# **BRITISH BIOMEDICAL BULLETIN**

**Case Report** 



## Case Report on Anesthetic Management of Atonic Uterus After Normal Vaginal Delivery for Emergency Hysterectomy

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ARTICLE INFO

Received 15 Aug. 2015 Received in revised form 30 Aug. 2015 Accepted 05 Sep. 2015

**Keywords:** PPH, Hypovolemic shock Nvd, Hysterectomy.

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#### ABSTRACT

The treatment of patients with PPH has 2 major components: Resuscitation and control of bleeding, correction of blood volume and identification and management of the underlying cause(s). This complication is life threatening which requires timely and skillful anesthetic management.

#### Introduction

Postpartum haemorrhage is defined as blood loss of 500ml or more from genital tract in the first 24 hours of delivery. Massive PPH is defined as blood loss of 1000ml or more.<sup>1</sup> Conventionally PPH is classified according to the timing of its occurrence. Bleeding within 24 hours of delivery is defined as the primary postpartum haemorrhage. Secondary postpartum haemorrhage is defined as bleeding that occurs after 24 hours until six weeks postpartum. Assessment of blood loss during delivery is commonly performed using visual estimation. This is often

inaccurate and underestimated.<sup>2</sup> The traditional assumption of transfusing a pint of red blood cells in a patient who has bled 500 ml blood will increase the haemoglobin to 1 gm is only accurate if not actively bleeding. Estimation of blood loss as well as amount to be transfused is impossible to gauge in an ongoing PPH.<sup>3</sup> Ability of women coping with haemorrhage largely depends on their health status as well as the severity of bleeding. Most healthy pregnant women can tolerate blood loss up to 1500ml as the result of blood volume increment during pregnancy.<sup>3</sup> However in the presence



British Biomedical Bulletin of pre-existing anaemia or hypovolaemia, compensatory mechanism will be jeopardized. Individual responses towards blood loss limit the use of clinical signs and symptoms in defining PPH and determining its severity. This rapid blood loss reflects the combination of high uterine blood flow and the most common cause of PPH i.e. [1] uterine atony (2) Hypovolemia

#### Uterine atony

Uterine atony is defined as failure of myometrium to contract and retract following delivery.<sup>4</sup> Powerful and effective myometrial contractions are vital to arrest bleeding. Uterine atony in contrary, the uterus is soft and 'boggy' with presence of excessive bleeding from genital tract.<sup>5</sup> A prompt recognition followed by uterine massage and administration of uterotonic agents often arrest the bleeding.<sup>6</sup>

Ongoing bleeding secondary to an unresponsive and atonic uterus requires surgical intervention i.e. vessels ligation, obstetric hysterectomy<sup>7</sup>

## **Case Report**

A 25 year old female with obstetric history of Gravida 3 Para 2 Live birth2, presented with full term pregnancy with history of Gestational hypertension in labour. She delivered vaginally a live full term male baby.

Oxytocin 10 IU IM and 10 IU IV infusion given along with two ampoules of methergin i/v. After half hour her uterus was intermittently relaxing and there was bleeding Per vagina. Medical management of PPH was done using Injection oxytocin 20 IU IV infusion. Injection carboprost 250 mg 3 doses IM repeated over 15 minutes and Tab. misoprostol 1200 mg per vaginal. After another 15minutes PPH was not controlled and she developed drowsiness, tachycardia, hypotension, tachypnea. Gynecologist planned for Emergency peripartum hysterectomy.

Pre anesthetic evaluation was done, patient was drowsy, not responsive, severe pallor+++, pulse not recordable. HR-160/min,BP not recordable, SPO2- 60%. RR- 50/min. Urine output -10ml. Pt was shifted immediately to OT, 2 large bore 18G IV lines secured and monitors attached. Patient premedicated with injection Glycopyrollate 0.2mg IV. Preoxygenated for 3minutes with 100% O2. Rapid sequence induction was carried out. Injection Butrum 1 mg IV, Injection midazolam 1 mg IV given and relaxed with Injection succinyl choline 75 mg IV. Anesthesia was maintained with O2+intermittent atracurium and IPPV.IV fluids Ringer lactate and Normal Saline were rushed. One unit of whole blood transfusion was started. After 5 mintues of rushing blood pulse was feeble and BP picked up to 80/46 mmHg. Heart rate comes down to 132/min. O2 Saturation improved to 100%. After 2 units of blood transfusion hemodynamic parameters was stable with HR- 120/Min, BP- 150/90 mmHg, Spo2-100%. Urine output - 700ml. Peripartum hysterectomy was done. Patient was reversed with Injection Myopyrolate 2.5mg. After monitoring for 5 minutes on table for adequate efforts, patient was extubated after thorough oral suctioning. Patient was drowsy, maintained saturation with O2 face mask @ 5L/min and hemodynamically stable.

She was shifted to recovery room for monitoring. She was monitored for 2 hours. Her vital parameters on shifting were HR-106/min, BP- 140/90mm Hg, SPO2 – 100%, RR-18/min.

## Discussion

Obstetric hysterectomy is a life saving procedure but decision should be prompt and treatment by an experienced surgeon. Every obstetrician should be



trained to perform this procedure. In spite of this life saving measure, there occur significant number of maternal deaths which can be prevented by good maternal care, active management of labor, early recognition of complications, timely referral, and easy availability of transport and blood transfusion facilities<sup>8</sup>. Community education about advantages of institutional delivery will save many such emergencies.

In our case after uneventful vaginal delivery, patient developed PPH which in initial stage was treated medically. In view of failure of these measures to control bleeding persistent and deteriorating condition of patient decision for emergency hysterectomy was taken. Considering the hypovolemic shock we decided to take patient under general anesthesia in such a way that the drugs and techniques used to anesthetize the patient were optimally safe. The pharmacological properties required of an intravenous induction agent that satisfy the aims of Rapid Sequence.

Induction (RSI) therefore includes rapid onset and few adverse (i.e. haemodynamic) effects. Major cause of hypovolemia being persistent bleeding from atonic uterus was treated by crystalloids and blood to preserve perfusion of vital organs.

## Conclusion

This report highlight the importance of timely intervention in cases of PPH with

co-ordination of whole team (Anaesthesiologist and Obstetricians).

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