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Antepartum haemorrhage with respect to maternal and neonatal outcome

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Abstract

Background: Antepartum haemorrhage (APH) is defined as bleeding from or in the genital tract, occurring after 28 weeks of pregnancy and prior to the birth of the baby. The aim of the study is to study the fetomaternal outcome in patients with APH. **Method:** The present study was a prospective observational study undertaken in the obstetrics and gynaecology department, in 65 cases of antepartum haemorrhage. Only patients with APH older than 28 weeks of gestational age and willing to participate in the study were included. **Results:** In the present study, the incidence of APH was 3.9%. 61% of the APH cases were placenta previa, while 39% of the cases were of accidental haemorrhage. The majority of cases of placenta previa were of type 2 in this study. Out of the total accidental haemorrhage cases, 48% were revealed types and 48% were mixed types in this study. With 4% being the concealed type. **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. 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 an 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 that occurs after 28 weeks of pregnancy and before the baby is born [1]. Placenta previa and placenta abruption are the most important causes of APH. Other causes include vasa previa, succenturiated placenta, and placental infections, although these are not the most common. APH causes complications in 3–5% of pregnancies and is a leading cause of perinatal and neonatal mortality [2]. Perinatal mortality is less than 10 per 1000 total births in developed countries, while it is much higher in India at 60 per 1000 total births [3].

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 polyps, carcinoma cervix, varicose veins, local trauma, and cervical erosion [4]. APH is associated with multifetal gestation, malpresentation, preterm labor, pre-eclempsia, eclempsia, hydroamnios, and chorioamnionitis [4]. Maternal complications due to APH are postpartum haemorrhage (PPH), shock, sepsis, and disseminated intravascular coagulation

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(DIC). Premature birth, low birth weight, death in the womb, congenital malformation, and birth asphyxia are some of the foetal problems that can happen with APH.

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

Material And Methodology

Study design: A cross-sectional study

Ethical approval: Study was approved by the Institutional Ethics Committee of Dr Vithalrao Vikhe Patil Foundation's Vikhe Patil Institute of Medical Sciences

Study location: The present perspective study of APH with special refernce to obstetric outcome; was carried out in the Department of Obstetrics and Gynaecology.

Study period: The study 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 smaple size.

Methodology:

On admission, a complete history was taken, including past history regarding antenatal care taken, previous spotting per vaginum, and associated preclempsia. Her gestational age was calculated using her last menstrual period using her first scan. A general physical examination was done to assess both maternal and foetal conditions. A gentle abdominal examination was done. The duration and amount of bleeding and its association with pain were noted. The amount of blood loss outside the hospital was estimated by asking the patient and attender and examining the patient. Visible blood loss was noted based on the number of pads soaked.

Blood investigations include haemoglobin and haemotocrit estimation, complete blood count and for grouping and cross matching, bleeding time and clotting time on an urgent basis.

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

The subsequent management was divided into expectant management and definitive management based on gestational age, foetal 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 was 65. The incidence of APH was 2.32%.

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

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

Incidence of types of placenta previa: Type 2 placenta previa had a higher incidence of 22 cases (55%) compared to others, having an incidence of type 1 and 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%.

Table 1: Incidence, antepartum, accidental haemorrhage

Parameters	N
Toal deliveries	65 (2.3)
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)

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.

Table 2: Showing incidence of onset of first vaginal bleeding to weeks of gestation in APH

Types of APH	28-32 weeks	33-36 weeks	≥ 37 weeks
	N (%)	N (%)	N (%)
Placenta previa	13 (32.5)	11 (27.5)	16 (40)
Accidental haemorrhage	6 (24)	14 (56)	5 (20)

Table 3: Incidence of blood transfusion given intrapartum and post postpartum types of APH

Types of APH	**Blood transufusion (%)**	
	Intrapartum	**Postpartum**
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)

Discussion

Antepartum haemorrhage is an important cause of perinatal mortality and maternal morbidity in pregnant women. In developed countries, maternal mortality due to antepartum haemorrhage has been reduced significantly due to better obstetrical facilities and care. But in countries like India, maternal and perinatal mortality rates are still very high because of things like anemia, transportation problems in an emergency, and limited medical facilities [5].

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

In the present study, the incidence of APH was 2.317%. This was comparable to a study conducted by Jyotsna et al. in 2002 that showed an incidence of 3.75% of total deliveries. According to Williams' textbook (2005), the incidence of APH was 3.9%. Other studies have reported an APH prevalence of 2-5 percent [1, 6, 7, 8].The incidence of APH in the study described by Jyotsna Sen et al. is 3.75 [9].

The majority of PP cases present between 36 and 48 weeks, while AP cases present between 33 and 36 weeks. APH presents mostly between 34-37 weeks.

The incidence of booked cases was slightly higher in booked cases (53.8%) compared to unbooked cases (46%). 61% (1.42%) of the APH cases were placenta previa, while 39% (0.89%) of the cases were of accidental haemorrhage. However, according to Mukhargee et al., the incidence of accidental haemorrhage ranged between 0.49 and 1.8% [10].

The 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 types and 48% were mixed types in this study. With 4% being the 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 it was 48%. The need for postpartum blood transfusion for PP cases was 27.5% and for AH it was 40%. The maximum number 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 [11]. In this study, 2 patients with abruption and 1 patient with PP had > 4 BT.

84.61% of cases required active management and 15.38% of cases responded to conservative management. Of those, 100% of AH cases required active management, while 70% of PP cases needed active management. In PP, 30% of 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 from manipulation of the

cervix or vagina. However, this fear is unfounded because the vaginal probe is introduced slowly into the vagina under direct sonographic visualisation 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 clinical utility [12-18]. Even though most risk factor score analyses are done in the past, a look at these risk factors in the management of high-risk pregnancies could be beneficial [18].

Maternal and foetal outcomes can be optimised through attention to risk and the 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 foetal conditions. However, it is likely that in most AP cases, there is a longstanding process dating back to early pregnancy, and hence, a predictive test would be most useful in clinical practice [12].

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 foetal viability, neonatal mortality and morbidity, and maternal health and well-being. An 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 for pregnant women and improvement in nutritional status may reduce the frequency of APH and thus maternal and foetal morbidity and mortality. Early detection and timely referral of these women for optimal medical management can be achieved through the services of healthcare providers.

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