Original Research Article

Clinical study of Maternal and perinatal outcome in antepartum haemorrhage at a tertiary care institute

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Abstract

Background: APH is defined as bleeding from the genital tract from the time of viability of pregnancy for extrauterine survival to the delivery of the baby. The major causes of APH are placenta previa and abruption placenta. Antepartum hemorrhage (APH) is a major cause of maternal and perinatal morbidity and mortality even in modern day obstetrics and is one of the most frequent emergencies in obstetrics. Present study was aimed to assess maternal and perinatal outcome in patients with antepartum haemorrhage at a tertiary care institute. **Material and Methods:**Present study was prospective, observational type, conducted in department of obstetrics and gynaecology in patients with antepartum haemorrhage. **Results:** In present study 110 patients were included. Most patients had abruptio placentae (59%) followed by placenta previa (38%) and unclassified hemorrhage (3%). In present study most common age group was 25-29 years (51%) followed by 20-24 years (30%). Gestational age at the time of delivery was 28-32 weeks (31%), 33-36 weeks (36%) and ≥37 weeks (33%). Abruption was more common in less than 37 weeks gestation (45 %) as compared to placenta previa (22 %). All placenta previa patients were delivered by LSCS, most of them were elective. In abruptio placenta patients, after resuscitation, mode of delivery was planned, 23 patients required LSCS and rest 42 delivered vaginally. 10%, 18%, 26%, 40%, 5% required 5,4,3,1 or 2 and none units of blood transfusion respectively. Live births were 81 % in this study. Total IUFD, stillbitrths and NICU deaths were 27%. 14% babies required NICU admission. Average NICU stay was 9.7 ± 4.5 days. According to birth weight 32%, 39%, 19% and 10% had >2.5kg, 2-2.5kg, 1.5-2kgand1-1.5kg birth weight respectively. Most common maternal complications were PPH (39%), postpartum anemia ((35%) and hypovolemic shock (22%). Other complications were renal failure (10%), coagulation failure (5%) and sepsis (4%). We noted 3% mortality in present study.**Conclusion:** Adverse maternal and perinatal outcome was noted in patients with antepartum haemorrhage. Antenatal services, anemia correction, timely intervention (referral, caesarean section, liberal blood transfusion) and wider acceptance of expectant line of management in tertiary centre with neonatal intensive care unit will help to lower the perinatal and maternal morbidity and mortality.

Key Words: Antepartum hemorrhage, Maternal outcome, Perinatal outcome.

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INTRODUCTION

APH is defined as bleeding from the genital tract from the time of viability of pregnancy for extrauterine survival to the delivery of the baby[1]. It may occur from the placental site, lesions of the cervix or vagina and occasionally fetal in origin. The major causes of APH are placenta previa and abruption placenta. Other risk factors include marginal sinus bleeding, vasa previa, cord velamentous insertion, battledore placenta, cervicitis, genital trauma, tumours, infections, and coagulation defects[2,3]. Various extra

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placental causes are cervical polyp, carcinoma cervix, varicose veins, local trauma, condylomata, cervical erosion etc. Antepartum hemorrhage (APH) is a major cause of maternal and perinatal morbidity and mortality even in modern day obstetrics and is one of the most frequent emergencies in obstetrics[4]. The maternal complications in patients with APH are malpresentation, premature labor, postpartum hemorrhage, sepsis, shock and retained placenta. Various fetal complications are preterm delivery, low birth weight, intrauterine death, congenital malformation and birth asphyxia. Antepartum haemorrhage is linked to an increased risk of emergency cesarean section, need for blood transfusion, maternal intensive care unit admission, hysterectomy, septicemia, thrombophlebitis, and even maternal death[5,6]. Present study was aimed to assess maternal and perinatal outcome in patients with antepartum haemorrhage at a tertiary care institute.

MATERIAL AND METHODS

Present study was prospective, observational type, conducted in department of obstetrics and gynaecology, XXX Medical College Hospital, XX. Study period was from January 2019 to October 2019. Necessary permission was taken from local institutional ethical committee. All cases of antepartum haemorrhage were included. Patients admitted in post-partum period, not willing to participate were excluded from study. Written informed consent obtained prior to participation. In patients with antepartum haemorrhage, initial resuscitation was done with fluids, blood and blood products, mode of delivery was decided depending upon maternal and fetal risk factors. History (regarding age, obstetric details and maternal high-risk factors like PIH, GDM, polyhydramnios), complete obstetrical examination, laboratory reports, delivery details, mode of delivery, neonate details, etc. of patients included in study were recorded in pre-designed proforma. Fetal follow up was taken till day 7. Fetal complication were noted. Data was collected in Microsoft excel and analysed.

RESULTS

In present study 110 patients were included. Most patients had abruptio placentae (59%) followed by placenta previa (38%) and unclassified hemorrhage (3%). In present study most common age group was 25-29 years (51%) followed by 20-24 years (30%).

Table 1: distribution according to age and type of APH

Type of APH	20-24	25-29	30-34	>35	Total
Placenta previa	15	21	5	1	42 (38%)
Abruptio placentae	17	34	9	5	65 (59%)
Unclassified Hemorrhage	1	1	1	0	3 (3%)
Total	**33 (30 %)**	**56 (51 %)**	**15 (14 %)**	**6 (5 %)**	**110**

Gestational age at the time of delivery was 28-32 weeks (31%), 33-36 weeks (36%) and ≥37 weeks (33%). Abruption was more common in less than 37 weeks gestation (45 %) as compared to placenta previa (22 %). All placenta previa patients were delivered by LSCS, most of them were elective. In abruptio placenta patients, after resuscitation, mode of delivery was planned, 23 patients required LSCS and rest 42 delivered vaginally. 10%, 18%, 26%, 40%, 5% required 5,4,3,1 or 2 and none units of blood transfusion respectively.

Table 2: Comparison of maternal characteristics in APH patients

Characteristics	Abruptio placentae	Placenta previa	Unclassified Hemorrhage	Total (%)
GA at delivery (weeks)				
28-32	21	13	0	34 (31%)
33-36	28	11	1	40 (36%)
≥37	16	18	2	36 (33%)
Mode of delivery				
Elective C/S	0	29	0	29 (26%)
Emergency C/S	23	13	2	38 (35%)
Vaginal	39	0	1	40 (36%)
Instrumental	3	0	0	3 (3%)
Blood transfusion				
5 units of blood	7	4	0	11 (10%)
4 units of blood	11	9	0	20 (18%)
3 units of blood	18	11	0	29 (26%)
1 or 2 units of blood	26	16	2	44 (40%)
None	3	2	1	6 (5%)

Live births were 81 % in this study. Total IUFD, still births and NICU deaths were 27%. 14% babies required NICU admission. Average NICU stay was 9.7 ± 4.5 days. According to birth weight 32%, 39%, 19% and 10% had >2.5kg, 2-2.5kg, 1.5-2kgand1-1.5kg birth weight respectively

Table 3: Fetal outcome in APH patients

Fetal Outcome	No.Of Cases	Percentage
Live birth	89	81%
IUFD	13	12%
Still Birth	8	7%
Not required resuscitation	65	59%
Required resuscitation	24	22%
Required resuscitation and NICU admission	15	14%
Average NICU stay (in days)	9.7 ± 4.5	
Died in NICU	9	8%
Birth Wt.		
>2.5kg	35	32%
2-2.5kg	43	39%
1.5-2kg	21	19%
1-1.5kg	11	10%

Most common maternal complications were PPH (39%), postpartum anemia ((35%) and hypovolemic shock (22%). Other complications were renal failure (10%), coagulation failure (5%) and sepsis (4%). We noted 3% mortality in present study.

Table 4: Maternal complications observed

COMPLICATION	NO.OF CASES	PERCENTAGE
PPH	43	39%
Postpartum anemia	39	35%
Hypovolemic Shock	24	22%
Renal Failure	11	10%
Coagulation failure	5	5%
Sepsis	4	4%
Death	3	3%

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 facilities[7]. Maternal complications of antepartum haemorrhage are malpresentation, premature labour, postpartum haemorrhage, shock, retained placenta. It also includes higher rates of caesarean sections, peripartum hysterectomies, coagulation failure and death. Foetal complications are premature delivery, low birth weight, intrauterine death, congenital malformations and birth asphyxia. As the chief cause of APH in late pregnancy, the overall prevalence of placenta previa has been recently estimated to be approximately 5 per 1000 pregnancies by world region. Women with placenta previa are at an approximately 4-fold increased risk of second trimester vaginal bleeding and some women necessitate preterm cesarean section and hysterectomy for life-threatening hemorrhage[8,9]. Placenta previa is one of the most serious complications during pregnancy and is associated with numerous adverse maternal and fetal-neonatal complications. Many of these are direct consequences of maternal antepartum and intrapartum hemorrhage[10]. Importantly, the prevalence of placenta previa has been rising in parallel with the increasing rate of cesarean delivery and varies throughout the world and it has become a serious public health problem worldwide[11]. With the increase of gestational age, the risk of APH will increase in pregnant women with placenta previa. In present study most common age group was 25-29 years (51%) followed by 20-24 years (30%). Mean age of patients was 24.6 years. Mourya A *et al.*[12]. noted that commonest age group was 21-29 years and mean age of 23 years and Bhandiwad A *et al.*[13]. reported a mean age of 23.3 ± 3.9 years with the most common age group being 20-29 yrs. In this studyconducted by P Rajini *et al.*[14] the incidence of APH was found to be 1.29%, others reported higher percentage of APH i.e Samal SK *et al.*[15] (2.9%)and Sheikh *et al.*[16] (5.4%) in their studies. Perinatal outcome was poor in abruption as compared to placenta previa noted in other studies. The studies done by Maurya *et al.*[12]and Pandey *et*

al.[17] also showed the perinatal outcome to be worse in AP patients. Perinatal mortality in this study was 42% in APH comparable to 40% in study done by Nawrorji Wadia Hospital Mumbai. It is found that there is a strong relationship between APH and later development of intrapartum bleeding necessitating cesarean delivery[18]. Some women necessitate preterm cesarean section and hysterectomy for life-threatening APH, whereas others undergo elective cesarean section at term without hemorrhagic complications.

CONCLUSION

Adverse maternal and perinatal outcome was noted in patients with antepartum haemorrhage. Antenatal services, anemia correction, timely intervention (referral, caesarean section, liberal blood transfusion) and wider acceptance of expectant line of management in tertiary centre with neonatal intensive care unit will help to lower the perinatal and maternal morbidity and mortality.

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