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Original Research Article

Feto-maternal outcome in cases of antepartum hemorrhage at a tertiary care hospital: a retrospective study

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ABSTRACT

Background: Antepartum haemorrhage (APH) is described as bleeding from or into the genital tract which occurs after 24 weeks of pregnancy and before prior to birth of infant. As per RCOG Guidelines in India, viable period is 28 weeks. APH is one of the leading causes of maternal mortality mostly in perinatal period worldwide and almost 3-5% of all the pregnancies are complicated because of it. Objectives of the study were to analyse incidence, risk factors of APH and to study the outcomes, the mode of delivery, perinatal mortality and also maternal mortality in APH.
Methods: A retrospective study conducted on patients who were admitted to TMMC and RC with complaints of bleeding per vagina after 28 weeks of pregnancy over a period of 1 year (December 2019-2020).
Results: A total of 100 patients with APH out of 1440 deliveries were noted which calculated the incidence to 6.9%. Out of all APH cases, the patients having placenta praevia made 65% of the total cases, abruptio placenta were 34% and undetermined cause was up to 1%. Out of majority of patients of APH, almost 62% were emergency cases. The incidence calculated for un-booked cases was far more. 15 patients having placenta praevia underwent curettage after having a spontaneous abortion. Among all patients of placenta previa, 9 patients had history of 1 previous c-section with incidence of 13% while 5 cases had history of 2 previous section with incidence of 7.6%. Placenta previa type 1 has an incidence of 12%, type 2-20%, type 3-38.4% and type 4-29.2%. The 76.9% patients of placenta praevia underwent caesarean section and 23% of patients underwent spontaneously delivery. APH can lead to a variable degree of maternal and perinatal mortality. Maternal mortality in study was 5% due to placenta previa and 7% due to abruption.
Conclusions: The incidence of APH could be reduced by taking some preventive measures like early registration, regular antenatal care, promptly detecting high risk cases, and early referral to higher centre. The incidence of maternal and fetal mortality due to abruption still remains high.

Keywords: Antepartum haemorrgahe, Placenta previa, Abruption placentae

INTRODUCTION

Antepartum haemorrhage (APH) has become one of the leading causes of maternal deaths, and even a prominent cause of maternal and neonatal morbidity and mortality. About 50% risk for maternal death and a single leading risk factor which accounts for half of all maternal deaths. APH is described as bleeding through and then into the genital tract which develops after 24 weeks of pregnancy and before the infant is delivered. In India, viable period is 28 weeks (ACOG). APH is a prominent cause of neonatal and maternal mortality globally, affecting 3-5% of pregnancies.[1]

APH is associated to the birth of up to one-fifth of very preterm. In 1609, Louis Buerger was the first to notice that bleeding during the third trimester was caused by the premature separation of the placenta. The placenta previa

was first described by Portal in 1683.[2]

Afterward it has caught the awareness of many people who want to learn more about the many etiological elements that contribute to APH. Placenta previa, placental abruption, and local causes are among the causes of APH. When a cause for APH cannot be identified, it is commonly referred to as "unexplained APH." Despite significant advancements in antenatal care and intrapartum surveillance, the incidence of APH has not decreased. There are no agreed-upon criteria for determining the severity of APH. According to legend, the amount of blood spilled is frequently underestimated. When calculating the blood loss, it's critical to look for indicators of clinical shock. Volume depletion is indicated by the appearance of foetal compromise or foetal death.[3] As a result, there is plenty of area to investigate and research the various factors that influence APH and its outcomes.

Aims and objective

Aim and objectives of the study were to analyze the incidence, risk factors of APH, to study the maternal and perinatal outcome mode of delivery maternal and perinatal mortality in APH.

METHODS

It is a hospital based retrospective study. The study was done for a period 1 year December 2019 to December 2020 after being approved by the institute's ethics committee. The research was being

conducted at Teer thanker Mahaveer medical college and Research centre in Moradabad, in the department of obstetrics and gynaecology. All IPD patient came to TMMC and RC complains of bleeding per vagina beyond 28 weeks. of gestation are included in this study. A thorough medical history was gathered, as well as a clinical evaluation and necessary laboratory testing. All patients had an obstetrical scan. They were classified as expectant or active management based on foetal parameters, maternal hemodynamic status, and examination at the time of diagnosis. All patients with APH received prompt resuscitation and blood was available for transfusion right away. Statistical analysis was performed, and the results were provided in tabular form.

RESULTS

A total hundred patient were taken from which the incidence is 6.9%. Out of all APH cases 65% were placenta previa 34% abruption and 1% are undetermined. Majority patient were emergency cases 62% and were un-booked. Maximum cases of APH were between age 20-29 years as seen in. Mean gestational age for placenta previa is 30-33 week of gestation and for abruptio placentae mean gestation age is 33-36 week of gestation.

Table 1: Demographic distribution.

APH groups	No. of cases		%
Placenta previa	65		65
Abruptio placentae	34		34
Unexplained	1		1
Total	100		100
Age (years)	**Frequency**		
<20	15		15
20-29	72		72
>29	13		13
Booking status	**Placenta previa**	**Abruptio placentae**	**Unexplained**
Booked	33	5	0
Unbooked	32	29	1
Gestational age (weeks)	**Placenta previa (%)**	**Abruptio placentae**	**Unexplained**
28-30	23 (35.3)	4 (11.7)	0
30-33	30 (46.1)	12 (35.2)	1 (1)
33-36	8 (12.3)	14 (41.1)	0
>37	4 (6.1)	4 (11.7)	0

Total 25 cases of placenta praevia underwent curettage following spontaneous miscarriage, with an incidence of 13% and 7.6% respectively in cases of placenta previa. Ten cases of placenta previa had one previous caesarean surgery and five cases had two previous caesarean sections. The incidence of placenta praevia type 1 is 12%, type 2 is 20%, type 3 is 38.4% and type 4 is 29.2%. the high-risk factor for abruptio placentae is severe hypertension seen in 17.6% cases. Majority of patient came with the complaints of bleeding per vagina from the

which 65 subjects were diagnosed as placenta previa and 30 subjects were diagnosed as abruptio placentae. The

majority of placenta praevia cases were delivered via caesarean section76.9% and 23% delivered vaginally.

Table 2: According placenta previa risk factors.

Risk factors	Number
Previous placenta previa	6
Previous caesarean sections	15
Multiparity	43
Deficient endometrium	25

Table 3: Represent the frequency of placenta previa according to its types.

Type	Number
I (Low-lying)	8
II (Marginal)	13
III (Partial)	25
IV (Central)	19

Table 4: Distribution of cases according to hypertension.

Type	Mild (%)	Moderate (%)	Severe (%)
Placenta previa	4 (6.1)	1 (1.5)	0
Abruptio placentae	6 (17.6)	2 (5.8)	16 (47.05)
Unexplained	0	0	0

Table 5: Distribution of cases according to clinical presentation.

Clinical presentation	Placenta previa	Abruptio placentae	Unexplained
Abdominal pain	1	25	0
Bleeding	63	30	1
Bleeding + abdominal pain	1	22	0
PROM	17	5	0

Table 6: Distribution of cases according to mode of delivery.

Mode of delivery	Vaginal (%)	Caesarean (%)
Placenta previa	15 (23)	50 (76.9)
Abruptio placentae	22 (64.7)	13 (38.2)
Unexplained	1 (100)	0

The perinatal outcomes in cases of placenta previa 4 fetus were IUD and 5 neonates were died within 7 days. In cases of abruption placentae 15 were IUD, 1 was still born and 2 neonates died within 7 days. Maximum patients about 45% cases presented with profuse bleeding leading to shock, ARF which further complicated with DIC. APH can lead to a variable degree of maternal and perinatal mortality. In present study 5% of placenta previa and 7% due to abruption seen for maternal mortality.

Table 7: Distribution of cases according to perinatal outcomes.

Outcome	Placenta previa (%)	Abruptio placentae (%)	Unexplained (%)
IUD	4 (6.1)	15 (44.1)	0
Still born	0	1 (2.9)	0
Death within 7 days	5 (7.6)	2 (5.8)	0

Table 8: Distribution of cases according to maternal morbidity.

Maternal morbidity	Number of patients
Shock	45
PPH	22
DIC	13
HELLP with ARF	7
Anemia	53

Table 9: Distribution of cases according to maternal mortality.

Type	Incidence
Placenta previa	5
Abruptio placentae	7
Unexplained	0

DISCUSSION

In present study there were 100 patients out of deliveries indicating 6.9% incidence, somewhat higher than Roberts et al, Arora et al and Bhide et al.[4-6] Placenta previa was responsible for 65 percent of antepartum hemorrhage instances, abruptio placenta was responsible for 34%, and indeterminate was responsible for 1%. The vast majority of cases emergency patients were for 62% of APH, and the number of unbooked cases was higher and comparable to Arora at el.[5] Curettage was performed in 25 cases of placenta praevia after spontaneous abortion, which matched with Barrett et al findings.[7] In instances with placenta previa, 10 had had one previous caesarean section and 5 had had two previous c- sections, with an incidence of 13% and 7.6%, respectively, similar to Clark et al.[8]

Placenta praevia type 1 affects 12% of women, type 2 affects 20%, type 3 affects 38.4%, and type 4 affects 29.2% of women, and compared to Bahar and Abusham et al study.[9] APH is linked to problems for both the mother and the foetus. When haemorrhage is caused by a placental

cause, the bleeding is heavy, and the bleeding starts early in the pregnancy, complications are more likely to arise.[11]

Women with unexplained APH had a higher risk of oligohydramnios (OR 6.2), premature rupture of membranes (OR 3.4), foetal growth restriction (OR 5.6), preterm labour, and caesarean delivery, according to an epidemiological study (OR 4.0). The authors concluded that pregnant women who had had APH should have their foetal monitoring intensified throughout the pregnancy.[12]

In the absence of maternal or foetal impairment, no research was found to support recommendations regarding the best time to deliver women with APH. There is no evidence to support elective early delivery of the fetus in women who present with APH before 37 weeks of pregnancy, where there is no maternal or foetal impairment and bleeding has stopped. When women experience active vaginal bleeding, the national institute for health and clinical excellence recommends continuous electronic foetal heart rate monitoring.[13]

In our analysis, 76.9% of placenta previa cases were delivered by caesarean section and 23% were born spontaneously, which is similar to the NWMH series. 6 In our study, we found a significant increase in the caesarean rate since the majority of cases of APH were caused by placenta previa. APH caused by placental abruption or placenta previa is linked to a higher risk of postpartum hemorrhage.[14,15]

The majority of the patients had vaginal bleeding (94%), which was similar to research by Taylor et al.[16] Premature rupture of membrane (22%) was also shown to be related with APH in the study. The risk of PPH and the requirement for blood transfusion is lower when the third stage of labour is treated aggressively rather than gradually.[17]

There is a scarcity of data on blood product transfusion in antepartum hemorrhage. A high fresh frozen plasma (FFP) to packed red cell (PRC) transfusion ratio of 1:1 to 1:1.4 has been described in the management of military trauma, with a decrease in coagulopathy and better survival.[18,19] In obstetric hemorrhage, an observational population-based study compared whole blood transfusion vs PRCs.[20] Acute tubular necrosis was more common in women who received PRCs than in women who received whole blood, and pulmonary oedema was more common in women who received whole blood. Before whole blood transfusion in obstetric hemorrhage may be recommended, prospective randomized trials are required.[21]

Unfractionated heparin and/or graduated compression stockings may be more appropriate for women at high risk of additional hemorrhage or women with ongoing hemorrhage in whom thromboprophylaxis is necessary.[22]

As a result, APH can cause a wide range of maternal and perinatal mortality. In our study, maternal mortality owing to placenta previa is 5%, while maternal mortality due to abruption is 7%, which is similar to study Sarwar et al.[23]As a result, this study demonstrates that risk management in obstetric practice strives to improve patient safety and quality of care. Maternal and fetal mortality due to abruption is still high, however it can be reduced with early detection and care.

CONCLUSION

Early admission, frequent antenatal care, early detection of high-risk cases, and early referral to a higher centre can all help to reduce APH, which is a major cause of perinatal morbidity and mortality. The perinatal death rate associated with abruption remains high. With effective new born intensive care facilities, maternal and fetal morbidity can be minimised.

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