

ORIGINAL RESEARCH

Study of fetomaternal outcome in cases of antepartum hemorrhage at a tertiary hospital

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ABSTRACT

Background: Obstetric hemorrhage still appears to be an important cause of maternal mortality even today. Antepartum hemorrhage is bleeding from the genital tract after 28 weeks of gestation, but before delivering the fetus, which has a wide impact on maternal and fetal outcome. The above study was conducted to study the fetomaternal outcome in cases of antepartum hemorrhage. **Methodology-**The above study was conducted at a tertiary hospital for 1 year. 100 patients with APH & at or above 28 weeks of gestational age, willing to participate in study were included. Data was collected, analysed and entered into Excel sheet. **Result-**53% were of placenta previa, and 47 % were of abruptio placenta, 37 were primigravida and 63 were multigravida, APH was more common among multigravida. Common etiological factor noted was hypertension and pre-eclampsia 31%. Common complication of APH were PPH (42%), collapse (11%) and DIC (3%). Perinatal mortality was 23% **Conclusion-** Good antenatal care and early diagnosis of pre-eclampsia, anemia reduces the incidence of antepartum hemorrhage. Early admission and planned management of cases of placenta previa can reduce the maternal and fetal morbidity and mortality.

Keywords-Antepartum hemorrhage, maternal, antenatal, APH

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INTRODUCTION

Antepartum hemorrhage is defined as bleeding from the genital tract after 28 weeks of gestation, but before delivery of the fetus, which has got impact on maternal and fetal outcome.¹ Incidence varies from 2% - 5% of all deliveries.² Obstetric hemorrhage continues to be an important cause of maternal mortality even today.³ In India about 1, 00, 000 maternal deaths occurs annually of which at least 20,000 – 30,000 are due to hemorrhage contributing to 15-20% of all maternal deaths.⁴ Lipitz and colleagues (1991)⁵ studied 65 consecutive women who had uterine bleeding between 14 and 28 weeks. Almost a fourth had placental abruption or previa. Total fetal loss including abortions and perinatal deaths was 32 percent. The incidence of abruption in twin pregnancy is twice that of singleton pregnancy.⁶ Hypertension is the most common risk factor in abruptio placentae which account for 50%. Relative risk of abruption is 3.8 for severe pre- eclampsia and 2.8 for chronic hypertension with superimposed pre-

eclampsia.⁷ Magpie trial (2002) suggests that women with pre- eclampsia may have a reduced risk of placental abruption when treated with magnesium sulfate.⁸ Also, smoking is an independent risk factor associated with 90% increase in risk of placental abruption, the risk increasing with the number of cigarettes smoked.⁹⁻¹⁰

Advancing maternal age increases the risk of placenta previa. Women older than 40 years have nearly nine fold greater risk than women under the age of 20.¹¹ Previous abortions have an increased risk of low lying placenta especially following uterine curettage.¹² In recent conducted study, it was found that APH was 1.31%. 73 % cases of APH were associated with Pregnancy induced hypertension suggesting PIH is one of the major risk factors. Maternal and perinatal morbidity was very high with increased rates of cesarean section 90%, post-partum hemorrhage(36%), and need of blood transfusion (75%), preterm deliveries (65%), low birth weight (40%) and NICU admission (44%). Though there is

no maternal mortality due to timely intervention but 3% patients underwent Obstetric Hysterectomy. Although APH is common in pregnant women with placenta previa, it has not been extensively studied. Therefore, the above study was conducted to study the fetomaternal outcome in cases of antepartum hemorrhage at a tertiary hospital.

MATERIALS AND METHODOLOGY

Study place- The above study was conducted in the Department of Gynaceology and Obstetrics at a tertiary care hospital for a period of 1 year.

Study design- Prospective observational study.

Inclusion criteria- Patients with APH & at or above 28 weeks of gestational age, willing to participate in study.

Exclusion criteria- Patients having no APH, less than 28 weeks of gestational age and unwilling to participate in the study.

Sample size- 100 patients.

Data analysis- The fetal and maternal outcomes of the patients were recorded. Maternal outcomes were assessed according to age, gravidity and gestational week. Data was analyzed in SPSS 20.

Ethical considerations- The study was started after getting necessary permission from the Institutional Ethics Committee of the hospital.

Details including present complaints, obstetric history, and menstrual history of the patient were taken after admission. General physical examination, abdominal examination, per speculum and per vaginam examination (when required) were done to assess both maternal and fetal condition. All patients presenting with APH were initially investigated and managed. Subsequent management was determined according to the suspected cause, severity and type of bleeding and the gestational age of the pregnancy.

RESULTS

Table No.1: Age wise distribution of cases of Antepartum Hemorrhage

Age	Number of cases	Percentage of cases
<20 years	15	15%
21-25 years	58	58%
26-30 years	24	24%
>30 years	3	3%

Table No.2: Distribution of APH cases according to parity

Parity	Number of cases of APH	Abruptio placenta	Placenta previa	Total %
Primi	37	19%	18%	37%
Multi	63	28%	35%	63%

Table No.3: Distribution of APH cases according to the Gestational Age

Gestational Age in weeks	Number of cases	Percentage of cases
28-33 weeks	13	13%
34-36 weeks	25	25%
>37 weeks	62	62%

In present study, APH occurs most commonly in near term pregnancies, 62% in >37 weeks of which placenta previa contributes to 34% and abruptio placenta contributes to 28%, next common gestational age involved was 25% in 34-36 weeks, of which placenta previa contributes to 16% and abruptio placenta contributes to 9%. Less common in gestational age group 28-33 weeks 13%, of which placenta previa contributes to 4% and abruptio placenta contributes to 9%.

Table No.4: Distribution of cases of APH according to their presenting complaints

Presenting Complaints	Number of cases	Percentage of cases
Pain Abdomen	47	47%
Bleeding per vagina	100	100%
Decreased fetal movements	38	38%

In present study, most of the cases of APH present with bleeding per vagina 100% and pain abdomen in 47%, 38% of cases present with decreased fetal movements. In abruptio placenta, 53% (n=25) present with decreased fetal movements and 100% (n=100) present with pain abdomen. In placenta previa, 24.5% (n=13) present with decreased fetal movements.

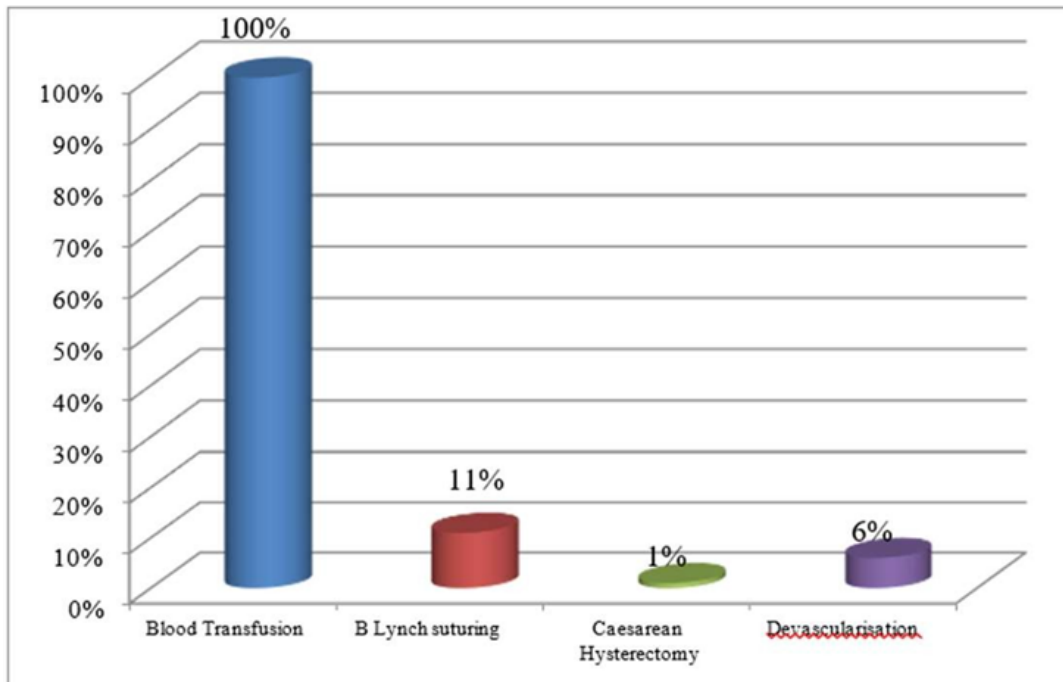
Table No. 5: Indications of LSCS for APH

Indication for LSCS	Number of cases	Percentage of cases
Fetal distress	5	5%
Failure to progress	8	8%
Previous LSCS with CPD	3	3%

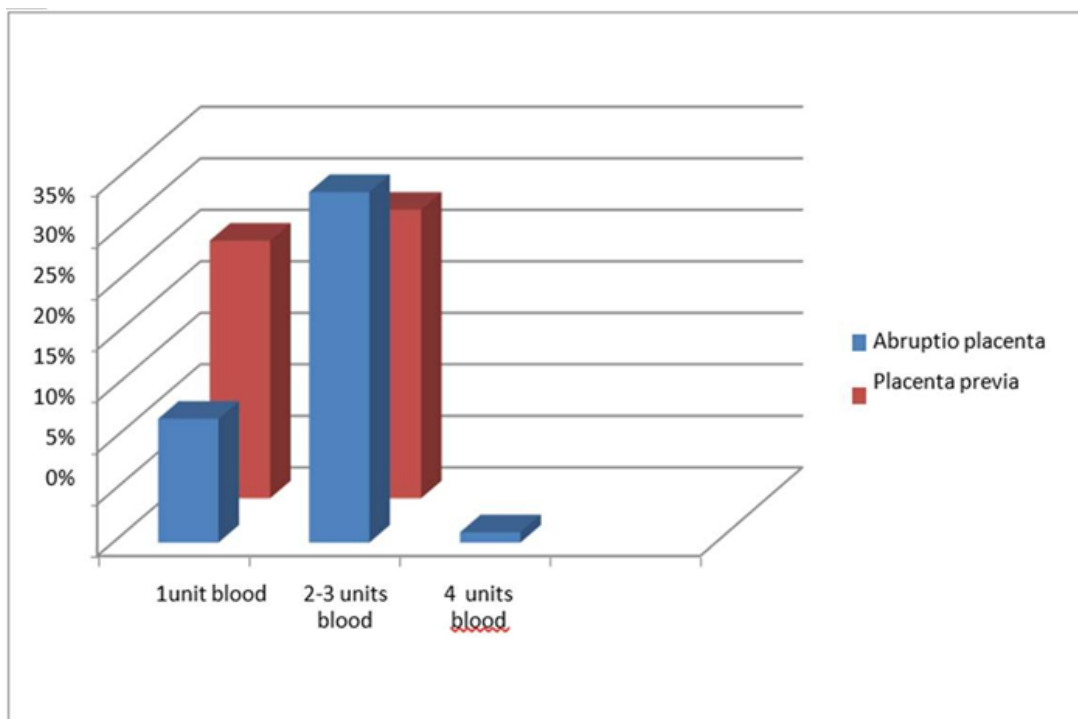
Type I placenta previa withCPD	3	3%
Type IIb placenta previa	16	16%
Type III placenta previa	12	12%
Type IV placenta previa	14	14%

Table No.6: Maternal complications of APH

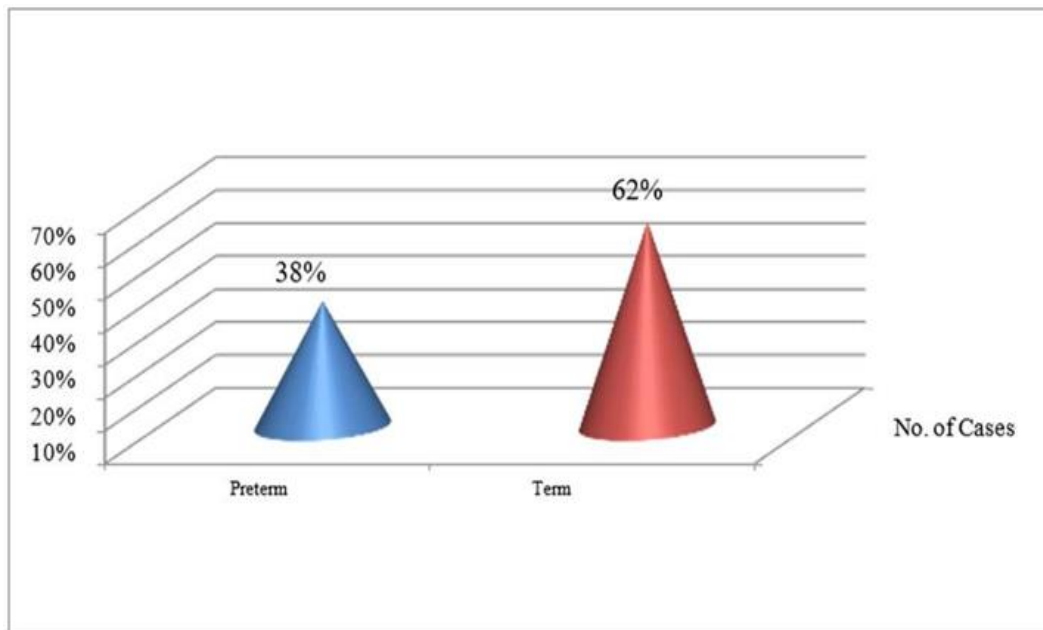
Complications	Number of cases	Percentage of cases
PPH	42	42%
Maternal collapse	11	11%
DIC	3	3%



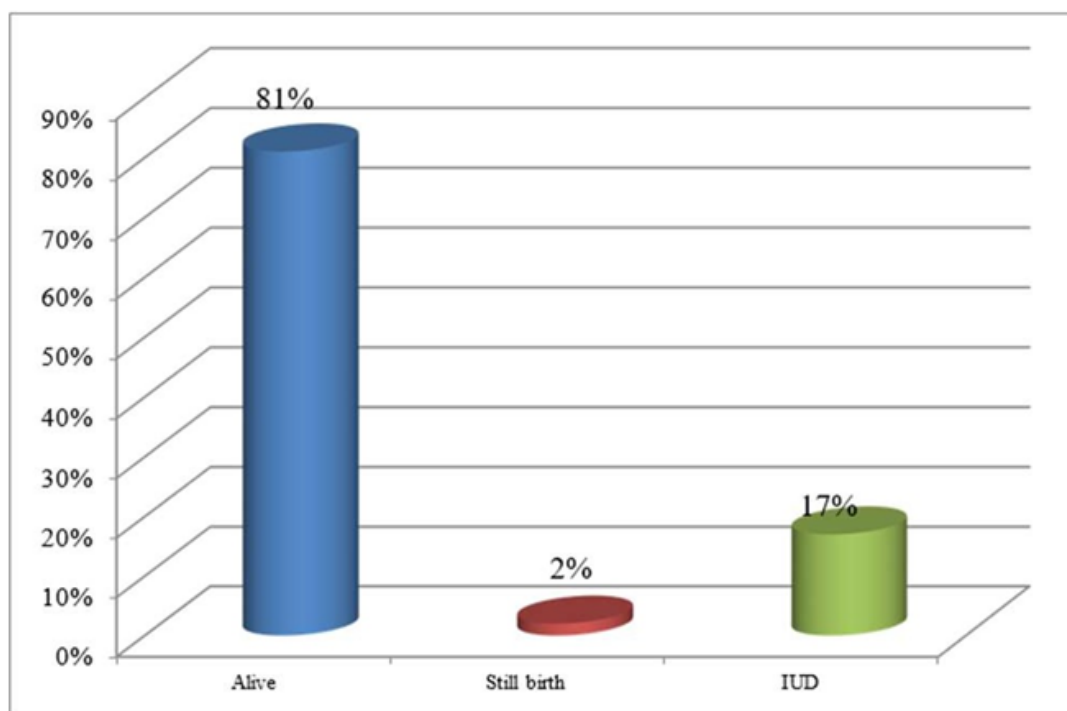
Graph No.1: Intra-operative interventions for control of PPH



Graph No.2: Number of units of blood transfusion required in APH cases



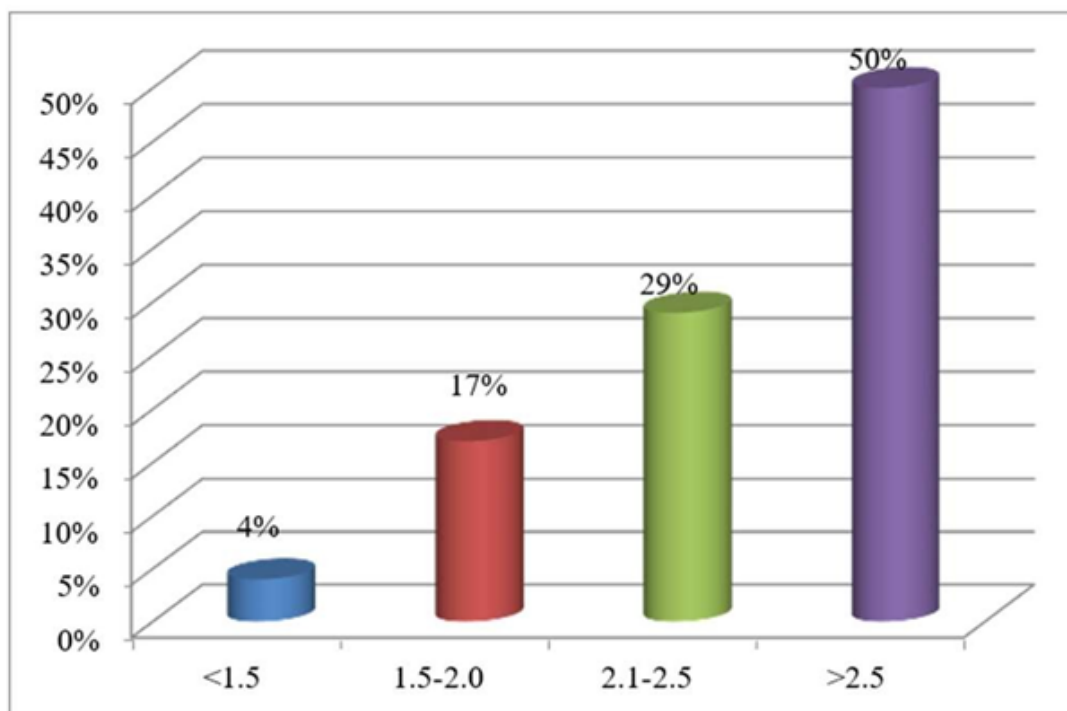
Graph No.3: Fetal maturity in cases of APH



Graph No.4: Fetal outcome in Patients with APH

In present study, 81% of cases were live born, among them, 51% were placenta previa in which 18% were preterm , 33% were term and 30% were abruptio placenta in which 6% were preterm and 24% were term. 2% of cases were still born, were term abruptio placenta, Birth weight <2.5kg in 1 baby,>2.5kg in 1 baby. Intra Uterine Deaths were 17%. Among intrauterine deaths,2% of placenta previa, both were preterm, and birth weight < 2kg and 15% of abruptio placenta, in which birth weight <2kg

in 8% ,birth weight >2kg in 7%, preterm were 12%, term were 3%. 26% of cases needed NICU admission, 22% of babies discharged healthy where as 4% of babies died in NICU. Among babies died in NICU, 2% were due to low birth weight and prematurity, 2% were due to birth asphyxia. Most common cause of NICU admission and perinatal mortality were prematurity and low birth weight. Perinatal Mortality was 23%.



Graph No. 5: Birth weight of babies in APH cases

In present study, 50% of cases had birth weight > 2.5 kg, of which placenta previa contributes to 35% and abruption placenta contributes to 15%. 29% of cases had birth weight 2.1-2.5 kg of which 13% was of placenta previa and 16% was of abruption placenta, 17% of cases had birth weight 1.5-2.0 kg of which 5% was of placenta previa and 12% was of abruption placenta and 4% of cases had birth weight <1.5 kg, all of which were contributed by abruption placenta. All the cases of birth weight 1.5 kg were preterm intrauterine deaths. Most of cases below 2 kg birth weight need NICU admission. In babies with birth weight <2kg, only 3 babies were term, remaining 18 were preterm. In babies with birth weight 2.1-2.5kg, 10 babies were preterm, remaining 19 babies were term. In babies with birth weight >2.5kg, 10 babies were preterm, remaining 40 babies were term babies.

DISCUSSION

In above study, majority (82%) of cases occurred between 21-30 year's which was comparable to studies done by **Priyanka Tyagi et al.**¹³ (61%), **Siddhartha Majumder et al.**¹⁴ (60%), **Anamika Purohit et al.**¹⁵ (69.4%) due to early marriages and highest fertility in that age group. The number of multiparous women in this study was 63%, while primigravida were only 37%. The highest parity recorded was para 6, comparable to studies done by **Siddhartha Majumder et al.**¹⁴ multi (82%), **Zakia Sharafat et al.**¹⁶ multi (89.4%) which may be due to endometrial damage caused by repeated child birth.

In present study, 53% of cases were due to placenta previa and 47% are due to abruption placenta which have almost equal incidence comparable to other studies by **Siddhartha Majumder et al.**¹⁴ and

Anamika Purohit et al.¹⁵ Also in above study, 62% of cases were present at >37 weeks of gestational age which was comparable to **Priyanka Tyagi et al.**¹³ (62%) due to formation of lower uterine segment at term gestation.

In above study, caesarean section rate was 61% with perinatal mortality of 23% and nonmaternal mortality. This shows that early decision of caesarean section has improved both maternal and perinatal outcome. In studies by **Anamika Purohit et al.**¹⁵ 84.3% of cases underwent caesarean section and study by **Priyanka Tyagi et al.**¹³ 89% of cases underwent caesarean section. Both studies had higher caesarean rate compared to present study.

In above study coagulation failure in antepartum hemorrhage was noted in 3% of cases compared to 2.7% in **Sunil Kumar Samal et al.**¹⁷ and 11.5% in **Zakia Sharafat et al.**¹⁶ The blood transfusion required, varied between 2-3 units, fresh frozen plasma between 4-6 units and platelet rich plasma 2-3 units on an average. 1 case required 3 units blood, 12 fresh frozen plasma and 7 platelet rich plasma (PRP).

42% had post-partum hemorrhage, majority were managed with uterotonic drugs, uterine packing, 11% required B-lynch sutures, 6% required B/L uterine ligation, and 1 case required cesarean hysterectomy.

100% of cases in present study had blood transfusion as almost all cases had anaemia as pre-existing factor even small amount of hemorrhage leads to hypotension.

In present study, perinatal mortality was 23%, in which IUD accounts for 17%, still birth accounts for 2% and early neonatal death accounts for 4%. Most of cases that are referred from Primary Health Centres

were IUFD. 26% of cases needed NICU admission, 22% of babies discharged healthy where as 4% of babies died in NICU due to prematurity and low birth weight. In studies done by **Anamika purohit et al.**¹⁵ perinatal mortality was 29.8%, **Siddhartha Majumder et al.**¹⁴ perinatal mortality was 23%. Good perinatal outcome observed with early cesarean section and timely neonatal resuscitation.

CONCLUSION

Good antenatal care and early diagnosis of pre-eclampsia, anaemia reduces the incidence of antepartum hemorrhage. Early admission and planned management of cases of placenta previa Type I posterior, Type III and Type IV can reduce the maternal and fetal morbidity and mortality. Antepartum hemorrhage can be prevented by good nutrition, folic acid, and iron supplementation, early diagnosis of pre-eclampsia, avoiding trauma and sudden decompression of uterus. Early referral, team management by obstetrician, blood bank, anaesthetist, nephrologists and neonatologist improves maternal and fetal outcome. With good neonatal care, and early prompt decision of cesarean section improve fetal outcome and can save mother and fetus.

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