hypogastric) arteries.
- An alternative to ligation is embolisation with gelatin sponge. Amenorrhoea has been reported following this, secondary to necrosis of the uterine wall and obliteration of the cavity.
- Uterine bracing suture to the anterior and posterior uterine walls has been shown to be effective and safe with reports of successful pregnancy following its use.

Hysterectomy should be considered early, especially in cases of placenta accreta or uterine rupture. (3-5)

Conclusion

Post partum haemorrhage continues to be a leading cause of maternal morbidity and mortality in developed countries. Causes of postpartum hemorrhage are uterine atony, trauma, retained placenta, and coagulopathy. Uterine atony is the leading cause of PPH. Awareness of this fact, anticipation and prevention of uterine atony, as well as avoiding unnecessary cesareans, episiotomies, and other genital tract trauma have the potential to significantly reduce PPH. Women with PPH in a pregnancy are at increased risk of PPH in a subsequent pregnancy. This case highlights the need for medical staff to be aware and alert to unusual risk factors. However, these factors may be unavoidable and early surgical intervention as per local protocol is recommended to minimise maternal morbidity.

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