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Original Research Article

Antepartum hemorrhage and its fetomaternal outcome: a retrospective study

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ABSTRACT

Background: Antepartum hemorrhage (APH) is defined as any bleeding from or into the genital tract after the period of viability and before the delivery of the baby. Aim of the research was to study the fetomaternal outcome in patients with APH.
Methods: The present study was a retrospective observational study undertaken in Obstetrics and Gynaecology department of Dhiraj General Hospital, during a period of 1.5 years from November 2018 to May 2020 in 84 cases of antepartum hemorrhage. Only patients with APH >28 weeks gestational age and willing to participate in study were included. Open STAT statistical software has been used to analyse the data in this study.
Results: The incidence of antepartum hemorrhage was 2.86%. Maximum patients of APH lie between the age group of 26-34 years. In abruptio placenta (AP) 65% and in placenta previa (PP) 77.2% of the patients were multiparous. APH presents mostly between 34-36 weeks. Around 90% patients of APH required blood transfusion. APH overall shows increased rate of cesarean sections upto 62%. Around 9.5% patients went into shock, 4.7% had disseminated intravascular coagulation (DIC), 3.5% postpartum hemorrhage (PPH) and 8.3% had wound gap and peurperial pyrexia. 23.8% babies had asphyxia of which 60% were contributed to PP and 40% were in AP group. Respiratory distress syndrome was in 7.1% babies of which both groups equally contributed. Septicemia was seen in 13% and jaundice in 29.8%.
Conclusions: Higher rates of neonatal intensive care unit (NICU) admission and stay were seen with these complications. This study showed 20.2% perinatal deaths as outcome of APH and 14.2% still births.

Keywords: Antepartum hemorrhage, Fetomaternal outcome, Placenta previa, Abruptio placenta

INTRODUCTION

Antepartum haemorrhage (APH) is defined as bleeding from or into the genital tract after 28 weeks of gestation and before delivery of the baby. It is an obstetric emergency which may lead to maternal and perinatal morbidity and mortality. APH complicates about 2-5% of all the pregnancies.[1]

APH is mainly due to placenta praevia (PP) and abruption placentae (AP). Other causes include vasa praevia, succenturiate placenta, and placental infections.

PP refers to the condition when the placenta is partially or completely implanted over the lower uterine segment, either over or near the internal os.

AP is the condition where bleeding occurs due to partial or complete premature separation of a normally situated placenta before delivery.

Other causes of APH not related to pregnancy are cervical polyp, carcinoma cervix, varicose veins, local trauma, and cervical erosion. APH is associated with multifetal

gestation, malpresentation, preterm labor, pre-eclampsia, eclampsia, hydramnios and chorioamnionitis.

Maternal complications due to APH are: postpartum hemorrhage (PPH), shock, sepsis and disseminated intravascular coagulation (DIC).

Fetal complications associated with APH are: preterm birth, low birth weight, intrauterine death, congenital malformation and birth asphyxia.[2]

In developing countries illiteracy, unawareness of facilities available, widespread preexisting anemia, restricted transport facilities, and restricted medical facilities are largely responsible for high maternal mortality rate (MMR).

Perinatal mortality is less than 10 per 1000 total births in developed countries while it is much higher in India 60/1000 total births.[3]

A significant reduction in APH associated maternal and perinatal morbidity and mortality can be done with aggressive management.

Decreased perinatal and maternal morbidity and mortality is observed with good antenatal care, use of ultrasonography for placental localization and early and timely diagnosis of abruptio placenta, good transport facility, better obstetrical and anesthetic facilities, improved blood bank facilities and advanced neonatal care facilities.

This study was done to evaluate the fetomaternal outcome of antepartum hemorrhage.

METHODS

The present study is a retrospective observational study undertaken during a period of 1.5 years from November 2018 to May 2020 in Dhiraj General Hospital, Vadodara.

Patients of APH who fulfilled the inclusion and exclusion criteria were included as cases in the study. Total 84 cases were taken which included PP in 44 patients and AP in 40 patients.

Open STAT statistical software has been used to analyze the data in this study.

Inclusion criteria

Singleton pregnancy.

APH with gestational age between 28-42 weeks.

Exclusion criteria

Multiple pregnancy.

Local cause of bleeding per vaginum.

All cases of bleeding per vagina with gestational age <28 weeks.

Patient suffering from any other bleeding disorder.

On admission, a complete history was taken including past history regarding antenatal care taken, previous spotting per vaginum and associated pre eclampsia. Her gestational age was calculated using her last menstrual period and using first scan.

General physical examination was done to assess both maternal and fetal condition. Gentle abdominal examination was done. The duration and amount of bleeding, its association with pain was noted. Amount of blood loss outside hospital was estimated by asking the patient and attender and examining the patient. Visible blood loss was noted based on pads soaked.

Blood investigations included hemoglobin and hematocrit estimation, complete blood count and for grouping and cross matching, bleeding time, and clotting time on urgent basis.

The initial management included: intravenous fluids and blood products depending on the patients general condition. Ultrasonography (USG) was done to establish cause and severity of APH and fetal condition estimation.

The subsequent management was divided into expectant management and definitive management based on gestational age, fetal and maternal status and extent of haemmorrhage.

The fetomaternal outcome in APH was then analyzed.

Statistical analysis

Open STAT statistical software has been used to analyze the data in this study.

RESULTS

The present study was carried out on 84 patients who presented with APH in emergency, over a period of 1.5 years from November 2019 to April 2020.

Table 1: Distribution according to maternal age.

Maternal age (years)	Placenta previa (n=44) (%)	Abruption (n=40) (%)	Total cases (n=84) (%)
<18	1 (2.3)	1 (2.5)	2 (2.4)
18-25	14 (31.7)	10 (25)	24 (28.5)
26-34	25 (56.9)	27 (67.5)	52 (62)
≥35	4 (9.1)	2 (5)	6 (7.1)

Maximum patients of APH lie between the age group of 26-34 years in both PP 25(56%) and in AP 27(67.5%).

In AP 65% and in PP 77.2% of the patients were multiparous.

Table 2: Distribution according to the parity.

Parity	Placenta previa (n=44)	Abruptio placenta (n=40)	Total (n=84)
Primigravida	10 (22.8)	14 (35)	24 (28.5)
2nd to 4th	32 (72.6)	23 (57.5)	55 (65.5)
≥5th	2 (4.6)	3 (7.5)	5 (6)

Majority of cases of PP present between 34-36 weeks while that of AP present in 37 -39 weeks. Overall APH presents mostly between 34-36 weeks.

Table 3: Distribution according to gestational age.

Gestational age (weeks)	Placenta previa (n=44)	Abruptio placenta (n=40)	Total (n=84)
28-32	8 (18.2)	4 (10)	12 (14.3)
31-33	14 (31.2)	6 (15)	20 (23.7)
34-36	15 (34.6)	6 (15)	21 (25)
37-39	3 (6.8)	14 (35)	17 (20.2)
>39	4 (9.2)	10 (25)	14 (16.8)

88% of the patients were anaemic with a majority of 50% having hemoglobin levels between 8.1-10 gm%.

Table 4: Distribution according to hemoglobin estimation of the patients.

Haemoglobin (gm%)	Placenta previa	Abruptio placenta	Total (%)
<6	4	2	6 (7.1)
6.1-8	12	14	26 (30.9)
8.1-10	22	20	42 (50)
>10.1	6	4	10 (12)

With 88% patients being anemic at the time of admission around 90% patients of APH required blood transfusion.

Table 5: APH and blood transfusion.

No. of blood transfusion required	Placenta previa (n=44)	Abruptio placenta (n=40)	Total (n=84)
0	6 (13.6)	3 (7.5)	9 (10.7)
1	16 (36.4)	10 (25)	26 (30.9)
2	15 (34.1)	18 (45)	33 (39.4)
3	4 (9.1)	4 (10)	8 (9.5)
4	2 (4.5)	3 (7.5)	5 (5.9)
>5	1 (2.2)	2 (5)	3 (3.5)

90% of cases of PP underwent cesarean while 30% cases of AP underwent cesarean.

10% delivered vaginally in PP while 70% delivered vaginally in AP.

However, APH overall shows increased rate of cesarean sections upto 62%.

Vaginal delivery rate was only upto 38%.

Table 6: Mode of delivery in APH.

Mode of delivery	Placenta previa (n=44)	Abruptio placenta (n=40)	Total (n=84)
LSCS	40 (90)	12 (30)	52 (62)
Vaginal	4 (10)	28 (70)	32 (38)

Above table shows that around 9.5% patients went into shock, 4.7% had DIC, 3.5% PPH and 8.3% had wound gap and peurperial pyrexia each contributing to maternal morbidity. In our study, there was no maternal mortality seen.

Table 7: Maternal morbidity in APH.

Type	Placenta previa	Abruptio placenta	Total
Peurperial pyrexia	3	4	7 (8.3)
Shock	4	4	8 (9.5)
DIC	0	4	4 (4.7)
PPH	2	1	3 (3.5)
Wound gap	2	5	7 (8.3)

Table 8 shows that 23.8% babies had asphyxia of which 60% were contributed to PP and 40% were in AP group. Respiratory distress syndrome was in 7.1% babies of which both groups equally contributed. Septicemia was seen in 13% and jaundice in 29.8%.

Higher rates of NICU admission and stay were seen with these complications.

Table 8: Neonatal morbidity in APH.

Type	Placenta previa	Abruptio placenta	Total
Asphyxia	12	8	20 (23.8)
Septicemia	8	3	11 (13.1)
Jaundice	15	10	25 (29.8)
Respiratory distress syndrome	3	3	6 (7.1)
Congenital malformation	0	0	0
Hypoglycemia	0	1	1 (1.2)

This study showed 20.2% perinatal deaths as outcome of APH and 14.2% still births.

Table 9: Perinatal mortality in APH.

Type	Placenta previa (n=44) (%)	Abruptio placenta (n=40) (%)	Total (n=84) (%)
Live birth	42 (95.5)	30 (75)	72 (85)
Still birth	2 (4.5)	10 (25)	12 (14.2)
Early neonatal death	2 (4.5)	4 (10)	6 (7.14)
Perinatal death	10 (25)	7 (23.3)	17 (20.2)

DISCUSSION

An obstetrician has to tackle life threatening conditions like APH often and take timely and judicious decisions of terminating pregnancy keeping in mind the welfare of the mother, fetus or both.

In the present study highest number of cases (62%) were in the age group of 26-34 years in both PP 25 (56%) and in AP 27 (67.5%) with a mean age of 28 years. This was comparable to a study conducted by Bako et al.[4] Were 45% of cases were in the age group of 21-29 years with a mean of 27 years. Another study conducted by Mourya et al.[5] Showed maximum cases in the age group of 21-29 years with a mean of 23 years.

The incidence of APH was more common in multiparous (71.5%) than nulliparous (28.5%). In AP 65% and in PP 77.2% of the patients were multiparous.

This is comparable to Adekanle et al study. With 75.2% multipara and 24.8% nullipara.[6] In a study by Cotton et al 83.2% of patients with APH were multiparous and 16.8% nulliparous.[7]

Majority of cases of PP present between 34-36 weeks while that of AP present in 37-39 weeks. Overall APH presents mostly between 34-36 weeks. In the present study majority deliveries were conducted before 36 weeks gestation 63% with a mean gestational age of 34.4 weeks which is comparable to a study by Bhandiwad et al in which 52.5% were in 28-32 weeks group.[8] In contrast to the present study done by Maurya et al 63% of patients had gestational age ≥37 weeks.[5] Bako et al also observed that 64% of the patients had gestational age ≥37 weeks.[4]

In the present study 88% of the patients were anaemic with a majority of 50% having hemoglobin levels between 8.1-10 gm%.

Similar findings were observed by Chakarborty et al who reported that 60% of their patients were anemic.[9] In contrast Sarwar et al reported higher incidence (96.2%) and Bhandiwad et al reported lower incidence of 35%.[10]

With 88% patients being anemic at the time of admission around 90% patients of APH required blood transfusion. In a study conducted by Crenshaw et al only 24% of patients with PP required blood transfusion in comparison to 90% in present study.[11]

Maximum no of patients 33 (39.4%) in this study required 2 units of blood transfusion (BT). This was similar to the study done by William et al in which 19% required two units in each group.[12] In this study, 2 (5%) patients of abruption and 1 patient (2.2%) with PP had >5 BT.

In the present study, 70% patients with abruption delivered vaginally while 30% were delivered by lower segment caesarean section (LSCS). This study was compared to the study by Hibbard and Jeffcoate in which vaginal delivery was reported in 62.2% and Bako et al reported 63.3% of normal deliveries in patients with abruption.[4,13] Also in a study done by Vaidya et al 73% cases delivered vaginally.[14]

90% PP were delivered by LSCS and 10% vaginally which was comparable to the study by Bako et al in which 13.2% delivered vaginally.[4]

In this study 9.5% patients went into shock, 4.7% had DIC, 3.5% PPH and 8.3% had wound gap and peurperial pyrexia each.

This was comparable to the study done by Chakraborty et al which showed 16.2% incidence of PPH and Hurd et al reported 13.3%. Significant shock was present in 10% of cases.[9]

23.8% babies had asphyxia of which 60% were contributed to PP and 40% were in AP group. Respiratory distress syndrome was in 7.1% babies of which both groups equally contributed. Septicemia was seen in 13% and jaundice in 29.8%. Higher rates of NICU admission and stay were seen with these complications.

In contrast to this only 7.58% in study by Jaju et al had jaundice. Prematurity was observed in 82.8% in this study contrary to which 25.76% in Jaju et al had prematurity.[15]

This study showed 20.2% perinatal deaths as outcome of APH and 14.2% still births.

CONCLUSION

This study concludes that APH is still a leading cause of maternal morbidity and mortality in our country. Causes of APH are placental abruption and PP. The commonest mode of delivery was cesarean section. Maternal morbidity was higher in the abruption group in terms of shock, DIC and renal failure and fetal morbidity and mortality was also high as compared to PP group. This was

because most of the cases in abruption group presented late and already complicated at the time of admission, while PP was diagnosed early using ultrasound before they became symptomatic clinically, therefore, managed early. Though maternal mortality has reduced with effective management of antepartum hemorrhage, perinatal mortality was high because of prematurity. Hence, timely cesarean section, blood transfusion, correction of anemia and wider acceptance of expectant line of management in properly selected patients have helped to further lower the maternal morbidity and mortality.

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