

Antepartum haemorrhage with respect to maternal and neonatal outcome

Atul Gugale

Lecturer, Department of Obstetrics & Gynaecology, DVVPF's Medical College & Hospital, Ahmednagar, Maharashtra

Mayuri Pawar

J.R., Department of Obstetrics & Gynaecology, DVVPF's Medical College & Hospital, Ahmednagar, Maharashtra

Urmila Gavali

Associate Professor, Department of Obstetrics & Gynaecology, DVVPF's Medical College & Hospital, Ahmednagar, Maharashtra.

Gautam Aher

Professor, Department of Obstetrics & Gynaecology, DVVPF's Medical College & Hospital, Ahmednagar, Maharashtra

Background: Antepartum haemorrhage (APH) is defined as bleeding from or in the genital tract, occurring from 28 weeks of pregnancy and prior to the birth of the baby. Aim of Study to study the fetomaternal outcome in patients with APH.

Methods: the present study was a prospective observational study undertaken in obstetrics and gynaecology department of Dr. Vikhe Patil Hospital, Ahmednagar during a period of 1 year from 1st October 2020 to 30th September 2021 in 65 cases of Antepartum Hemorrhage. Only patients with APH more than 28 weeks gestational age and willing to participate in study were included.

Results: In the present study incidence of APH was 3.9%. 61% of the APH cases were placenta previa while 39% cases were of accidental haemorrhage. Majority of cases of placenta previa were of type 2 in this study. Out of the total accidental haemorrhage cases, 48% were revealed type and 48% were of mixed type in this study. With 4% being concealed type.

Conclusions: Higher rates of neonatal intensive care unit (NICU) admission and stay were seen with these complications. The study shows more respiratory distress syndrome, septicemia and jaundice in babies as outcome of APH.

Keywords: Antepartum hemorrhage, Fetomaternal outcome, placenta previa, abruptio placenta.

Introduction

Antepartum haemorrhage (APH) is defined as bleeding from or in the genital tract, occurring from 28 weeks of pregnancy and prior to the birth of the baby¹. The most important causes of APH are placenta previa and placenta abruptio, other causes include vasa previa, succenturiate placenta and placental infections, although these are not the most common. APH complicates 3-5% of pregnancies and is a leading cause of perinatal and natal mortality². Perinatal mortality is less than 10 per 1000 total births in developed countries while it is much higher in India 60/1000 total births³.

Placenta previa (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.

APH 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 erosion⁴. APH is associated with multifetal gestation, malpresentation, preterm labor, pre-eclampsia, eclampsia, hydroamnios and chorioamnionitis⁴. Maternal complications due to APH are postpartum haemorrhage (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 asphyxia⁴.

Aim: To find out the incidence, different aetiological factors causing, maternal and fetal outcome in APH.

Materials and Methods

The present perspective study of APH with special reference to obstetric outcome; was carried out in the Department of Obstetrics and Gynaecology during the period from the 1st October 2020 to 30th September 2021.

Inclusion criteria: APH cases coming to ANC, for confinement, coming as an emergency to labour ward with p/v bleeding at or after 28 weeks of gestation. Cases diagnosed as APH on USG at or after 28 weeks gestation.

Exclusion Criteria: Local cause of bleeding per vagina and patient sufficiency from any other bleeding disorder

Sample size: During the study period a total 2805 deliveries (cases) carried out. Out of there were 65 cases of APH were taken as sample size.

Methodology

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 using her 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 attendant and examining the patient. Visible blood loss was noted based on number of pads soaked.

Blood investigations included haemoglobin and haematocrit 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 patient's 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 haemorrhage.

The fetomaternal outcome of APH was then analyzed.

Results

Incidence: The total number of confinements during the period of observation was 2805 of which the total number of cases with APH were 65. The incidence of APH was 2.32%.

Antenatal care: The cases attending antenatal clinic before admission was less and irregular. Out of 65 cases, 35 had antenatal visits and 30 were admitted as emergency in labor ward. Unbooked cases were either from peripheries or they were natives of other places, came to our hospital with referrals from other hospital.

Incidence of type of APH: The incidence of placenta previa is larger 40 (61.53%) and accidental haemorrhage was 38.46% i.e., 25 cases.

Incidence of types of placenta previa: Type 2 placenta previa had higher incidence 22 cases (55%) compared to others having the incidence, type 1 & type 4 with 12.5% and type 3 with 20% respectively.

Incidence of type of abruptio placentae: Mixed variety had 12 cases and revealed variety had 12 cases & the incidence was 48% i.e., equal in both types with 1 case of concealed type i.e., 4%.

Parameters	N
Toal deliveries	65 (2.317)
Antenatal cases (n=65)	
Booked	35 (53.84)
Unbooked	30 (46.15)
Types of antepartum hemorrhages(n=65)	
Placenta Previa	40 (61.53)
Accidental Haemorrhage	25 (38.46)
Incidences of types of placenta previa(n=40)	
Type 1	5 (12.5)
Type 2	22 (55)
Type 3	8 (20)
Type 4	5 (12.5)
Types of accidental haemorrhage(n=45)	
Revealed	12 (48)
Mixed	12 (48)
Concealed	1 (4)

Table 1. Incidence , a ntepartum , accidental h aemorrhage

Incidence of onset of first vaginal bleeding to weeks of gestation in APH:The highest incidence of onset of first vaginal bleeding in placenta previa was at 37 weeks or more i.e., 16 cases (40%) & of accidental haemorrhage at 33-36 weeks i.e., 14 cases (56%).

Blood transfusion: The incidence of blood transfusion given to the patients in APH. The incidence of intrapartum transfusion of blood and its blood products was 30 cases (46.15) and that of postpartum was 21 cases (32.30).

Management of APH: 55 cases (84.61%) required active management and 10 cases (15.38%) responded to conservative management in the present series of APH.

Types of APH	28-32 weeks	33-36 weeks	≥ 37 weeks
		N (%)	N (%)
Placenta previa	13 (32.5)	11 (27.5)	16 (40)

Accidental haemorrhage	6 (24)	14 (56)	5 (20)
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Table 2. Showing incidence of onset of first vaginal bleeding to weeks of gestation in APH

Types of APH	Blood transfusion (%)	
		Intrapartum
Placenta previa	18 (40)	11 (27.5)
Accidental haemorrhage	12 (48)	10 (40)
Types of antepartum haemorrhage	Conservative	Active
Placenta previa (n=40)	12 (30)	28 (70)
Accidental haemorrhage (n=25)	0	25 (100)

Table 3. Incidence of blood transfusion given intrapartum and post partum types of APH

Discussion

Antepartum hemorrhage is an important cause of perinatal mortality and maternal morbidity in pregnant women. 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 facilities⁵.

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, incidence of APH was 2.317%. This was comparable to a study conducted by Jyotsna et al in 2002 showed an incidence of 3.75% out of total deliveries. According to Williams textbook (2005), incidence of APH was 3.9%. Incidence of APH has been quoted in other studies in the range of 2-5%^{1,6,7,8}. The incidence of APH in study described by Jyotsna Sen et al is 3.75⁹.

Majority of cases of PP present between >36 weeks while that of AP present in 33-36 weeks. Overall APH presents mostly between 34-37 weeks.

The incidence of booked cases was slightly more in booked cases (53.8%) compared to unbooked cases (46%). 61% (1.42%) of the APH cases were placenta previa while 39% (0.89%) cases were of accidental haemorrhage. But Mukhargee et al shows incidence of accidental haemorrhage between 0.49-1.8%¹⁰.

Majority of cases of placenta previa were of type 2 in this study. Type 2 presents 55% of the total cases. 20% of the total cases were of type 3. Type 1 and type 4 showed 12.5% of the total cases.

Out of the total accidental haemorrhage cases, 48% were revealed type and 48% were of mixed type in this study. With 4% being concealed type.

40% of PP and 20% of AH, in this study had their first vaginal bleeding after 37 weeks of gestation. While 27.5% of PP and 56% of AH, had their onset of bleeding between 33-36 weeks of gestation. 32.5% of PP and 24% of AH had their onset of bleeding at 28-32 weeks of gestation.

In the present study, the incidence of intrapartum blood transfusion for PP was 40%, and for AH was 48%. The need for postpartum blood transfusion for PP cases was 27.5% and for AH was 40%. 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 group¹¹. In this study, 2 patients of abruption and 1 patient with PP had >4 BT.

84.61% cases required active management and 15.38% cases responded to conservative management. Out of which 100% of AH cases required active management, while 70% of PP cases needed active management. In PP 30% patients were given conservative management.

In spite of TVS being more accurate, obstetricians are still fearful of using it considering the risk of vaginal bleeding by manipulation of cervix or vagina. However, this fear is unfounded because the vaginal probe is introduced slowly into the vagina under direct sonographic visualization of the cervix to avoid contact with the cervix. Several biochemical markers, uterine artery flow measurement, and risk factor analysis have been tested with limited clinically utility^{12,13,14,15,16,17}. Although most risk factor score analyses are retrospective, a prospective analysis of these risk factors in the management of high-risk pregnancies may be clinically beneficial¹⁸.

Maternal and fetal outcome can be optimized through attention to risk and benefits of conservative management versus expeditious delivery in cases of AP. Hence, AP is a major cause of maternal and perinatal morbidity and mortality. AP often happens unexpectedly. The management depends on the extent of abruption, gestational age, and maternal and fetal conditions. However, it is likely that in most AP cases are longstanding process dating back to early pregnancy and hence, a predictive test would be most useful in clinical practice¹².

Conclusion

APH is a major cause of maternal and perinatal mortality & morbidity, which can be prevented, by early registration, regular antenatal care, early detection of high-risk cases, early referral, better blood bank and OT facilities, improved intra-operative and postoperative care and better neonatal intensive care. APH represents a potentially serious obstetric problem that tends to compromise fetal viability, neonatal mortality and morbidity, and maternal health and well-being. Increased frequency of APH is observed in women with low socioeconomic status, no antenatal checkup, and poor nutritional status. Mass information regarding the importance of antenatal care of pregnant women and improvement in nutritional status may reduce the frequency of APH, and thus maternal and fetal morbidity and mortality. Services of the healthcare providers can be taken to identify women at risk, early detection, and timely referral of these women for optimal medical management.

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