

# Traumatic Post Partum Haemorrhage (PPH) with Dilutional Coagulopathy: A Near Miss Situation

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## Case Report

**Abstract:** This patient manifested with traumatic PPH with severe anaemia. At the outset, it looked like the patient has suffered a severe haemorrhagic shock superimposed on the underlying moderate anaemia. Later the investigations added the dreaded, fearful complication of dilutional coagulopathy. Further improvement presented to us, an intraperitoneal collection and then a severe preeclampsia. This catastrophe of complications slowly built up... but due to an aggressive team management, it was possible to save this patient... it's an excellent exemplification of how functional coagulopathy disorder manifests like a terror clinical situation.

**Keywords:** Post partum haemorrhage, preeclampsia, dilutional coagulopathy, severe anaemia.

### Introduction

Post partum haemorrhage has an incidence of 1% in hospital deliveries, of which traumatic PPH accounts for 20% (1,2). Even with appropriate management, approximately 3% of vaginal deliveries will result in severe PPH. It is the most common maternal morbidity. When traumatic PPH sets in, it's usually easy to control once bleeding points have been identified. It worsens when other systemic factors eg. Anaemia, preeclampsia, jaundice etc where functional coagulopathy disturbances also overpower the situation (2) and hence diagnosis and management becomes even more difficult. Complications from PPH (1) include orthostatic hypotension, anaemia and fatigue. Postpartum anaemia increases the risk of postpartum depression. Blood transfusion may be necessary and carries associated risk. In most severe cases hemorrhagic shock may lead to anterior pituitary ischemia, dilutional coagulopathy and death also may occur. Of these preeclampsia presents with higher grades of shock and is usually diagnosed after the patient's condition improves. Of these, dilutional coagulopathy due to acute trauma, has an altogether separate mechanism of formation, and is very well known to not give good results inspite of excellent and correct input for management (2). Here is a case report of a presenting with traumatic PPH and dilutional coagulopathy. How she presented and her sequence of diagnosis and management.

### Case Report

An unbooked primigravida delivered at a private hospital. She delivered by precipitate labour and was referred for severe anaemia. This lady presented after one and half hours of her delivery. On clinical examination – the patient looked drowsy, her extremities were cold clammy, with severe pallor evident. Pupils were reacting to light. Peripheral pulses were not palpable. Blood pressure was not recordable on admission. Central pulses however were present. SPO2 was 60%. Her abdominal examination revealed a firm well contracted and retracted uterus. Per speculum revealed a gush of heavy bleeding. On exploration -clitoral, paraurethral, cervical tear of 3 cm each at 3 and 9 o'clock positions and a paravaginal haematoma of 5\*4 cm which had given way through the posterior vaginal wall. The vaginal fornices were intact, thus confirming an intact uterine continuity. Thus the diagnosis of traumatic PPH with severe anaemia with grade IV hypovolemic shock with hypoxic encephalopathy was made.(4) A 18G intracath was secured, and crystalloids of about one litre were infused and inotropic support of Dopamine and NorAdrenaline was started(4,5). The patient was simultaneously catheterised per urethrally. Simultaneously a tight intravaginal packing was done to have pressure haemostasis(5) and to prevent the paravaginal haematoma from expanding. Simultaneously blood products were to be managed and investigations were sent for patients relatives were explained about the grave outcome of this condition, and grade V consent was taken and critical care management being required was explained to the patient's relatives. By the time the blood products were managed the labs showed the following: – HB 1.5g%, PCV – 7.1%, TC- 6800, Platelets – 93000. LFT s were normal except for S. Alb – 1.4g% , INR – 1.7. S Creat – 1.7. Thus the diagnosis was now revised to, traumatic PPH with severe anaemia with grade IV hypovolemic shock with hypoxic encephalopathy with dilutional coagulopathy(3,4). Patient was shifted to operation

theatre after again explaining the risk to the relatives and getting consent from them. All the clitoral, paraurethral tears, cervical tears were all sutured under GA. , and the entire paravaginal haematoma (5) instead of being evacuated through the rent, the rent was sutured by figure of eight stitch and the rest of the haematoma was overrun by deep figure of eight stitches along its entire length, taking care not to include the rectal wall in the stitches. After securing haemostasis, tight vaginal packing was done (5). Mean while a central venous line was inserted to maintain fluids at a rate of 100ml/hr and (3,6) 4U of PCV and 5U of FFP were infused. CVP was maintained at 8 cm (4) . Postoperative a USG Abdomen was done which revealed a intraperitoneal collection of around 200-250 cc. Since this was the result of coagulopathy, no active surgical intervention was done. Once the haemorrhage stopped, patient's urine output improved. Her sensorium also improved. After 24 hours of resuscitation – i.e crystalloids at 100ml/hour and a total of 7U PCV and 5U FFP, patient's peripheral pulses were now palpable and a consistent systolic BP of 60 mm Hg was recordable (4). After this the patient received a total of 5U PCV over the intial infused. She later developed severe preeclampsia in the next two days. For this she was put on two antihypertensives. Her Hb improved to 8g% and PCV – 21%. Her inotropic support and central line were removed after 72 hours of her admission. Later oral haematinics and protein supplement was given on discharge. Thus the complete diagnosis of traumatic PPH with severe anaemia with dilutional coagulopathy with grade IV Hypovolemic shock with hypoxic encephalopathy with severe preeclampsia with hypoproteinemia was made.

### Discussion

Post partum haemorrhage if traumatic is easy to tackle once the source of bleeding is identified, especially in case of lower genital tract trauma. But the situation worsens when systemic factors complicate it, for eg. Preeclampsia jaundice. This is found in about 1% of cases. In this patient, severe anaemia and severe preclampsia all added on.

In the setting of dilutional coagulopathy and PIH (Pregnancy Induced Hypertension) (2), it became very essential to rapidly resuscitate and control the bleeders. It is advocated that in presence of coagulopathy a package transfusion unit should be given, i.e. 3U PCV, 5U FFP, 5U PRC. In this patient since platelets were not that depleted, only haematocrit improvement and replenishment of coagulation factors was done. Each unit of FFP gives 5% of replenishment of coagulation factors. There are various studies which support the administration of FFP s solely for improving the coagulatory disturbance in such scenario (6) Platelets if drop below 75000, becomes an indication of transfusion of FFP and Platelet rich concentrates, since it is seen that the coagulopathy worsens rapidly below this level (6) . In case where cryoprecipitates are available, clinical improvement is seen to be faster with infusion of cryoprecipitate alongwith FFPs, since the replenishment of coagulation factors is faster. In the absence of both FFP and cryoprecipitates, the replenishment by PCV, whole blood and crystalloids is essentially done till the above can be managed for. A paravaginal haematoma, if gives way, should be evacuated and bleeder identified and ligated. Here since coagulopathy (5) had set in, and it was not a enlarging haematoma, the entire length was overrun and tight vaginal packing was done, so that further bleeding through small oozing points could be stopped till coagulopathy could be controlled.

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