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Original Research Article

Maternal and perinatal outcomes in cases of antepartum haemorrhage: a 3-year observational study in a tertiary care hospital

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ABSTRACT

Background: The leading cause of maternal mortality in world is obstetric haemorrhage. Antepartum haemorrhage (APH) is defined as bleeding from or into the genital tract after 28weeks of pregnancy and before delivery of the baby. The aim of the present study is to study the demographic profile, type of antepartum haemorrhage (APH), maternal and perinatal complications in cases of APH and to formulate preventive guidelines so as to reduce maternal and perinatal complications in cases of APH.

Methods: The study was a retrospective observational study conducted in Mahatma Gandhi Medical College & Research Institute, Pondicherry from November 2013- October 2016 [3 years]. Cases of pregnancy complicated with APH were taken. Cases with bleeding before 28 weeks and after delivery of the baby were excluded. Data collected from the records present in Labour ward complex and Medical record section. Statistical analysis done by using SPSS software version 21.

Results: Total 218 cases were presented with APH and the incidence was 2.9%. Among these 49.5% were Placenta Praevia, 42.2% were abruption placentae, 6.8% cases were indeterminate (3 cases of vasa praevia and 12 cases of excessive show) and 1.5% cases were of extraplacental cause(Local causes). Most cases were multipara with most common age group was 26-30 years (42.2%). Pregnancy in most of the cases was terminated during 34-36+6 weeks of gestation (73.0%). Most common associated risk factors found were previous caesarean section, preeclampsia, previous history of curettage, malpresentation and anaemia. Postpartum haemorrhage was found in 42.2% cases while in 4 cases peripartum hysterectomy done. Most common perinatal complications were due to low birth weight (66.5%).

Conclusions: The morbidity and mortality in pregnancies complicated with APH can be achieved by early diagnosis, proper antenatal planning and terminating the pregnancy in a well-equipped tertiary health care centre.

Keywords: Abruptio placenta, Antepartum haemorrhage, Perinatal mortality, Placenta previa

INTRODUCTION

The leading cause of maternal mortality in world is obstetric haemorrhage.[1] Antepartum haemorrhage (APH) is defined as bleeding from or into the genital tract after 28weeks of pregnancy and before delivery of the baby.[2] The prevalence of this obstetric emergency varies from hospital to hospital i.e. 0.5-5%.[3] The main causes of APH are placenta previa, abruption placentae, indeterminate cause or local causes of genital tract. In developed countries, maternal mortality due to antepartum haemorrhage 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 anaemia, difficulties in transport in cases of emergency and restricted medical facilities.[4] The complications in pregnancies complicated with APH are malpresentation, premature labour,

postpartum haemorrhage, shock, retained placenta, higher rates of caesarean sections, peripartum hysterectomies, coagulation failure and maternal, death. Perinatal complications include premature delivery, low birth weight, intrauterine death, congenital malformations and birth asphyxia.[5,6] Because of increase in the caesarean section rates, there is an increase in the incidence of placenta praevia and morbidly adherent placenta. In developing countries like India, among the causes of abruption placentae, hypertensive disorders of pregnancy like gestational hypertension and preeclampsia and folic acid deficiency are considered as important etiological factors.[6,7] APH is one of the important cause postpartum haemorrhage (PPH). Untreated anaemia, lack of adequate blood transfusion facilities, late referral, lack of transport facilities and inadequate knowledge of medical and paramedical staff contributes to poor prognosis in cases of APH in developing countries like India. The present study is of importance to understand the aetiology of APH and to formulate preventive guidelines to improve the obstetric outcome.

METHODS

The study was a retrospective observational study conducted in Mahatma Gandhi Medical College & Research Institute, Pondicherry from November 2013-October 2016 (3 years). Cases of pregnancy complicated with APH were taken. Cases with bleeding before 28 weeks and after delivery of the baby were excluded. Data collected from the records present in Labour ward comlex and Medical record section. Statistical analysis done by using SPSS software version 21. Institutional ethical committee clearance had been taken for this study.

RESULTS

Table 1 showed that total 218 cases were presented with APH and the incidence was 2.9%. Among these 49.5% were Placenta Praevia, 42.2% were abruption placentae, 6.8% cases were indeterminate (3 cases of vasa praevia and 12 cases of excessive show) and 1.5% cases were of extraplacental cause (Local causes). Most cases were multipara with most common age group was 26-30 years (42.2%).

Table 1: Incidence and types of APH.

Total number of deliveries	7288
Total number of cases of APH	218
Incidence	2.9%
Types of APH	
Placenta praevia	108 (49.5%)
Abruptio Placentae	92 (42.2%)
Unexplained or Inderminate	15 (6.8%)
Extraplacental causes (Local Causes)	3 (1.5%)
Total	218

Table 2: Demographic Profile.

	Placenta praevia (108)	Abruptio Placentae (92)	Unexplained or Indeterminate (15)	Extraplacental or local causes (3)	Total (%)
Age					
≤ 20	8	3	2	0	13 (6.0%)
21-25	25	14	3	0	42 (19.2%)
26-30	50	37	4	1	92 (42.2%)
31-35	14	20	3	1	38 (17.4%)
36-40	8	15	2	1	26 (12.0%)
>40	3	3	1	0	7 (3.2%)
Parity					
Primigravida or Nullipara	32	37	3	0	72 (33.0%)
1-4	74	55	12	3	144 (66.1%)
≥ 5	2	0	0	0	2 (0.9%)
Gestational age in weeks at the time of delivery					
$28\text{-}33^{+6}$	14	14	0	0	28 (12.8%)
$34\text{-}36^{+6}$	80	78	1	0	159 (73.0%)
>37 weeks	14	0	14	3	31 (14.2%)

Pregnancy in most of the cases was terminated during $34\text{-}36^{+6}$ weeks of gestation (73.0%). Most common associated risk factors found were previous caesarean section, preeclampsia, previous history of curettage, malpresentation and anaemia. Postpartum haemorrhage was found in 42.2% cases while in 4 cases peripartum hysterectomy done. Most common perinatal complications were due to low birth weight (66.5%).

Table 3: Associated risk factors present.

	Placenta Praevia (108)	Abruptio Placentae (92)	Unexplained or Indeterminate (15)	Extraplacental or local causes (3)	Total (%)
Anaemia	90	68	2	0	160(73.4%)
Previous H/O curettage	18	8	2	0	28(12.8%)
Preeclampsia	9	45	1	0	55(25.2%)
Previous caesarean section	24	5	0	0	29(13.3%)
Malpresentation	15	4	0	0	19(8.7%)

Table 4: Maternal morbidity and mortality.

Maternal Complication	Placenta Praevia(108)	Abruptio Placentae(92)	Unexplained or Indeterminate(15)	Extraplacental or local causes(3)	Total (%)
Postpartum haemorrhage	50	42	0	0	92(42.2%)
Blood transfusion	106	83	1	0	190(87.1%)
Caesarean section	105	76	5	0	186(85.3%)
Peripartum hysterectomy	3	1	0	0	4(1.8%)
Coagulation failure(DIC)	3	3	0	0	6(2.7%)
Central ICU admission	8	6	0	0	14(6.4%)
Death	0	0	0	0	0

Table 5: Perinatal complication.

Perinatal Complication	Placenta Praevia	Abruptio Placentae	Unexplained or Indeterminate(15)	Extraplacental or local causes(3)	Total (%)
Preterm birth	44	40	0	0	84(38.5%)
Low birth weight	80	65	0	0	145(66.5%)
NICU admission	62	48	0	0	110(50.4%)
Macerated still birth	1	9	0	0	10(4.5%)
Fresh still birth	2	14	0	0	16(7.3%)

DISCUSSION

The incidence of APH in the present study is 2.9% which is comparable to the findings reported by Singhal et al (3.01%) and Sheikh et al (5.4%) in their studies.[3,4] Table-6 revealed comparison of incidences of different types of APH in studies reported in the literatures which are comparable to the findings of our study.

Table 7 showed the maternal morbidities and mortality reported in different studies reported by different authors. In our studies, the percentage of cases with postpartum haemorrhage, blood transfusion and caesarean section rate were high, which is due to increase proportion of cases with placenta praevia in the present study.

There were 4 (1.8%) cases where peripartum hysterectomy done. Among these, three cases were placenta percreta (Figure 1) and one case of severe abruption placentae with Couvelaire uterus (Figure 2). Table 8 revealed the fetal complications reported by different authors with comparison to the present study. The most common fetal complications are low birth weight and prematurity.

Table 6: Comparison of incidence of different types of PPH.

Study	Placenta Praevia	Abruptio Placentae	Unexplained or Indeterminate	Extraplacental or local cause
Singhal SR et al[4]	52.64%	29.65%	17.7%	0
Sheikh F et al[3]	51.7%	44.6%	2.5%	0
Ayushma J et al[6]	40.4%	38.6%	21%	0
Present study	49.5%	42.2%	6.8%	1.5%

Figure 1: Placenta percreta.

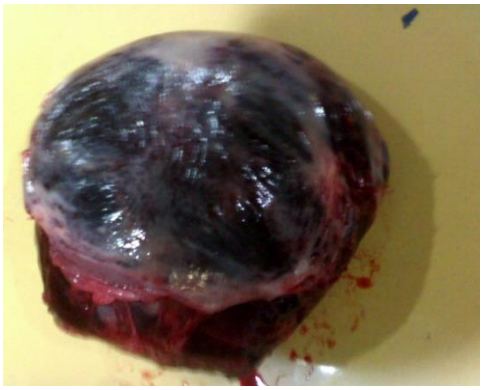

Figure 2: Couvelaire uterus.

Table 7: Comparison of maternal complications reported in different studies.

Maternal complication	Singhal SR et al[4]	Sheikh F et al [3]	Ayushma J et al [6]	Present study (%)
Postpartum haemorrhage	21.84%	19%	3.5%	42.2%
Blood transfusion	78.77%	77.4%	66.7%	87.1%
Caesarean section	43.80%	57.1%	71.9%	85.3%
Peripartum hysterectomy	-	1.19%	-	1.8%
Coagulation failure (DIC)	3.8%	-	-	2.7%
Maternal mortality	2.21%	0	1.8%	0

Table 8: Comparison of perinatal complication reported in different studies.

Perinatal complication	Singhl SR et al [4]	Sheikh F et al [3]	Ayushma J et al [6]	Present Study
Preterm birth	41.85%	79.1%	50.9%	38.5%
Low birth weight	83.18%	-	66.7%	66.5%
NICU admission	23.27%	-	22.8%	50.4%
Perinatal mortality	23.7%	49.66%	21%	11.8%%

CONCLUSION

Based on the above findings observed during this study, it can be concluded that APH is one of the important cause of maternal morbidity and perinatal mortality. Hence to avoid the above-mentioned complications of APH, the following measures can be taken

- All the cases diagnosed as APH during antenatal period must be considered high risk and proper antenatal management plan should be formulated.
- Adequate and timely referral or transport facilities, adequately trained medical and paramedical staff with blood transfusion facilities improve the outcomes and reduce the morbidity and mortality in cases of APH.
- In cases of placenta praevia especially suspected cases of morbidly adherent ones, senior obstetrician and anesthetist must be available during delivery. In these cases, a preoperative planning with multidisciplinary involvement should be followed. Patient counseling and consent should include possible interventions (such as hysterectomy, leaving the placenta in place and interventional radiology).
- Various government programs including the recent Pradhanmantri Surakshit Matrutya Abhiyan and previously schemes like Janani Suraksha Yojana should be followed. All the pregnant mother should be aware of the importance of institutional delivery, family planning, importance of iron folic acid supplementation and immunization during their antenatal periods.
- To reduce the high perinatal mortality rate in cases of APH, the neonatal care units must be adequately equipped with man power and other facilities.

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