



## POST PARTUM HEMORRHAGE MANAGED IN A PERIPHERAL HEALTH INSTITUTE : A CASE REPORT.

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### ABSTRACT

Post partum hemorrhage (PPH) is a very severe complication especially in a developing country like India. Managing PPH in a peripheral health institute is a very challenging task especially when there is no proper supply of proper drugs and equipment. If something goes wrong, nobody will understand you. The management of a patient of PPH in severe hemorrhagic shock is discussed in this text.

**KEYWORDS :** Post partum hemorrhage, PPH, Severe shock, anaesthetic management.

### INTRODUCTION

Post partum hemorrhage is a very serious complication. It can be rapidly fatal. A patient with ongoing PPH in severe shock is a challenge both to anesthesiologist and the obstetrician. In this text we discuss the management of one such patient in a peripheral institute.

### CASE REPORT

I was on call duty on a fine day. In the evening around 5pm, I received a call telephonically that a case of postpartum haemorrhage in shock is being referred to district hospital Mandi from civil hospital Sundernagar ( approximate distance 25km). I rushed to the operation theatre immediately and also called my team to get ready for the emergency. I prepared the OT, checked the anaesthesia machine, suction, cylinders and kept all emergency drugs(which were available) in a tray. I also called the blood bank and asked them to arrange two units of O-negative blood urgently. At around 6pm the patient reached the operation theatre accompanied by her gynaecologist. She was a 32year old who had a vaginal delivery 2 hours back at civil hospital Sundernagar. On reaching the operation theatre, she was gasping, pulse BP were not recordable, two 18G IV cannulas were already secured in upper limbs. Monitors were attached immediately. The initial vitals were:

Heart rate(ecg)- 202/minute.  
BP- Not recordable  
SPO2- Not recordable  
Peripheral pulse- Not Palpable  
Carotid pulsation- Feeble  
Mental Status- Disoriented

The only good thing was two large bore(18G) peripheral intravenous cannulae which were running. She was still bleeding actively and any further delay could have been fatal.

I started infusion noradrenaline @10 mcg/min and infusion dopamine@120 mcg/min immediately. Ventimask was attached and Oxygen flow was set to 10L/min. Once peripheral pulses became palpable and BP reached 90/50 mm Hg and pulse was 152/ minute, I decided to give her GA and intubation under modified RSI.

### Induction:

Inj 50mg ketamine and 50 mg Inj propofol IV,

Inj Succinylcholine 100 mg was given for muscle relaxation. Cuffed endotracheal tube 7mm ID was inserted using direct laryngoscopy, the tube was fixed at 20 cm and bilateral air entry checked.

Tube position confirmed by capnography.

The patient was put on ventilator with tidal volume 450ml and respiratory rate of 14/min.

Maintenance of anaesthesia:

Inhalation agents O<sub>2</sub>:N<sub>2</sub>O: Iso = 33%:66%:0-1%  
Inj Atracurium 20 mg IV loading dose + 5 mg IV sos  
Inj Fentanyl 100 mcg IV + 50mcg IV 1 hourly  
Infusion Acetaminophen 1g IV near end of surgery

Infusion noradrenaline and infusion dopamine continued throughout the surgery and the rates were adjusted according to hemodynamic response.

Intraoperatively three units of normal saline(1500ml), one unit of non cross matched blood (O negative) and 2 units of cross matched blood (B +ve) were given.

Urine output was 60 ml.

An external jugular venous catheter was also secured in left EJV for inotropic infusion. Which later dislodged while shifting the patient, so was removed.

Intra operative vitals:

Heart rate: 110-210/min  
BP: systolic 90-170mmHg, Diastolic 30-70mmHg  
SPO<sub>2</sub>: 90-99%, No hypoxic episode.

Some details of surgery:

After intubation and putting the patient on ventilator, the patient was handed over to the gynaecology team. There were four gynaecologists in the operating team. They found a perineal tear which was presumed to be the source of bleeding. There was a history of forcep application during the vaginal delivery. The patient was given lithotomy position and the perineal tear was repaired. All this was done in the initial half an hour of the operating time. Next, it was decided by the operating team that they will do a laproscopic examination of the uterus and adnexa for any internal injuries. Being a peripheral health institute, the things were not so much streamlined here. It took 1 hour to assemble all the parts of laparoscope and get ready for the laparoscopy. I was struggling with the noradrenaline and dopamine infusions to maintain the patients haemodynamics throughout this time. Finally the laparoscopy was done, all four gynaecologists took turns to examine through the laparoscope. A diagnosis of right broad haematoma of approximate size 10cm by 10cm was made. It was also confirmed that there was no active internal or external visible bleeding. All this took an additional half an hour (total surgical time elapsed till now 1/2 + 1 + 1/2 = 2hours). It was decided that the patient be shifted to PGI Chandigarh for further management. Now after closing the port sites for laparoscopy, all gynaecologists except the one who brought the patient to our hospital left. The patient was kept on OT table, attached to ventilator, waiting to be shifted to PGI. It took an additional one hour for the shifting ambulance to arrive.

We could not extubate the patient as she was still on inotropic support. So she was shifted to PGIMER with ETT in situ and AMBU bag ventilation.

Shifting vitals:

Heart rate- 110/min

BP- 160/65mmHg

SPO2-98%

Inotropes: Noradrenaline 8mcg/min, Dopamine 100mcg/min.

## DISCUSSION

PPH is a fatal complication of pregnancy, especially in developing countries.<sup>1</sup> This was one of the most challenging cases in my career. The patient could have died at multiple times:

1. At civil hospital Sundernagar or on the way to Mandi had there been some delay.

2. Just on reaching the operation table. She was in severe shock with absent peripheral pulse when she reached operation theatre. Heart rate was 202/min, carotid artery pulse was just palpable. The advanced trauma life support course teaches that if only the patient's carotid pulse is palpable, the systolic blood pressure is 60-70 mm Hg; if carotid and femoral pulses are palpable, the systolic blood pressure is 70-80 mm Hg; and if the radial pulse is also palpable, the systolic blood pressure is more than 80 mm Hg.<sup>2</sup> This gives her systolic blood pressure around 70 mm Hg. Now this gives a shock index of 2.88 (shock index = HR/SBP). This classifies her shock as severe shock (class 4 shock).<sup>3</sup> Shock index  $\geq 1.7$  had 46.9% sensitivity (95% CI 19.8–62.8) and 98.9% specificity (CI 91.1–100) for prediction of maternal death.<sup>4</sup>

3. During intubation.

4. During creation of pneumoperitoneum.

But still the patient survived and reached PGI. Nobody in our district hospital could understand what happened that day, so I am writing this article to give a glimpse of what could have happened. Not a single emergency drug kept in the emergency tray was from government supply, I had purchased those drugs from my own pocket. The hospital authorities are least concerned about the importance of emergency drugs. So my advice to all anesthesiologists working in peripheral institutes is to keep their emergency kit ready, because in case of any adverse event nobody will understand you. Only the gynecologist who brought the patient from Sundernagar civil hospital understood my efforts and had some praise.<sup>5</sup> Thank you for reading.

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