

TO STUDY THE RISK FACTOR OF POST-PARTUM HEMORRHAGE IN TERTIARY CARE HOSPITAL IN NORTH WEST RAJASTHAN

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Abstract

Introduction: Present study was conducted to evaluate the risk factor of PPH.

Methodology: Study group comprises of 100 females attending obstetrics and gynecology department in S.P. Medical College, Bikaner. Delivered women ≥ 28 weeks seen during the first hour of PPH with visual blood loss >500 ml in normal vaginal delivery and > 1000 ml during LSCS were included in the study.

Results: Out of 100 cases, 17(17%) had multiparity followed by 7(7%) each had previous LSCS and prolonged labor, 5(5%) each had multiple pregnancy and macrosomia, 3(3%) each had placenta previa and previous 2 LSCS, 2(2%) each had postdatism and precipitate labor and 1(1%) had breech.

Conclusion: Multiparty was most common risk factor.

Keywords: Hemorrhage, Post-partum, Risk factor

Introduction

Postpartum hemorrhage (PPH) is defined as any blood loss >500 ml following vaginal delivery and >1000 ml after cesarean section. PPH is often classified as primary, occurring within 24 hours of birth and is more common form of PPH or secondary defined as bleeding in excess of normal lochia after 24 hours and up to six weeks postpartum¹. Maternal mortality ratio is the number of women who die from pregnancy related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births².

WHO estimates that of the 5,29,000 maternal deaths occurring every year, 1,36,000 or 25.7% of deaths takes place in India and two third of these maternal deaths occur after delivery, PPH being the most commonly reported complication³. PPH occur in 5% of all deliveries, majority of deaths occur within four hours of delivery indicating that it is a consequence of third stage of labour³. 99% of maternal deaths occur in low and middle income countries (LMICs)⁴.

Hysterectomy is the traditional treatment for cases of refractory PPH, when all other methods to arrest bleeding fails. Advances in interventional radiology and surgical techniques have provided safe and effective alternatives to hysterectomy in many cases. Primary causes of postpartum hemorrhage include uterine atony, genital tract lacerations, retained placenta, uterine inversion, abnormal placentation and coagulation disorders⁵. Risk factors include antepartum and intrapartum conditions as including a history of PPH,

multiple pregnancies, fetal macrosomia, primigravida, grand multiparity, older age, preterm births, genital tract injuries, non-use of oxytocin for PPH prophylaxis, labor induction, cesarean delivery and intrauterine fetal deaths⁶.

Material and Methodology

This study was conducted in Department of Obstetrics and Gynecology, S.P. Medical College and Associated Group of Hospitals, Bikaner during 1st feb 2020 to 31st jan 2021. This is a Prospective cohort study. The study group comprises of females attending obstetrics and gynecology department in S.P. Medical college, Bikaner. Hundred women met with inclusion criteria were selected as study group and hundred women with normal blood loss were taken as control group with same exclusion criteria.

Inclusion criteria:

1. Delivered women ≥ 28 weeks seen during the first hour of PPH with visual blood loss >500 ml in normal vaginal delivery and > 1000 ml during LSCS.

Exclusion criteria:

1. Women presenting after first hour of hemorrhage.
2. Women presenting with: Hypertensive disorders (Preeclampsia, eclampsia), Pre-existing organ dysfunction, Known heart disease, Severe anemia (Hb <7 gm), Thrombocytopenia, Coagulation disorders.

Statistical analysis

Data analysis was done by calculating Mean \pm SD for shock index in delivered women with and without PPH in the first hour after postpartum hemorrhage / delivery. Area Under Receiver Operating Characteristic Curve (AUROC) for SI, HR and MAP with 95% confidence interval was calculated for each outcome.

Observation

The present study was conducted in the Department of Obstetrics and Gynecology, S.P. Medical College, Bikaner. It was an observational and prospective study which included 200 pregnant women: 100 women with PPH and

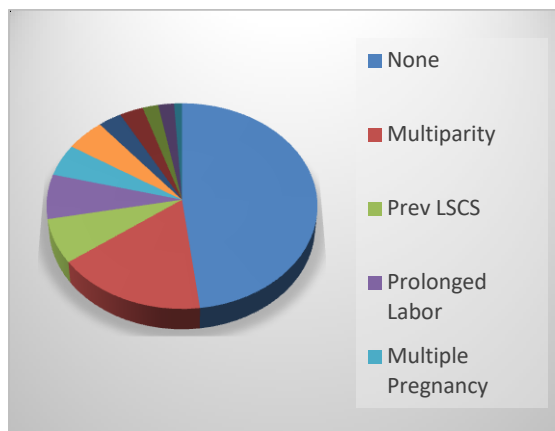
100 without PPH admitted in PBM hospital, Bikaner and were followed till discharge.

The maternal age of the study group: out of 100 cases, 56 (56%) were lying in age group 26-30 years, followed by 26 (26%) were lying in age group 21-25 years, 13(13%) in age group more than 30 years and 5% in age group \leq 20 years and the mean age was 26.39 ± 3.21 years. Out of 100 cases in control group, 51 (51%) were lying in age group 26-30 years followed by 39 (39%) were lying in age group 21-25 years, 5% each in age group \leq 20 years and in more than 30 years and the mean age was 25.43 ± 3.00 years. Out of 100 cases in study group, 25 (25%) are booked and 75 (75%) are unbooked and out of 100 cases in control group, 38 (38%) are booked and 62 (62%) are unbooked.

Table 1: Distribution of cases according to the gestational age

Gestational Age (in weeks)	Study group		Control group	
	No. of patients	%	No. of patients	%
< 37 weeks	26	26	12	12
\geq 37 weeks	74	74	88	88
Total	100	100	100	100
Mean \pm SD	37.62 \pm 1.77		38.33 \pm 1.42	
p-value	0.6719			

Above table shows the gestational age of cases: Out of 100 cases in study group, 74 (74%) had gestational age \geq 37 weeks followed by 26 (26%) had gestational age <37 weeks and the mean gestational age was 37.62 ± 1.77 weeks. Out of 100 cases in control group, 88 (88%) had gestational age \geq 37 weeks followed by 12 (12%) had gestational age <37 weeks and the mean gestational age was 38.33 ± 1.42 weeks. In graph 1 we found that Out of 100 cases, 17(17%) had multiparity followed by 7(7%) each had previous LSCS and prolonged labor, 5(5%) each had multiple pregnancy and macrosomia, 3(3%) each had placenta previa and previous 2 LSCS, 2(2%) each had postdatism and precipitate labor and 1(1%) had breech.



Graph 1: Distribution of cases according to risk factors of PPH in study group.

Discussion

The above study was conducted with the aim to evaluate the shock index and measure conventional vital signs in first hour after delivery in women with PPH and in normal parturient and to compare the maternal outcome on basis of shock index and conventional vital signs. It seems that SI is the most consistently useful outcome predictor and could aid in the earlier recognition

of haemodynamic compromise, prior to changes in HR or BP alone.

Our results are consistent with study conducted by Jaden R. Kohn et al⁷ where mean maternal age was 29.2 ± 6.5 years in cases compared to 27.9 ± 6.5 years in controls. There was no statistically significant difference in mean gestational age between both the groups. Similar results were found in the study conducted by Jaden R. Kohn et al⁷ where gestational

age at delivery for full term (≥ 37 wks) were 38(93%) in cases and 32(78%) in controls ; for preterm (< 37 wks) were 3(7%) in cases and 9(22%) in controls. Similarly, in study by **Fukami et al**⁸ mean gestational age at delivery was 39.3 ± 1.3 in cases whereas 38.7 ± 2.2 in controls. Our results are also comparable with the study conducted by **Atakan Tanacan et al**⁹ where mean gestational age was 37.16 ± 2.67 in study group compared to 38.55 ± 1.40 in control group.

In concordance with our results **Bas A L et al**¹⁰ reported that risk factors for PPH (such as prolonged labor, previous LSCS, multiple pregnancy, macrosomia, placenta previa, fibroids, etc) were more prevalent in the case group (101) than in the control group (48).

Conclusion

Multiparity was most common risk factor.

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