



Research Article

A Study of Antepartum Hemorrhage and Its Maternal and Perinatal Outcome at Tertiary Care Hospital in Western Rajasthan

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Abstract

Background: Antepartum hemorrhage is an obstetric emergency contributing to a significant amount of perinatal & maternal morbidity and mortality. The main causes of APH are placenta previa, abruptio placentae, indeterminate cause or local causes of genital tract. APH complications can be fetal as well as maternal. The maternal complications are malpresentation, premature labor, postpartum hemorrhage, sepsis, shock and retained placenta. Various fetal complications are prematurity, low birth weight, intrauterine death, congenital malformation and birth asphyxia.

Objective: To study maternal and perinatal outcome in patients of APH at a tertiary care referral hospital in Western Rajasthan.

Material and Methods: This was a retrospective observational study conducted over a period of one year. A total of 112 cases of APH were studied. The diagnosis of all cases was made on the basis of history, clinical examination and ultrasonography. All the cases of hemorrhage were grouped as: Placenta Previa, Abruptio Placenta or other causes.

Results: Out of 8623 deliveries, 112 had APH, incidence being 1.29%. Maximum number of cases about 86(76.8%) were of placenta previa followed by abruptio placentae in 23 cases (20.5%) and the least was unclassified hemorrhage 3(2.7%). The incidence of APH was highest 43.8% in the age group 25-29 years. Anemia was the most common complication (51.7%) in APH patients. Neonatal jaundice was the most common complication (26.8%) amongst the neonate of APH.

Conclusion: High incidences of APH are associated with iron deficiency anemia and lack of awareness in India. Maternal and perinatal morbidity and mortality could be prevented by early regular antenatal care, improved nutritional status, better antenatal services, increased awareness, and timely caesarean section.

Keywords: Abruptio Placenta, Anemia, Antepartum hemorrhage, Placenta Previa.

Introduction

Antepartum hemorrhage (APH) is an obstetric emergency contributing to a significant amount of perinatal & maternal morbidity and mortality. It is defined as bleeding from the vagina after 24 weeks of gestation. It occurs in 2-5% of pregnancies and is an important cause of fetal and maternal death. Thirty percent of maternal deaths

are caused by antepartum hemorrhage of which 50% are associated with avoidable factors¹. In India, the prevalence of antepartum hemorrhage is reported to be 18.8%².

The main causes of APH are placenta previa, abruptio placentae, indeterminate cause or local causes of genital tract. Placenta previa exists when the placenta is implanted wholly or in part into the

lower segment of the uterus. An abruption placenta is the condition whenever bleeding occurs due to premature separation of a normally sited placenta. Other causes are cervical polyp, cervical carcinoma local lesions of vagina and cervix. Systemic diseases like leukemia & bleeding disorders are rare causes of APH. Placenta previa and Abruptio placentae account for almost half cases of APH³.

However, during APH, complications can be fetal as well as maternal. The maternal complications are malpresentation, premature labor, postpartum hemorrhage (PPH), sepsis, shock and retained placenta⁴. Various fetal complications are prematurity, low birth weight, intrauterine death, congenital malformation and birth asphyxia⁵.

In developed countries, maternal mortality due to antepartum hemorrhage has been reduced significantly due to better obstetrical facility and care. But in developing countries like India maternal and perinatal mortality is still very high due to associated problems like anemia, difficulties in transport in cases of emergency and restricted medical facilities⁶. So we planned to study maternal and perinatal outcome in patients of APH at a tertiary care referral hospital in Western Rajasthan.

Material and Methods

Study Population: This was a retrospective observational study conducted in Dr S N Medical College, Jodhpur, Rajasthan over a period of one year from June 2017 to May 2018. There were a total of 8623 deliveries during this period and 112 women had APH. Data were collected from the records present in Labor ward and Medical record section.

All patients with bleeding per vaginum after 28 weeks of gestation but before birth of the fetus were included in the study. Cases with bleeding before 28 weeks and after delivery of the baby were excluded.

Methodology

The diagnosis of all cases was made on the basis of history, clinical examination and

ultrasonography. All the cases of hemorrhage were grouped as – Placenta Previa (PP), Abruptio Placenta (AP) or other causes. Statistical analysis was done by using SPSS software version 21. Institutional ethical committee clearance had been taken for this study.

Results

Out of 8623 deliveries, 112 had APH, incidence being 1.29%. Maximum number of cases about 86 (76.8%) were of placenta previa followed by abruptio placentae in 23 cases (20.5%) and the least was unclassified hemorrhage 3(2.7%).

The incidence of APH was highest 43.8% in the age group 25-29 years followed by 24.1% in the age group of 30-34 years and the least was 10.71% in the age group more than 35 years. Majority of the patients 73(64.88%) were unbooked while 39(35.12%) were booked. APH is more common in multipara 83.92% than in nullipara 16.07%.

Maximum patients of APH delivered by caesarean section (77.7%) as compared to vaginal delivery (22.3%). 78 patients of placenta previa group underwent caesarean section whereas 9 patients from abruptio placentae underwent caesarean section.

Anemia was the most common complication (51.7%) in APH patients followed by postpartum hemorrhage (21.4%). One patient had renal failure in placenta previa. 6 patients of placenta previa had sepsis. 3 patients of placenta previa had scar dehiscence. 3 patient of abruptio placenta and 5 patient of placenta previa underwent caesarean hysterectomy.

Neonatal jaundice was the most common complication (26.8%) amongst the neonate of APH followed by prematurity (22.3%), birth asphyxia (2.67%) and hyaline membrane disease were (0.9%). Out of 112 cases 69(61.7%) babies were low birth weight. Among that 53(47.3%) were placenta previa and 15(13.39%) were abruptio placentae. There were 18 still births and early neonatal death in the case of placenta previa.

Table 1 Distribution of patients according to age group

Type of APH	20-24 years	25-29 years	30-34 years	>35 years	Total
Placenta previa	20	37	19	10	86
Abruptio placentae	04	10	07	02	23
Unclassified Hemorrhage	0	02	01	0	03
Total	24	49	27	12	112

Table 2 Distribution of patients according to cause of APH

Type of APH	Frequency	Percentage
Placenta Previa	86	76.8
Abruptio placentae	23	20.5
Unclassified Hemorrhage	03	2.7
Total	112	100

Table 3 Mode of delivery

Type of APH	Caesarian section	Vaginal delivery	Total
Placenta Previa	78 (90.7%)	08 (9.3)	86
Abruptio placentae	09 (39.1)	14 (60.9)	23
Unclassified Hemorrhage	0 (0%)	03 (100%)	03
Total	87 (77.7%)	25 (22.3%)	112

Table 4 Distribution of patients according to parity

Type of APH	P 0 %	P 1 %	P 2 %	P 3 %	P 4 %	P 5 %	Total
Placenta Previa	12	32	30	9	1	2	86
Abruptio placentae	6	8	5	3	0	1	23
Unclassified Hemorrhage	0	2	0	0	1	0	03
Total	18	42	35	12	02	03	112

Table 5 Maternal outcome

Maternal outcome	Placenta Previa	Abruptio Placentae	Unclassified Hemorrhage	Total
Uneventful	5	2	2	09
Anemia	45	13	0	58
Caesarian section hysterectomy	05	3	0	08
PPH	19	4	1	24
Renal failure	01	0	0	01
Scar dehiscence	03	1	0	04
Sepsis	06	0	0	06
UTI	2	0	0	02
Total	86	23	03	112

Table 6 Perinatal outcome

Morbidity	Placenta Previa	Abruptio placentae	Unclassified Hemorrhage	Total
Normal	33	18	02	53
Birth asphyxia	3	0	0	03
Hyaline membrane disease	1	0	0	01
Neonatal jaundice	30	0	0	30
Prematurity	19	05	1	25
Total	86	23	03	112
Fetal weight				
Low birth weight	53	15	1	69
Normal	33	08	2	43
Total	86	23	03	112
Fetal Mortality				
Normal	60	20	3	83
Birth Asphyxia	05	01	0	06
Still birth and early neonatal death	18	02	0	20
RDS	03	0	0	03
Total	86	23	03	112

Discussion

Obstetric hemorrhage remains one of the major causes of maternal death in developing countries and is the cause of up to 50% of the estimated 500 000 maternal deaths that occur globally each year⁷. Obstetric hemorrhage encompasses both antepartum and postpartum bleeding. (R COG) Antepartum hemorrhage is an important cause of perinatal mortality and maternal morbidity in pregnant women with placenta previa in the world. It is found that there is a strong relationship between APH and later development of intrapartum bleeding necessitating cesarean delivery⁸.

In this study the incidence of APH was found to be 1.29% which is concordant with the study conducted by P Rajini et al⁹ (1.2%) while there are studies who reported higher percentage of APH i.e Sunil K et al¹⁰ (2.9%), Singhal et al⁶ (3.01%) and Sheikh et al¹¹ (5.4%) in their studies. However Ratnam SS et al¹² reported 0.6% in their study.

In this study majority of the cases of APH were due to placenta previa (76.8%) followed by abruption (20.5%) which is similar to studies done by Maurya et al¹³, Adekanle et al¹⁴.

In this study the incidence of APH was highest 43.8% in the age group 25 - 29 years followed by 24.1% in the age group of 30-34 years which is concordant with the study conducted by Adekanle et al¹⁴ in which 40% APH patients were between 25-29 years while Priyanka et al¹⁵ revealed that 61% of APH cases were aged 26 -30 years. In another study conducted by Das et al.¹⁶, Abbasi et al¹⁷. The mean age of patients presented with APH was 30 years.

In this study 64.8% cases of APH were unbooked and reported in emergency with bleeding per vaginum or labour pains. This was similar to previous studies done by Maurya et al¹³ which reports 62% unbooked cases and same result was seen with study by Pandey et al¹⁸, Adekanle et al¹⁴.

In this study the incidence of caesarean section in present study is 77.7%. The incidence of caesarean section in placenta previa group is

90.7% similar to the study done by Khouri JA & Sultan MG¹⁹. The incidence of caesarean in the abruption placentae group in this study is 39.1% while that reported by Hurd et al²⁰ from the UK and the study reported by Rochelle et al²¹ at Washington State were 50% & 37.9% respectively.

In this study we found that incidence of APH is more in multigravida (84%) than in primigravida (16%). Other studies such as Gillium et al.²² and Clark et al.²³ have also reported high incidence of APH in multipara which was about 5-8 times higher than primigravida thus confirming the role of endometrial damage caused by repeated childbirth, a risk factor for uteroplacental bleeding in pregnancy.

In this study anemia was the most common complication (51.7%) in APH patients followed by postpartum hemorrhage (21.4%) which is similar to the earlier studies from Assam²⁴. Maternal anemia is significantly associated with age, religion, education and socioeconomic status²⁵.

In this study neonatal jaundice was the most common complication (26.8%) amongst the neonate of APH followed by prematurity (22.3%). In this study out of 112(61.6%) babies was low birth weight. Among that 53(47.3%) were placenta previa and 15(13.39%) were abruption placentae which is similar to studies conducted by Khosla et al²⁶ while other authors such as Arora et al²⁷ and Sneha et al²⁸ reported 77% and 40% low birth weight respectively. Babies having low birth weight are associated with maximum perinatal death. Perinatal mortality was 35% in the present study while Arora et al.²⁷ and Khosla et al.²⁶ reported very higher perinatal mortality 61.5% and 53.5% respectively. However Robbins et al. [22] reported 18.44%. This difference may be due to advanced neonatal intensive care facility in the present institute.

Conclusion

Our findings suggest that high incidences of APH are associated with iron deficiency anemia and

lack of awareness in India. We feel that maternal and perinatal morbidity and mortality could be prevented by early registration, regular antenatal care, improved nutritional status, better antenatal services, increased awareness, improved transportation and timely caesarean section can help to address the complications associated with APH. Good facilities for caesarean section, availability of blood banks and good NICU set up and multidisciplinary approach can improve maternal and perinatal outcome of APH.

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