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Research Article

A prospective study of maternal outcome in antepartum haemorrhage in tertiary care center in northern India

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ABSTRACT

Background: Antepartum hemorrhage (APH) is a grave obstetrical emergency. It is leading cause of maternal death. Aim of the present study was to see maternal outcome patient with APH.

Methods: It was a prospective study carried out over a period of one year on 100 women admitted with the diagnosis of APH at Pt. B.D Sharma medical college, Rohtak, Haryana, India, a tertiary care center. 100 patients with antenatal hemorrhage were studied prospectively. History was taken regarding age, hemoglobin status, blood unit given, ultrasound done to note type of placenta, distance of placenta from Os noted, third stage and delayed complication recorded.

Results: 40.7% patients of placenta previa had immediate LSCS. 44.4% patients of placenta previa delayed LSCS was done after expectant management. 61.76% of patients of abruptio placentae had immediate vaginal delivery. 16% had atonic postpartum haemorrhage as third stage complication. One patient lynch sutures were applied. In 2 cases bilateral internal iliac artery ligation was done. In 3 cases bilateral uterine artery ligation done to control PPH. 71% patients of APH had postpartum anemia as delayed complication.

Conclusions: The single most important factor in reducing maternal mortality has been the increase use of caesarean delivery in cases of abruptio placentae. Anemia is the most common cause of maternal morbidity (80%) associated with APH in the present study.

Keywords: Antepartum hemorrhage, Maternal mortality

INTRODUCTION

Vaginal bleeding at any stage of pregnancy constitutes a significant concern to the patients and her doctor. Antepartum haemorrhage is still a grave obstetric emergency contributing to a significant amount of maternal morbidity and mortality in India.¹

Depending on the definition used, antepartum haemorrhage complicated 2-5% of all pregnancies.²⁻⁵ Placenta previa complicate 0.33 percent⁶ to 0.55 percent⁷ of all pregnancies and incidence of placental abruption incidence is approximately 0.5 to 1 percent.⁸

Though maternal mortality due to antepartum haemorrhage has significantly dropped in developed countries with the introduction of improved medical facilities, in developing countries, it most important cause of maternal mortality and morbidity.

We have done prospective study on patient with antepartum haemorrhage classified them in different group and see the maternal morbidity and mortality in each group.

Very few prospective study have been done on maternal mortality and morbidity, most are retrospective study.

METHODS

The present study was conducted in the Department of Obstetrics and Gynaecology, Pt. B.D. Sharma PGIMS, Rohtak in 2011-12. 100 patients who were admitted with complaints of bleeding per vaginum after 28 weeks of gestation were included in the study. They were divided according to their diagnosis, as placenta previa, abruptio placentae and unclassified haemorrhage.

During our study period (2011-12) there were 4100 deliveries. Number of cases with antepartum haemorrhage were noted and the incidence of antepartum haemorrhage was calculated. All patients were admitted to hospital irrespective of gestational age, till delivery. At the time of admission a detailed history regarding onset, character, amount, episodes of bleeding, any predisposing factor or associated conditions like history of trauma, hypertension, preeclampsia, jaundice, nephritis, bleeding diathesis, previous history of caesarean section and curettage were recorded.

A general physical examination was carried out, vitals were recorded. Degree of anemia and signs of pregnancy induced hypertension were noted.

An abdominal examination was done, height of uterus in relation of period of gestation, abdominal contour, tone of uterus, any area of tenderness, presentation and foetal heart sound was noted down.

Ultrasonography was done for estimation of gestational age, placental localization, amount of liquor, evidence of retroplacental clot, to rule out any gross congenital malformation in baby. They were divided according to their diagnosis, as placenta previa, abruptio placentae and unclassified haemorrhage.

Vulval inspection was done to assess the amount of blood loss. Per speculum examination was done after 48 hours

of stoppage of bleeding to look for any other local cause of bleeding. Per vaginal examination and termination of pregnancy were considered in cases of abruptio placentae. According to grade of placenta previa, time and mode of delivery was decided.

RESULTS

In the present study, out of 100 cases of antepartum haemorrhage 54 had placenta previa, 34 abruptio placenta and 12 patients were of unclassified haemorrhage. The incidence of placenta previa, abruptio placental and unclassified haemorrhage was 1.31%, 0.82% and 0.29% respectively. The overall incidence of antepartum haemorrhage was 2.43%.

Table 1: Incidence of Antepartum haemorrhage.

Type of antepartum haemorrhage	Number of cases	Percent age	Incidence (%)
Placenta previa	54	54	1.31
Abruptio placentae	34	34	0.82
Unclassified haemorrhage	12	12	0.29
Total	100	100	2.43

Table 2: Type of placenta previa and mode of delivery.

Type of placenta previa	Total number of cases		Vaginal delivery		Caesarean delivery	
	No.	%age	No.	%age	No.	%age
I	4	7.4	3	75	1	25
II	18	33.3	5	27.7	13	72.2
III	10	18.5	2	20	8	80
IV	22	40.7	0	0	22	100
Total	54		10		44	

Table 3: Incidence according to grades of abruptio placentae.

Grade	Total number of cases		Number with toxemia		Number with coagulation defect		Number with renal failure	
	No.	%age	No.	%age	No.	%age	No.	%age
I	10	29.5	2	20	-	-	-	-
II	14	41.0	5	35.7	-	-	-	-
III	10	29.5	3	30	3	30	2	20
Total	34		10	29.4	3	8.8	2	5.8

Table 4: Number of blood units used in antepartum haemorrhage cases.

Type of haemorrhage	None		One unit		Two units		More than two antepartum units	
	No.	%age	No.	%age	No.	%age	No.	%age
Placenta previa	7	13	8	14.8	24	44.4	15	27.7
Abruptio placentae	10	29.4	10	29.4	9	26.4	5	14.7
Unclassified haemorrhage	8	66.6	3	25	1	8.3	-	-
Total	25		21		34		20	

Table 5: Distance of placenta from cervical OS under USG in patients of placenta previa and mode of delivery.

	Number of cases	Caesarean delivery		Vaginal delivery	
		No.	%age	No.	%age
0-2 cm	40	38	95	2	5
>2 cm	14	5	35.7	9	64.2

Table 6: Analysis of mode of treatment given to the patients and the perinatal outcome in antepartum haemorrhage.

Mode of treatment	Placenta previa		Abruptio placentae		Unclassified haemorrhage	
	No.	%age	No.	%age	No.	%age
Conservative followed by LSCS	22	44.4	-	-	-	-
Conservative followed by vaginal delivery	6	11.1	-	-	-	-
Immediate LSCS	22	40.7	13	24	4	33.3
Immediate vaginal delivery	4	7.4	21	61.7	8	66.6
Total	54		34		12	

Table 7: Incidence of third stage complications.

Complications	No. of patients	Placenta previa		Abruptio placentae		Unclassified haemorrhage	
		No.	%age	No.	%age	No.	%age
Atonic postpartum haemorrhage	16	9	16.6	6	17.6	1	8.3
Coagulation failure	3	-	-	3	8.8	-	-
Haemorrhagic shock	6	3	5.5	3	8.8	-	-
Scar dehiscence	4	2	3.7	1	2.9	1	8.3
Couvellaire uterus	3	-	-	3	8.8	-	-
Vaginal haematoma	2	-	-	2	5.8	-	-
Retained placenta	3	2	3.7	1	2.9	1	8.3
Renal failure	2	-	-	2	5.8	-	-
Placenta Accreta	2	2	3.7	-	-	-	-
B/L uterine artery ligation	3	3	5.5	-	-	-	-
B/L internal illiac artery ligation	2	2	3.7	-	-	-	-
B-lynch sutures	1	1	1.8	-	-	-	-
Hysterectomy	2	2	3.7	-	-	-	-
Maternal mortality	2	-	-	2	5.8	-	-

All cases of type IV placenta previa delivered by caesarean section. Even in 80% of type III placenta previa caesarean section had to be done, while 75% cases of type I placenta previa delivered vaginally. In two cases of type III placenta previa after admission placental migration occurred and these patients delivered vaginally.

41% of patients having abruptio placentae were in grade II and in 10 patients abruptio placentae was seen in patients of toxemia of pregnancy. 3 patients of grade III abruptio placentae had coagulation defect and 2 patients of grade III abruptio placentae had acute renal failure

87% patients of placenta previa received blood transfusion. 27.7% patients of placenta previa required more than 2 units blood transfusion. 70.6% having abruptio placentae required blood transfusion.

95% cases of placenta previa whose placenta was less than 2 cm from os under USG delivered by LSCS.

40.7% patients of placenta previa had immediate LSCS. 44.4% patients of placenta previa were kept on conservative management and later LSCS was done after expectant management. 61.76% of patients of abruptio placentae had immediate vaginal delivery.

Out of 100 cases of antepartum haemorrhage, 16% had atonic postpartum haemorrhage. Out of these in two cases subtotal hysterectomy had to be done, to control postpartum haemorrhage. In one patient lynch sutures were applied. In 2 cases bilateral internal iliac artery ligation was done. In 3 cases bilateral uterine artery ligation done to control PPH. One patient died because of profuse haemorrhage. One patient of abruptio placenta admitted in haemorrhagic shock not revived.

Table 8: Incidence of delayed complications in antepartum haemorrhage cases.

Complications	Placenta previa		Abruptio placentae		Unclassified haemorrhage	
	No.	% age	No.	% age	No.	% age
Febrile morbidity	6	11.1	6	17.6	1	8.3
Puerperal sepsis	4	7.4	2	5.8	1	8.3
Stitch sepsis	3	5.5	3	8.8	1	8.3
Urinary tract infection	5	9.2	3	8.8	0	0
Postpartum anemia	36	66.6	30	88.2	5	41.6
Renal failure	-	-	1	2.9	-	-

Seventy one patients of antepartum haemorrhage had postpartum anemia. One patient had renal failure as delayed complication.

DISCUSSION

Antepartum haemorrhage is an important cause of maternal morbidity and mortality.

In the present study incidence of antepartum haemorrhage patient was 2.43%. Incidence of placenta previa, abruptio placentae and unclassified haemorrhage was 1.31% (n=54), 0.82% (n=34), 0.29% (n=12) respectively [Table-1]. This is similar to the study of Arora et al in which incidence of antepartum haemorrhage was 2.53%. Placenta previa - 1.17%, abruptio 0.63% and unclassified 0.52%.

In our study 29.4% of abruptio placentae were associated with toxemia of pregnancy and most of these patients had higher grade (Grade II and III) placental abruption [Table-3]. This is comparable with study of Abdella et al who showed 26.8% incidence of toxemia of pregnancy with abruptio placentae.⁹

Our study showed no case of coagulopathy or renal failure in grade I and II abruptio placentae while cases in Grade III, there were three cases of coagulation failure (33.33%) and 2 cases of renal failure (20%) [Table-3].

This is similar to the study of Menon et al who reported 24.8% incidence of coagulation failure in grade III abruptio placentae in 125 cases.¹⁰

In the present study 87.2% patients of placenta previa and 70.6% patients of abruptio placenta required blood transfusion [Table-4]. Brenner et al reported 36% incidence of blood transfusion in placenta previa¹¹ and William reported blood transfusion in 52.4% of 189 cases of abruptio placentae reported.¹² The higher incidence of blood transfusion in our study is due to high prevalence of anemia in our patients.

Incidence of caesarean section in our study declined from 95% to 35.7% if placental edge was greater than 2 cm away from os [Table-5]. Bhide et al also reported caesarean section in 90% case when placental edge internal os distance was 0.1 to 2 cm falling to 37% when measures over 2cm.¹³

In the present study out of 54 cases of placenta previa 9 (16.6%) had atonic postpartum haemorrhage, 3 (5.5%) had haemorrhagic shock, 2 (3.7%) had scar dehiscence and 2 had retained placenta (3.7%), 2 (3.7%) had placenta accreta. Emergency hysterectomy was done in 2 patients (3.7%), one for placenta accreta and another for atonic postpartum haemorrhage [Table-7]. Crane et al also reported similar complications placenta previa like postpartum haemorrhage (20%), haemorrhagic shock (7%), scar dehiscence 5% and placenta accreta 5% in

their study.¹⁴

Surgical management of postpartum haemorrhage was done in 5 cases. In 3 cases bilateral uterine artery ligation and another 2 cases required bilateral internal iliac artery ligation to control postpartum haemorrhage. In one patient additional B-lynch sutures were applied to control postpartum haemorrhage [Table-7]. The use of Bilateral uterine artery ligation, bilateral internal iliac artery ligation and B lynch sutures to control postpartum haemorrhage are also reported in various studies.¹⁵⁻¹⁷

Postpartum anemia is most common delayed complication in our study, Seventy one patients of antepartum haemorrhage had postpartum anemia [Table-8].

The incidence of maternal mortality was 2% in antepartum haemorrhage in our study which was consistent with study of Motwani et al who reported similar incidence.¹⁸ 6% maternal mortality was seen in abruptio placentae. It is similar to the published literature.¹⁹ No maternal mortality was observed in cases of placenta previa and unclassified haemorrhage. No mortality in patients of placenta previa in our series was due to early diagnosis by ultrasound, inpatient and expectant management, repeated blood transfusion and liberal use of caesarean sect.

CONCLUSIONS

Analyzing the incidence of antepartum haemorrhage, we observed that it is still a significant obstetric problem in our setup. Though maternal mortality has reduced with modern management of antepartum haemorrhage, perinatal mortality still remains high.

The single most important factor in reducing maternal mortality has been the increase use of caesarean delivery in cases of abruptio placentae. Vaginal delivery is appropriate in selected cases of placenta previa.

The present study reveals that educating the pregnant mother about the importance of antenatal care and easy accessibility to quality antenatal services would go a long way in bringing down the maternal morbidity and mortality associated with antepartum haemorrhage, ultrasonography to decide about the time of interventions and the more liberal use of caesarean section in well equipped hospitals with availability of blood transfusion services, will help to lower the maternal morbidity and mortality.

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