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Original Research Article

Risk factors and outcome analysis of post-partum haemorrhage in a tertiary care centre

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ABSTRACT

Background: Maternal haemorrhage is the major cause of maternal mortality and morbidity all over the world and more so in developing countries. PPH is the commonest cause of maternal mortality in India. Identification of risk factors, early diagnosis and timely intervention can help in reducing maternal mortality and morbidity significantly. The aim of this study is to analyse the risk factors and causes and study the maternal and perinatal outcomes of PPH in North Karnataka.
Methods: It is a retrospective study of 228 patients admitted with the diagnosis of PPH, at KIMS, Hubli during 2016.
Results: Average age of the patients was 27 years. Commonest risk factor was PIH, followed by APH and prolonged labour. The commonest cause of PPH was atonicity followed by retained placenta. Majority of the patients recovered successfully with medical management. While 29 patients required Para cervical clamp. Sixteen patients underwent hysterectomy. Commonest complication was anaemia. Total maternal deaths were four; all of them were due to DIC, mostly due to late referrals.
Conclusions: Maternal mortality and morbidity due to PPH can be reduced by encouraging regular anti natal visits, timely referral of high-risk patients, training of the health personals and timely intervention. Well stocked blood banks play an important role in management of PPH.

Keywords: Atonicity, Maternal mortality, PPH, Prolonged labour

INTRODUCTION

An estimated three Lakh deaths occur during pregnancy annually worldwide.[1] Among them postpartum haemorrhage (PPH) is the leading cause of death (around 23%). In a significantly higher number of pregnancies, PPH leads to anaemia, blood transfusion and psychological morbidity. The need for surgeries and antibiotics is an added burden. This makes it a global priority, to improve PPH detection and successful management. PPH is defined as the blood loss of more than 500ml during normal delivery and more than 1000ml in case of caesarean section or any amount of blood loss that can affect hemodynamic stability of the patient.[2,3] PPH accounts for nearly 25% maternal deaths in India. Maternal deaths due to PPH are significantly low (around 8%) in developed countries. i.e. Women giving birth in the developing countries are at more risk of dying during child birth than their counterparts in developed countries. This suggests that it is preventable to a certain extent.[4] In developing countries like India, women are unable to cope with a large amount of blood loss as they are undernourished and tend to have a lower antenatal haemoglobin value than their western counterparts. PPH can be atonic, traumatic, combined or because of blood coagulopathy. Uterine atony accounts for the majority of cases of severe PPH. There are many risk factors which lead to atonic PPH enumerated in

literature like PIH, prolonged labour, antepartum haemorrhage, macrosomia, multiparity, rapid evacuation of uterus and overly distended uterus (multiple gestation, polyhydramnios), drugs (Mgso4, tocolytics, aesthetic drugs). It is important to identify the risk factors for PPH common in our region, so that we can plan for reducing or treating those risk factors at an early stage. It is the first step in reducing the mortality and morbidity due to PPH.

METHODS

The present study was undertaken to analyse the risk factors, causes and maternal and perinatal outcomes in PPH cases. It is a retrospective, observational study conducted at KIMS, Hubli a tertiary care centre, catering to the people of surrounding 5 districts of North Karnataka and conducting 10,000 to 11,000 deliveries per year. PPH was diagnosed based on blood loss estimated by attending clinician, by visual estimation, counting the number of mops soaked, assessing the amount of blood collected in delivery bowl and hemodynamic instability (Pulse Rate above 100, fall in BP below 90/60 mm or drop in hematocrit by 10).

Inclusion criteria

- All cases of PPH admitted to KIMS, Hubli either delivered in present institute or referred from other hospitals after delivery, during the period from 1/1/2016 to 31/12/2016 were included in the study.

All case sheets were studied in detail, excel sheet prepared and data analysed.

RESULTS

There were 10390 deliveries from 1/1/2016 to 31/12/2016. Total number of PPH cases during this period was 228. The results have been tabulated in tables 1 to 6. The mean age was 27 years. 70% of the patients were from rural background. Most of the patients were booked elsewhere 112 (49.12%) or unbooked 18 (7.89%) (Table 1).

Table 1: Booked status of study population.

Booked status	No. of cases
Booked with us	98 (42.98%)
Booked elsewhere	112 (49.12%)
Unbooked	18 (7.89%)

Most of them were primigravida (Table 2).

Table 2: Gravid status of study population.

Gravid status	No. of cases
Primigravida	128 (53.14%)
Gravida 2	71 (31.14%)
Gravida 3 and above	29 (12.72%)

Table 3: Mode of delivery of study population.

Mode of delivery	No. of cases
NVD	149 (65.35%)
LSCS	79 (34.65%)

It was seen more in normal delivery than LSCS (Table 3).

Table 4: Risk factors causes of PPH.

Risk factor	No. of cases
PIH	102 (35.09%)
APH	50 (21.93%)
Prolonged labour	30 (13.16%)
Large baby	15 (6.58%)
Multi parity	11 (4.82%)
INFECTION	5 (2.19%)
Others / Combined	15 (6.58%)
Causes of PPH	
Atonicity	183 (80.26%)
Retained Placenta	17 (7.46%)
Genital tract Injuries	15 (6.58%)
Ruptured Uterus	11 (4.82%)
Uterine Inversion	2 (0.88%)

The commonest risk factor associated with PPH in present study was pregnancy induced hypertension 102 (35.09%) followed by APH 50 (21.93%). Uterine atony was the commonest cause of PPH 183 (80.26%) (Table 4).

Table 5: Type of management.

Type of management	No. of cases
Medical management	144 (63.15%)
Surgical management	55 (24.12%)
Compression sutures	30
Devascularisation	9
Hysterectomy	16
Para cervical clamps application	29 (12.72%)

It was noted that majority of the patients recovered successfully with medical management 144 (63.13%) (Table 5).

Table 6: Nature of complications.

Complication	No. of cases
Anaemia	95 (41.67%)
DIC	9 (3.95%)
Others	20 (8.77%)
No Complications	104 (45.61%)

Combined surgical and medical management was necessary in 55 (24.12%) of cases. Para cervical clamp was successful in 29 (12.72%) cases. Sixteen patients underwent hysterectomy as their general condition deteriorated despite medical and other intervention. Commonest complication was anaemia in 95 (41.67%)

cases. No complications were seen in 104 (45.61%) cases (Table 6). 194 (85.09%) cases had live births. 24 (10.52%) cases had NICU admissions. Total maternal deaths were four; all of them were due to DIC, mostly due to late referrals.

DISCUSSION

Maternal deaths are huge global health concern. The prevention of PPH in developing countries must be prioritised to prevent unnecessary deaths.[5] In present study most of the PPH cases had identifiable risk factors. Majority of the cases were booked elsewhere or referred cases. Early identification of risk factor and timely intervention is important.

Uterine atony is the primary direct cause of maternal morbidity.[6] Active management of third stage of labour reduces the risk of PPH.[7-10] WHO in 2007 has provided guidelines for the prevention of PPH based on the best available evidence regarding various interventions, which come under active management of third stage of labour.[11] Proper training of health personals and early diagnosis can reduce maternal morbidity and mortality.

Majority of the patients responded to medical management. Anaemia is shown to be the commonest cause of morbidity following PPH.[12,13] Replacement of lost blood is of paramount importance in the management of PPH cases.

Therefore, blood bank well stocked with blood and blood products that is functioning 24 hours is essential. Para cervical clamps were successfully used in 29 (12.72%) where medical management had failed. This is a simple technique and can be applied easily even at a primary health centre. It is advisable to apply Para cervical clamps while referring a case of PPH to higher centre as it would reduce the blood loss. When other methods fail, surgical intervention (uterine artery ligation, subtotal hysterectomy) is lifesaving. Decision for the surgical intervention should be taken early before the patient deteriorates to a point of no return.

CONCLUSION

Maternal mortality and morbidity due to PPH can be reduced by encouraging regular anti natal visits, timely referral of high-risk patients, training of the health personals and timely intervention. The attending clinicians must always be well prepared to deal with this condition. Well stocked blood banks play an important role.

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