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POSTPARTUM HEMORRHAGE-A NIGHTMARE IT'S CAUSES, USG CORRELATION AND OUTCOME

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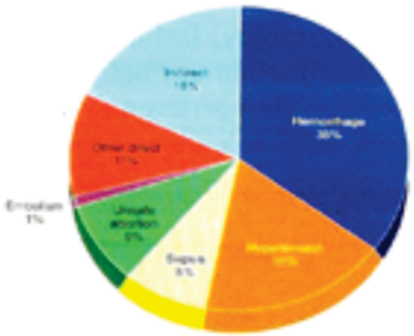
ABSTRACT The etiology of postpartum hemorrhage (PPH) is diverse and management depends on identifying the cause and tailoring treatment appropriately. The major causes of PPH are uterine atony, endometritis, retained placental tissue, placental abnormalities, i.e. placenta accreta, increta and percreta, subinvolution of the placental implantation site, arteriovenous malformation (AVM), lower genital tract trauma, uterine abnormalities, bleeding disorders, coagulopathies and use of anticoagulants. Use of imaging modalities (i.e. ultrasound scanning and color and pulsed Doppler) at an early stage in the search for the etiology of PPH helps to decrease morbidity and mortality.

KEYWORDS : Color Doppler ultrasound, Placenta accreta, Postpartum bleeding.

INTRODUCTION

Postpartum hemorrhage (PPH):

- Loss of more than 500 ml of blood from genital tract after a vaginal delivery Or
- 1,000 ml or more after a cesarean section (C-section).
- American College of Obstetricians and Gynecologists (ACOG) defines PPH:
- As blood loss, which decreases the hematocrit level by 10% between admission and the postpartum period, or the need for blood transfusion after delivery secondary to blood loss.



Causes of maternal mortality worldwide

Postpartum Hemorrhage:

- Blood Loss > 500 mL (vaginal)
- Blood loss > 100 mL (cesarean)
- The 4 "Ts"

1. Uterine atony (most common)
2. Trauma to birth canal
3. Retention of fetal or placental tissue
4. Coagulopathy or thrombin disorder

Risk factors for PPH:

- Prolonged and difficult labor
- Previous PPH
- Overdistended uterus (multiple gestation, hydramnios, large baby)
- Use of magnesium sulfate, Preeclampsia
- Induction or augmentation of labour
- Operative birth
- Rapid birth
- High parity

AIMS AND OBJECTIVES

- To investigate the incidence of postpartum hemorrhage in high risk patients.
- Role of ultrasonography in high risk patients of post partum hemorrhage.

MATERIALS AND METHODS

The Present study was conducted in the department of Obstetrics & Gynaecology of MLB Medical College, Jhansi, UP in patients with post partum hemorrhage.

It was case control study which is a comparative study conducted from January 2018 to September 2019 (21 months duration) on 250 subjects. The two groups i.e. group A (case) and group B (control) are compared.

The necessary radiologic investigations was done in the department of Radiodiagnosis of MLB Medical College, Jhansi.

Inclusion criteria:

- All antepartum patients who are at high risk for postpartum hemorrhage.
- All postpartum patients who undergone postpartum hemorrhage.

Exclusion criteria:

- Known uterine anomaly
- Patients with other associated disease
- Ruptured uterus
- Broad ligament haematoma
- Extra-genital bleeding

RESULTS

TABLE NO. -1 Distribution of antenatal cases (in both groups) according to parity (n=164)

Gravida	Group A		Group B		Total
	No.	%	No.	%	
Primi	25	21.7	16	32.6	41
2-4	57	49.6	07	14.2	64
≥4	33	33.0	26	53.6	59
Total	115	100	49	100	164

Maximum no. of patients were of muligravida in both groups.

Study was compared with other study of prachi et al who showed maximum no. of cases in multigravida 60.4%.

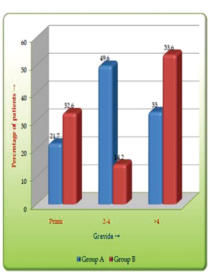
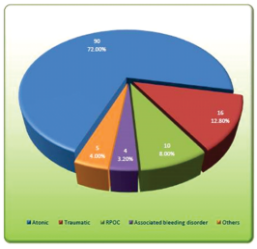


TABLE NO. -2 Causes of PPH according to no. of cases

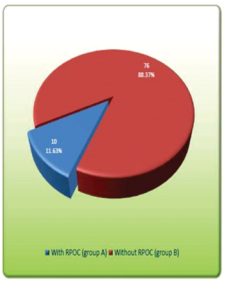
Type	No. of cases	Percentage
Atonic	90	72.0
Traumatic	16	12.8
RPOC	10	8.0
Associated bleeding disorder	4	3.2
Others (placena previa, adherent placenta)	5	4.0
Total	125	100



Maximum no. of patient of atonic PPH followed by traumatic, followed by RPOC followed by with APH/adherent placenta followed by associated bleeding disorder.

TABLE NO. – 3 Distribution of postnatal cases without RPOC and with RPOC

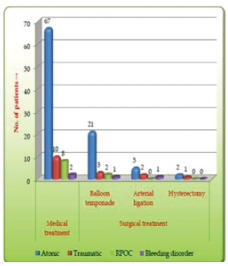
RPOC or without RPOC	No. of cases	%
With RPOC (group A)	10	11.6
Without RPOC (group B)	76	88.3
Total	86	100



11.6% cases were found with RPOC in postnatal period, while 88.3% cases were without RPOC

TABLE NO. – 4 Distribution of PPH cases recovered after medical and surgical intervention (n-125)

Types	Medical treatment	Surgical treatment		
		Balloon temponade	Arterial ligation	Hysterectomy
Atonic	67	21	5	2
Traumatic	10	3	2	1
RPOC	8	2	-	-
Bleeding disorder	2	1	1	-
Total	87	27	8	3
Percentage	69.6%	30.4% (38 cases)		



Maximum no. of cases were recovered after medical management (69.6%) while 30.4% cases of PPH need surgical intervention. Only 3 cases need hysterectomy.

TABLE NO. - 5 No. of PPH associated with vaginal/cesarean delivery (n=125)

Type of delivery	No. of cases	%
Vaginal	64	51.2
Cesarean	61	48.8
Total	125	100

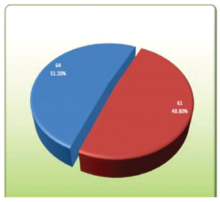
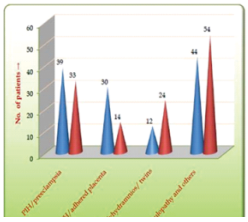


TABLE NO. - 6 Comparison in both groups according to high risk cases of PPH

High risk	Group A	%	Group B	%
PIH/preeclampsia	39	31.2%	33	26.1%
APH/adhered placenta	30	24%	14	11.2%
Polyhydramnios/ twins	12	9.6%	24	19.2%
Coagulopathy and others	44	35.2%	54	43.2%
Total	125		125	



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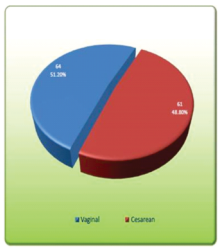

51.2% cases undergone PPH after vaginal delivery while 48.8% cases undergone PPH after cesarean section

DISCUSSION

The present study "Postpartum Hemorrhage-A Nightmare It's Causes, Usg Correlation and Outcome" was carried out to find out various modalities in USG among the patient who undergone post partum haemorrhage after delivery on caesarean section.

Present case control comparative between two groups (A and B) each 125 cases total on 250 cases included antenatal and postnatal both cases were selected from OPD and antenatal wards of department of Obstetric and Gynaecology of M.L.B. Medical College Jhansi in year January 2018 to September 2019.

Study was done under following parameters:

Compare two group (case and control) according to age wise distribution in group A (cases) who undergone PPH, was mostly found in between 25-29 age group (62.4%). While group B (control) who not undergone PPH were also found maximum in no. in same age group range. P value was 0.21982 that was significant as p value >0.05.

This study was compared with other study of Prachi et al[6] in her study maximum no. of cases were found between 30-34 yrs age group.

Both groups (A and B) were also compared according to referred parameter. Most of the cases in group A were found referred from other medical centres (76.8%). While same mostly control groups found referred from other centre 65.6%. p value was found significant p-0.050543. this study was compared with other study of Prachi et al[6].

Both groups (A and B) were also compared according to socioeconomic status. Most of the patients were belonging to lower socioeconomic status in both groups p value = 0.890047 result was significant at p>0.05.

Both groups (A and B) were compared according to antenatal and postnatal period. Maximum no. of patients were found in antenatal period among group A cases (92%) while most of the patients were found in postnatal among group B (control) 60.8%. P value was found 0.03461 result was found significant at p<0.05.

Both groups (A and B) were also compared according to gravid/parity. In group A (cases) maximum no. of patients were found in multigravida (gravid 2 to gravid 4) 49.6%, while most of the patients were of more than gravid 4 in group B (control) that is 53.6% p value was 0.00108 and result is significant at p<0.05. Study was compared with other study of Prachi et al[6] who showed maximum no. of cases in multigravida 60.4%.

Both groups (A and B) were compared according to gestational age, maximum no. of patients were of 32-36 weeks of gestation in group A (cases) 41.7% while mostly patients were between 28-32 weeks and >37weeks of gestation in group B (control) 42.8%, p value is 0.001145 and result is significant at p<0.05. Similar results were also found in study done by Prachi et al[6] who showed maximum no. of patient in >37weeks of gestation.

11.6% cases were found with RPOC in postnatal period, while 88.3% cases were having insignificant USG finding (without RPOC). Maximum no. of cases were recovered after medical management (69.6%) while 30.4% cases of PPH need surgical intervention. Only 3 cases need hysterectomy.

Maximum no. of patients were improved in atonic type PPH, while mortality were found in 6.4% cases. Total mortality was 14.4% atony type PPH patients similar results were found by Prachi et al[6] in their study.

Both groups (case and control) were compared according to high risk factors of PPH. Maximum no. of patient were with PIH/preeclampsia/eclampsia (31.2%) followed by patients with APH/adherent placenta (24%) in group A (cases). Same results were also in group B p value = 0.010029 and it is significant (p<0.05). Study was compared with Prachi et al[6]

where most of the patients who undergone PPH, have APH/adherent placenta in 51.4% cases.

USG findings in both groups are compared in study. Most of the patient have insignificant findings in USG (60.8%) followed by with placenta previa (12.8%) and adherent placenta (11.2%) and RPOC (8%).

In group B, maximum no. of patients also having insignificant USG findings without RPOC (76.8%) followed by placenta previa 6.4% and with RPOC 2 cases. P value is 0.010856 and result is significant at $p < 0.05$.

CONCLUSION

- In our study, USG finding in cases of PPH was found in different manner.
- 76% cases were found with insignificant finding in USG in our study so the most common cause of PPH is atony that was found in maximum cases (72% cases).
- Second most common cause of PPH found is traumatic that was found in 12.8% cases.
- RPOC was found in only 8% cases in USG findings.
- Least common cause of PPH was found was bleeding disorder i.e. 3.2% cases
- Another 12.8% cases was found with placenta previa while 11.2% cases were found with adherent placenta in USG finding which is also another cause of PPH among antenatal cases.
- Most of high risk factor for PPH were associated. Among all risk factors PIH/preeclampsia /eclampsia were mostly associated in 39.2% cases of PPH, followed by patients with APH/adherent placenta (24%) cases.

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