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To study the high risk factors associated with post Partum haemorrhage and its incidence

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Abstract

Post partum hemorrhage (PPH) is an emergency every obstetrician has to face, often unexpectedly. It complicates about 3.6% of all deliveries. It is potentially life threatening complication of 3rd stage of labour and third most common cause of maternal deaths in developed world. In India it is the leading cause of maternal mortality (about 25%). According to Holland and Brews, post partum haemorrhage can be defined as a blood loss of more than 600ml after completion of the 3rd stage.

Its quantitative definition is arbitrary and is related to the amount of blood loss in an excess of 500 ml following birth of the baby. The clinical definition which is more practical states, "any amount of bleeding from or into the genital tract following birth of the baby till the end of the puerperium which adversely affect the general condition of the patient evidenced by the rise in pulse rate and falling blood pressure is called post partum haemorrhage.

Keywords: Postpartum haemorrhage, uterine atony, hysterectomy

Introduction

Postpartum hemorrhage (PPH) is an obstetric emergency. It is one of the top five causes of maternal mortality in both high and low per capita income countries, although the absolute risk of death from PPH is much lower in high-income countries. Timely diagnosis, appropriate resources, and appropriate management are critical for preventing death. Postpartum hemorrhage (PPH) is commonly defined as blood loss exceeding 500 milliliters (mL) following vaginal birth and 1000 mL following cesarean. PPH is often classified as primary/immediate/early, occurring within 24 hours of birth, or secondary/delayed/late, occurring more than 24 hours post-birth to up to 12 weeks postpartum. For clinical purposes, any blood loss that has the potential to produce hemodynamic instability should be considered PPH. The amount of blood loss required to cause hemodynamic instability will depend on the pre-existing condition of the woman. In our country, the incidence of anaemia is very high specially in pregnant women. So the clinical features depend on the antenatal hemoglobin levels and the amount of bleeding leading to hypovolemia and acute anaemia. It is important to note that in a malnourished or anemic patient the signs of shock can appear with mild bleeding (<500ml)

Causes of postpartum hemorrhage are uterine atony, trauma, retained placenta, and coagulopathy, commonly referred to as the "four Ts"

- **Tone:** uterine atony is the inability of the uterus to contract and may lead to continuous bleeding. Retained placental tissue and infection may contribute to uterine atony. Uterine atony is the most common cause of postpartum hemorrhage.
- **Trauma:** Injury to the birth canal which includes the uterus, cervix, vagina and the perineum which can happen even if the delivery is monitored properly. The bleeding is substantial as all these organs become more vascular during pregnancy.
- **Tissue:** retention of tissue from the placenta or fetus may lead to bleeding.
- **Thrombin:** a bleeding disorder occurs when there is a failure of clotting, such as with diseases known as coagulopathies.

Active management of the third stage of labor reduces the incidence and severity of PPH. Active management is the combination of (1) uterotonic administration (preferably oxytocin) immediately upon delivery of the baby, (2) early cord clamping and cutting, and (3) gentle cord traction with uterine countertraction when the uterus is well contracted (ie, Brandt-Andrews maneuver).

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Materials and Methods

The present work was undertaken in the Department of Obstetrics and Gynaecology in Darbhanga Medical College and Hospital, Laheriasarai. Pregnant women who attended for delivery in labour room of Obstetrics and Gynaecology Department were taken for the present study. A total of 6789 cases of vaginal deliveries were observed in the Department of Obstetrics and Gynaecology. Among them a total of 100 cases of postpartum haemorrhage were included in this study to find out the predisposing factors and its incidence during the period from March 2015 to August 2016. We have excluded the cases of postpartum haemorrhage due to caesarean deliveries in our study.

The inclusion criteria were –

Clinical evaluation of blood loss was over 500 ml at the time of delivery or over 600 ml in the first 24 hours after delivery, and in those cases in which the patients pulse rate, blood pressure, and haemoglobin estimation reflected blood loss of more than 15%. A full case history and examination findings were noted in order to find the possible causes of postpartum haemorrhage. After the placenta had been delivered the uterus was palpated for contraction or atony. When brisk uterine bleeding was encountered after delivery, associated with a boggy flaccid uterus, the uterus was massaged vigorously. In atonic haemorrhage the uterus becomes hard on massaging.

Additional Observations

Besides the basic measurement of blood loss obtained on each patient, estimates of the amount of blood lost on delivery table were made by the person who performed the delivery and were recorded. Observation were also made on pulse, blood pressure and symptoms. The mean pulse during labour was calculated and the pulse was recorded 5, 15, 30 and 60 minute after the administration of intramuscular oxytocin. Mean systolic and diastolic blood pressure during labour were calculated and blood pressure determined at 5, 15, 30 and 60 minute after the administration of intramuscular oxytocin in an attempts to elicit unusual symptoms. Patients were asked how they felt at 30 and 60 minute after the administration of oxytocin. Answers were recorded verbally and were classified into three groups:

1. Complaints of pain (Negative)
2. No definite statement (Indifferent)
3. Reports of well being (Positive)

Observations

In the present series of work of postpartum haemorrhage, 100 cases have been studied and observed for causes of postpartum haemorrhage and whether the haemorrhage was primary or secondary.

| Causes of Primary PPH | | |
|---|--------------|-------------------------------|
| Causes | No. of cases | Overall % and in cases of PPH |
| Atony of uterus(responding to uterine massage and oxytocics) | <u>34</u> | 34 |
| Atony of uterus (not responding to uterine massage and oxytocics) | <u>24</u> | 24 |
| Cervical laceration | <u>9</u> | 9 |
| Vaginal laceration including extension of episiotomy incision | <u>8</u> | <u>8</u> |
| Third degree perineal tear | <u>3</u> | <u>3</u> |
| Inversion of uterus | <u>1</u> | <u>1</u> |
| Partial placenta accreta | <u>2</u> | <u>2</u> |
| Unexplained | <u>4</u> | <u>4</u> |

| Causes of Secondary PPH | | |
|--|--------------|---------------------------|
| Causes | No. of cases | Overall % in cases of PPH |
| Retained placental pieces | 10 | 10 |
| postpartum/puerperal haematoma | 4 | 4 |
| Bleeding following anticoagulant therapy | 1 | 1 |

In the present study of postpartum haemorrhage, out of 100 cases 34 cases were due to relaxed uterus. It was observed that postpartum haemorrhage due to relaxed uterus was more in multigravida. Postpartum haemorrhage due to relaxed uterus was maximum in ventouse application followed by low forceps delivery and was least in spontaneous delivery. Postpartum haemorrhage due to cervical laceration was more in primigravida and also the longer the duration of 1st and 2nd stage of labour, more was the incidence of postpartum haemorrhage. Postpartum haemorrhage due to cervical laceration was maximum in cases of low forceps application and least in spontaneous delivery. Postpartum haemorrhage due to third degree perineal tear was more in cases of forceps application and more the weight of baby, higher the chances of postpartum haemorrhage due to third degree perineal tear. postpartum haemorrhage due to retained placental pieces was almost twice in multigravida in comparison to primigravida. postpartum haemorrhage due to retained placental pieces is more common in assisted delivery than spontaneous delivery and also appearance of delayed postpartum haemorrhage (14 or 18 days) than spontaneous delivery (7 to 14 days). Postpartum haematoma is thrice more common in primigravida and also site of haematoma

about the labia is thrice than the perineal haematomas.

Discussion

Pregnancy and childbirth and their consequence remain the leading cause of death, disease and disability among women of reproductive age in developing countries like India. In the present research entitled Study of high risk factors associated with postpartum haemorrhage, 100 cases were studied, 85 being of primary postpartum haemorrhage and the rest being of secondary PPH. Several noteworthy factors have been observed. The incidence of relaxed uterine atony, front runner of all the causes of postpartum haemorrhage bears a direct relationship to the parity of the mother, the incidence being almost twice in multigravida. Whenever an oxytocin infusion is administered as therapy during labour the incidence of relaxed uterus following delivery sharply decreased by maintaining the oxytocin therapy beyond the third stage of labour. Other supportive measure is uterine massage. As far as mode of delivery is concerned ventouse delivery was more commonly associated with uterine atony and postpartum haemorrhage. Association of relaxed uterus with precipitate labour was also seen. Cervical laceration as a cause of postpartum haemorrhage bears a direct relationship

to the parity of the mother and to the duration of the duration of the first and second stage of labour. The incidence was twice as frequent in primigravida compared to multigravida (6:3). Postpartum haemorrhage due to cervical laceration was observed to be more common in assisted delivery, it was 7 times commoner than in spontaneous delivery. In our series of 100 cases we have observed that forceps application was a major cause of third degree perineal tear leading to primary postpartum haemorrhage, but equally important is the baby weight, the more the weight of baby more was the incidence of early postpartum haemorrhage. It was also observed that multigravidae were more prone to postpartum haemorrhage due to retained placental fragments than the primigravidae, the ratio being 2:1. Another important cause of postpartum haemorrhage is postpartum haematoma. It is frequently though not always preventable. Meticulous haemostasis during suture of episiotomy and obliteration of all dead space, avoidance of the pressure necrosis of prolonged labour and the trauma of difficult forceps deliveries are important factors in preventing haematomas. Active management of the 3rd stage of labour results in a reduction in the duration of the third stage when compared to physiological management both in women at low and high risk of post partum haemorrhage.

Conclusion

In the present study an attempt has been made to study the high risk factors associated with postpartum haemorrhage and its incidence. Postpartum haemorrhage is an emergency every obstetrician has to face, often unexpectedly. It complicates about 3-6% of all deliveries. It is potentially life threatening, and third most common cause of maternal death in developed world. In India it is a leading cause of maternal mortality. The clinical situation in which haemorrhage is likely to occur can be better known then anticipatory and preventive treatment can be done before active treatment is necessitated. Majority of cases of postpartum haemorrhage were due to atony of uterus, cervical and vaginal laceration and retention of placental tissue. Postpartum haemorrhage due to atony of uterus constitute three fifth of the cases. The incidence of cervical laceration bears a direct relationship to the parity of the mother and to the first and second stage of labour. The incidence being almost twice in primigravida than multigravida. The postpartum haemorrhage due to vaginal laceration also bear the same relationship as cervical laceration. The predisposing factors in the causation of vaginal laceration were traumatic deliveries, large babies and incorrect choice of episiotomy. The cervical and vaginal laceration constitute about one fifth cases of postpartum haemorrhage. Primary postpartum haemorrhage were also seen due to third degree perineal tear, inversion of uterus and partial placenta accreta. Low forceps application was a major cause of third degree perineal tear leading to primary postpartum haemorrhage but equally important was the weight of the baby, more the weight of the baby, more was the incidence of primary postpartum haemorrhage. Inversion of uterus, partial placenta accreta were also found as the cause of postpartum haemorrhage. Postpartum haemorrhage due to retained placental fragment were more common in multigravida than primigravida. Postpartum haemorrhage due to postpartum/puerperal haematoma were more common in primigravida and the location was twice more about labia than the perineal region. High rates of morbidity and mortality related to postpartum haemorrhage reinforces need for understanding vigilance in the fourth stage even if the first three stages are uncomplicated.

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