Original Research Article

Comparative study of fetomaternal outcome in abruptio placenta and placenta previa

Abstract:

Objective: The study aims to analyze the maternal and perinatal outcomes of APH cases due to placenta previa and abruptio placenta.

Method: This prospective study conducted at a Tertiary Hospital from July 1, 2021, to June 30, 2023, included 150 APH cases, with 109 meeting inclusion criteria for comparison between placenta previa and abruptio placenta. Data collection encompassed maternal demographics, obstetric history, severity of hemorrhage, and neonatal outcomes. Diagnosis was based on clinical evaluation and ultrasound. Statistical analysis was performed using MS Excel.

Results: Placenta previa accounted for 71.55% of cases, while abruptio placenta represented 28.44%. Placenta previa predominantly affected women aged 26-30 and over 35, with 2 pregnancies, while abruptio placenta showed varied distribution across age groups. Preterm deliveries were prevalent in both groups, with majority being preterm for placenta previa and at 31-33 weeks for abruptio placenta. Maternal complications included anemia, postpartum hemorrhage (PPH), and shock. Fetal complications encompassed preterm birth, asphyxia, and stillbirths. Placenta previa correlated with multiparity and previous abortions, while abruptio placenta was associated with hypertension. Cesarean section rates were higher for placenta previa, with vaginal deliveries occurring in both groups.

Conclusion: Placenta previa emerged as the primary cause of APH, affecting multiparous women, while abruptio placenta correlated with hypertension and primigravida. Both conditions posed significant risks of maternal and perinatal morbidity and mortality, highlighting the importance of prompt diagnosis and intervention.

Keywords: Antepartum hemorrhage, Placenta previa, Abruptio placenta, Maternal outcomes, Perinatal outcomes.

Comment [TO1]: Add backgroung

Introduction

Even in the most advanced obstetrics practices of today, antepartum hemorrhage (APH) remains a significant contributor to the morbidity and death rates of both mothers and their newborns. With a prevalence of between 0.5 and 5%, it is one of the most common types of crises that might arise in the field of obstetrics. The term "antepartum haemorrhage" refers to bleeding that occurs per vaginum after the fetus has reached the period of viability but before to the delivery of the infant. This indicates that bleeding from the vaginal tract occurs from 20 weeks of gestation till birth in rich nations, and after 28 weeks in countries with poor resource settings.

It is important to note that malpresentation, postpartum hemorrhage, shock, blood transfusion, peripartum hysterectomy, premature birth, and maternal and perinatal death are among problems that might arise in the event of acute pulmonary hypertension (APH). It is possible to categorize the causes of antepartum bleeding into three primary categories: placenta previa, placental abruption, and placental abruption [1].

Comment [TO2]: Did you mean antepartum hemorrhage?

Comment [TO3]: What's the third category? Placenta abruptio twice?

It is estimated that around one percent of deliveries are complicated by placental abruption, which is defined as the early separation of the placenta [1]. Abruption is a key factor in the occurrence of vaginal bleeding during the second half of pregnancy, and it is also linked to a large amount of perinatal death and morbidity [2]. Placenta previa, a significant contributor to antepartum hemorrhage, is believed to be present in between 0.31% and 0.60% of pregnancies as the baby is being delivered. The condition known as placenta previa occurs when the placenta is implanted into the lower section of the uterus, either in its whole or in part [3].

Malpresentation, preterm labor, postpartum hemorrhage, shock, and retained placenta are some of the issues that might arise for mothers after an APH. In addition to this, it is associated with increased incidence of caesarean sections, peripartum hysterectomies, coagulation failure, and even mortality [1].

A preterm delivery, a low birth weight, an intrauterine death, congenital deformities, and birth asphyxia are all examples of difficulties that may occur during pregnancy. The second condition is caused by the separation of the placenta or by hypotension in the mother as a consequence of hemorrhage. A low birth weight is a common consequence of antepartum

Comment [TO4]: Which condition?

hemorrhage, which may occur in pregnant women. It is possible that this is the result of premature labor or recurrent minor occurrences of hemorrhage, which may lead to chronic placental insufficiency and fetal development retardation. The total perinatal death rate rises to between 4 and 8 percent after birth. [4]:

Comment [TO5]: These parts are left out
1.Study Justification
2.

Objective

Comment [TO6]: Whats the primary and secondary objective?
What is the hypothesis?

To asses the fetomaternal outcome in abruptio placenta and placenta previa.

Method

Comment [TO7]: What about
1. Sample size calculation?
2.List of inclusion criteria
3. Ethical considerations like informed consent, confidentiality etc
4.Study limitations and measures put in place

This prospective study, conducted at the Department of Obstetrics and Gynaecology in a Tertiary Hospital, spanned from July 1, 2021, to June 30, 2023. A total of 150 cases of APH were identified, of which 109 met the inclusion criteria for comparing placenta previa and abruptio placenta concerning maternal and perinatal outcomes. The study encompassed cases of antepartum haemorrhage occurring at or beyond 28 weeks of gestation, with either placenta previa or abruptio placenta, while excluding cases below 28 weeks of gestation and patients with other bleeding disorders. Admitted cases with clinical findings and ultrasound-confirmed placenta previa or abruptio placenta underwent data collection, including maternal age, parity, gestational age, presentation, booking status, education, occupation, residential address, and severity of haemorrhage. Diagnosis was based on history, clinical evaluation, and ultrasound findings. Neonatal intensive care unit (NICU) facilities were available for preterm infants in the Pediatric unit of the institution. Data collected was organized into an MS Excel sheet for further analysis.

Comment [TO8]:

Results

Based on the data provided, the distribution of causes of placental issues reveals that Placenta Previa accounts for the majority, comprising 71.55% of cases, while Abruptio Placentae represents 28.44% of instances.

Comment [TO9]: Include the specific figure, table, or chart you are describing

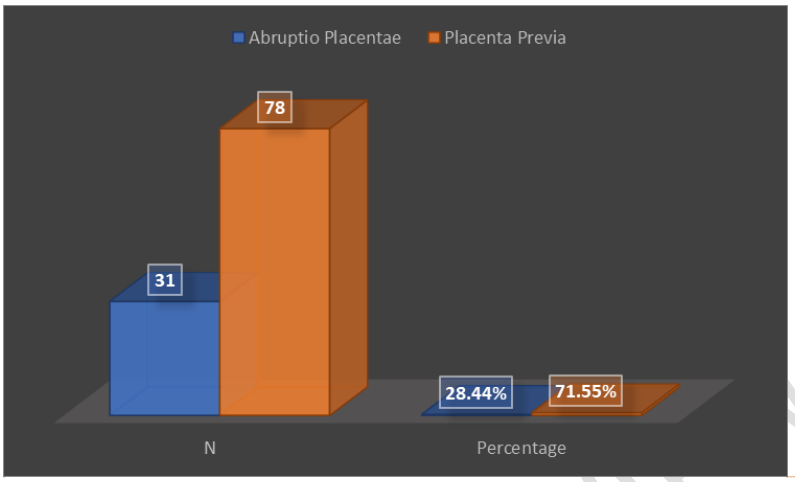

Figure-1: Causes of APH

The data provided delineates the distribution of cases of Abruptio Placentae and Placenta Previa across different age groups and gravidity levels. It reveals that while Abruptio Placentae shows a varied distribution across age groups, with the highest incidence among those aged 31-35 years and with gravidity of 1 pregnancy, Placenta Previa predominantly affects individuals aged 26-30 years and over 35 years, with the highest occurrence among those with 2 pregnancies.

Table1: DistributionofcausesofAPHwithage,gravidityandbookingstatus.

Age (Years)	Agedistribution(Years)	Abruptioplacentae	Placentaprevia
<20	4	1(25.0%)	**3(75.0%)**
20-25	36	15(41.0%)	**21(58.0%)**
26-30	46	7(15.0%)	**39(84.0%)**
31-35	16	7(43.7%)	**9(56.0%)**
>35	7	1(14.0%)	**6(85.0%)**
Gravidity			
1	32	17(44.7%)	**15(39.47%)**

Comment [TO10]: 1.Use colors and background that will be visible on both colored and black and white paper upon printing
2. Include either the percentage or absolute number, and not both in the graphical presentation

Comment [TO11]: Include the specific figure, table, or chart you are describing

2	40	7(13.2%)	**33(62.2%)**
3	22	5(9.4%)	**17(70.8%)**
≥ 4	**15**	**2(11.1%)**	**13(72.22%)**

The data provided illustrates the distribution of cases of Abruptio Placentae and Placenta Previa concerning gestational age at admission and delivery. For Abruptio Placentae, the majority of cases present between 31-33 weeks gestation, while for Placenta Previa, the highest incidence occurs at 34-36.6 weeks gestation. Regarding gestational age at delivery, a significant proportion of cases for both conditions are preterm, with the highest prevalence observed between 34-36.6 weeks for Placenta Previa and 42 cases. Notably, all cases of term deliveries belong to the Placenta Previa group.

Comment [TO12]: Include the specific figure, table, or chart you are describing

Table 2:Distributionofgestationalagewithcauseof APH.

Gest Ageat admission	No.of Cases	28-30w	31-33w	34-36.6w	>=37w
Abruptio Placentae	31	6(19%)	11(35%)	7(29%)	7(16%)
Placenta Previa	78	11(14%)	23(33%)	14(42%)	30(10%)
GestAgeat delivery					
Preterm	72	12 (16%)	18 (25%)	42 (58.3%)	0 (0.0%)
Term	37	0 (0.0%)	0 (0.0%)	0 (0%)	37(34%)

The data provides insights into the previous history and risk factors associated with Abruptio Placentae and Placenta Previa cases. Among patients with previous abortion, Placenta Previa is notably higher at 79% compared to 21% for Abruptio Placentae. Additionally, patients with a history of abortion and dilation and curettage (D&C) predominantly present with Placenta Previa at 90%, while those with a history of lower segment cesarean section (LSCS) show a higher incidence of Placenta Previa at 76.92%. Notably, hypertension appears to be a significant risk factor for Abruptio Placentae, accounting for 71% of cases, whereas multiparity and twins are associated more with Placenta Previa, constituting 85.7% and 75% of cases, respectively.

Comment [TO13]: Include the specific figure, table, or chart you are describing

Table3:DistributionofcausesofAPHwithobstetrichistoryandassociatedriskfactors.

Previous history	No. of Patients	Abruptioplacentae	Placentaprevia
Abortion	19	4 (21%)	**15 (79%)**
Abortion andD&C	10	1 (10%)	**9 (90%)**
LSCS	13	3 (23.08%)	**10 (76.92%)**
Abortion, LSCSand D&C	2	1 (50.00%)	**1 (50.00%)**
RiskFactors			
Hypertension	21	15 (71%)	**6 (19%)**
Multiparity	7	1 (14.29%)	**6 (85.7%)**
Twins	4	3 (75%)	**1 (25%)**
Malpresentations	5	0 (0.00%)	**5 (100%)**
IUGR	4	2 (50%)	**2 (50%)**
Polyhydramnios	4	4 (100%)	**0 (0.00%)**
Hypothyroidism	5	3(75%)	**2 (25%)**
Elderly	3	0(0.00%)	**3 (100%)**
Triplet	**1**	**1(100%)**	**0 (0.00%)**

The data outlines the mode of delivery and postpartum hemorrhage (PPH) occurrences among patients with Abruptio Placentae and Placenta Previa. In cases of Abruptio Placentae, the majority of patients undergo Lower Segment Cesarean Section (LSCS), with 28% of them experiencing preterm delivery and 14% term delivery, while in Placenta Previa cases, LSCS is more prevalent, accounting for 72% of cases, with 41% preterm and 15% term deliveries. Vaginal deliveries occur in both groups, with 29% in Abruptio Placentae cases and 70% in Placenta Previa cases. PPH is present in a significant portion of cases for both conditions, with 27% in Abruptio Placentae cases and 65% in Placenta Previa cases.

Comment [TO14]: Include the specific figure, table, or chart you are describing

Table 4: Modeof delivery.

Modeof delivery	No of Patients	Abruption	PlacentaPrevia
LSCS	78	22(28%)Preterm14 term8	56(72%) Preterm41Term15
VaginalDelivery	31	9(29%)Preterm-6Term-3	22(70%) Preterm11Term11
PPH			
Present	51	15(27%)	36(65%)

Comment [TO15]: Indicate what the absolute values (22, 56, 141, 51 etc mean)

The data presents fetal and maternal complications associated with Abruptio Placentae and Placenta Previa cases. In cases of Preterm birth, Placenta Previa is predominant, accounting for 79%, compared to 21% for Abruptio Placentae. Stillbirths are exclusively associated with Abruptio Placentae, representing 100% of cases, while Asphyxia is slightly higher in Placenta Previa cases at 71%. Maternal complications such as Anemia and Postpartum Hemorrhage (PPH) are prevalent in both conditions, with 36% and 68% in Abruptio Placentae cases, and 64% and 32% in Placenta Previa cases, respectively. Anemia with Pyrexia is exclusively associated with Placenta Previa, accounting for 100% of cases.

Comment [TO16]: Include the specific figure, table, or chart you are describing

Table5:MaternalandFetal Complications

FetalComplication	No.of Cases	Abruptioplacentae	Placentaprevia
Preterm	33	7(21%)	26(79%)
Asphyxia	14	4(29%)	10(71%)
IUD	10	5(50%)	5(50%)
Jaundice	8	4(50%)	4(50%)
Distress	3	2(75%)	1(25%)
Still Birth	8	4(100%)	4(0%)
Fever	3	2(67%)	1(33%)
Hypoglycemia	1	0(0%)	1(100%)
NOcomplications	34	10(29%)	24(81%)
Maternalcomplications			

Comment [TO17]: 0% ?

Anemia	38	14 (36%)	24 (64%)
PPH	44	30(68%)	14(32%)
Anemia,Shock	4	2 (50%)	2(50%)
HELLP	2	1(50%)	1(50%)
Anemia,Pyrexia	4	0 (0%)	4(100%)
Shock,Myocardialinfraction , Anemia	1	1(100%)	0 (0%)
Shock, DIC,pyrexia	1	1 (100%)	0 (0%)
MaternalDeath	0	0	0

Comment [TO18]: Which complication was it among the three?

The table presents the distribution of birth weight among newborns affected by Abruptio Placentae and Placenta Previa. Across various weight categories, the percentage distribution varies between the two conditions. Notably, in the >3 kg category, all cases belong to Abruptio Placentae, constituting 100%, while Placenta Previa shows no occurrences in this range. In the 1-1.5 kg category, Placenta Previa has a slightly higher percentage at 48% compared to Abruptio Placentae at 32%. Similarly, in the 1.6-2 kg and 2.1-2.5 kg categories, Placenta Previa presents higher percentages at 70% and 63% respectively, compared to 23% and 18% for Abruptio Placentae. Conversely, in the 2.6-3 kg category, Abruptio Placentae has a higher percentage at 20% compared to Placenta Previa at 55%.

Comment [TO19]: Include the specific figure, table, or chart you are describing

Table6:Birthweight of new born

Birth Weight	No.of Cases	Abruptioplacentae	Placentaprevia
<1	2	1(50%)	1(50%)
1-1.5	20	8(32%)	12(48%)
1.6-2	28	7(23%)	21(70%)
2.1-2.5	32	7(18%)	24(63%)
2.6-3	30	8(20%)	22(55%)
>3	2	2(100%)	0(0%)

The table outlines the fetal outcomes associated with Abruptio Placentae and Placenta Previa cases. Among live births, Placenta Previa is predominant, accounting for 76% of cases, while Abruptio Placentae represents 24%. Conversely, in cases of intrauterine death (IUD) and stillbirth, both conditions exhibit a more balanced distribution. However, in NICU-related fatalities, Placenta Previa is notably higher at 78% compared to 22% for Abruptio Placentae. Among the causes of death, Shock is more prevalent in Abruptio Placentae cases, constituting 66% of fatalities.

Comment [TO20]: Include the specific figure, table, or chart you are describing

Table7:FetalOutcome

Outcome	Total	Abruption	PlacentaPrevia
Live	90	24(24%)	76(76%)
IUD	10	4(45%)	6(55%)
Still Birth	8	4(50%)	4(50%)
ExpiredinNICU	6	2(22%)	7(78%)
Causeof death			
RDS	2	1(50%)	1(50%)
Sepsis	2	1(50%)	1(50%)
Shock	18	12(66%)	6(34%)
PulmonaryHaemorrhage	2	0(0.00%)	2(100%)
Total	24	11(58%)	10(42%)

Discussion

Placenta previa accounts for 1.15 percent of all instances, while abruption accounts for 0.46.5 percent of all cases, according to our research. From two to five percent of all pregnancies are affected by the presence of APH. The variance in incidence that is seen may be explained by the demographic variation as well as the prevalence of illiteracy, socioeconomic position, and anemia in the community. In the research carried out by Bhide A et al. [5] and Arora A et al. [6], the incidences of APH were found to be comparable, with 2.5% and 1.2% respectively. In their study, Adekanle DA and colleagues [8] found that the rate of antepartum hemorrhage was 1.5%. 33.3 percent of cases of placenta previa were found to be present.

Placenta previa was the most common cause of abruptio placentae, accounting for 28.5% of all cases of postpartum hemorrhage (APH). The findings of our study were in agreement with those of the research carried out by Maurya et al. [7], which revealed that 71% of the cases were placenta praevia and 27% were abruptio placentae. Additionally, the findings of Adekanle DA et al. [8] showed that the percentage of instances of placenta previa and abruptio placentae were 55.6% and 33.3%, respectively.

Across all age categories, there is a prevalence of APH disease. The majority of patients, or forty percent, were in the age category of twenty-six to thirty years old, with eighty-four percent of instances of plancenta previa and fifteen percent of abruptio placenta. The mean age of women experiencing APH in our research was 26.7 years plus 4.5 years. 33% of patients were in the age bracket of 20-25 years old. Both Tyagi P et al. [9] and Adekanle DA et al. [8] performed studies in which they found that between the ages of 26 and 30, respectively, 61% and 40% of instances of APH were seen. This finding is in agreement with their findings.

71% of the women who were diagnosed with APH were multigravidae, whereas 29% were females who had never given birth before. The standard deviation was +1.17, and the mean parity was 2.24. With regard to multigravida, the incidence of placenta previa was 66.2%, whereas the incidence of abruptio placentae was 33.3% throughout pregnancy. This was in agreement with the findings of the research carried out by Samal SK and colleagues [10]. Which had a 67% incidence of APH in multigravida and a 33% incidence in primigravida, which is also similar with the research that was carried out by Singhal S et al. [20], who discovered that six hundred and one percent of the patients in their study were multigravida and twenty-seven percent were primigravida. Specifically, Maurya A. and others [7]. A high incidence, namely 82.1%, was reported in multigravida.

The incidence of placenta previa is higher in individuals who have had several pregnancies and who are of advanced age, while the incidence of abruption placenta is higher in people who are having their first pregnancy. Compared to previous research, our booking rate was much higher, and it was not consistent with the findings of other studies. This was due to the fact that the state government's provision of free facilities makes it possible for prenatal checkups to be easily accessible even in remote locations.

In our investigation, the mean gestational age at birth was 35.22 weeks plus 2.82 weeks, and 66 percent of the patients who participated in our study had preterm deliveries. This finding

was in line with the findings of the study that was carried out by Samal SK et al. [10], which found that the incidence of preterm deliveries was 73%. It was observed by Sheikh F et al. [11] that 79.16% of premature births occurred. In the research that was carried out by Siddiqui SA et al. [12], the mean gestational age was 34.24 + 3.36 weeks in placenta previa and 34.40 + 3.87 weeks in abruption placentae. This is comparable to the findings of our own study, which found that the mean gestational age in placenta previa was 33.6+ 3.4 weeks, while the mean gestational age in abruption placentae was 33.5+ 2.6 weeks.

Twenty-eight percent of the patients had abruptio placenta, whereas 72 percent of the patients had placenta previa. A total of 78 patients, or 72 percent, underwent LSCS. Vaginal delivery was performed on 31 patients, which is equivalent to 29% of the total number of patients. Of them, 70% had placenta previa (Type 1) and 29% had abruptio placentena.

It may be deduced from this that the majority of caesarean sections were performed due to placenta previa. This finding was in line with the findings of studies carried out by Chufamo N et al. [15] and Sheikh F et al. [11], which reported that 54.4% and 57.1% of women who underwent caesarean sections were affected by placenta previa, respectively. In a study that was quite similar to the one that was carried out by Arora R et al. [6] and Bhinde AG et al. [14], the researchers found that the incidence of cesarean delivery in placenta previa was 65% correspondingly.

There were preterm births in 66% of the patients, with 76% of them being low-birth-severity caesarean section (LSCS) deliveries and 26% being vaginal deliveries.

In 5.2% of instances with apnea-puerperal hypertension (APH), malpresentations were seen. These malpresentations included breech and transverse lying, as well as three twins and one triplet pregnancy. Researchers Samal SK et al. [10], Ayushma J et al. [16], and Sheikh F et al. [11] all came to the same conclusions, which were supported by this investigation. The incidence of malpresentations was reported by 8.7%, 8.8%, and 9.7% of the individuals accordingly.

According to the findings of our research, the most prevalent complications that were observed were chronic obstructive pulmonary disease (PPH), which had an incidence of 41%, followed by anemia in 35% of cases, shock in 6% of cases, and DIC in one patient (0.9%). Our results were in line with those of Kalam F et al. [17], who reported occurrences of anemia at 38 percent, PPH at 38 percent, shock at 22 percent, and DIC at 2 percent.

Comment [TO21]: Not correct abbreviation for what you intend

Comment [TO22]: Not correct abbreviation for what you intend

Comment [TO23]: Not correct abbreviation for what you intend

Similar occurrences were discovered in research carried out by Sharmila G et al. [18], which revealed that 62% of the patients had anemia, 10% had shock, 22% had PPH, and 2% had DIC.

Placenta previa was associated with a higher incidence of anemia. In two patients who had an abruption, one of them went into shock, which was then followed by a myocardial infarction, while the other patient went into shock and developed DIC, demonstrating acute repercussions of the abruption. There was no evidence of a maternal death.

Preterm births occurred in 25.8% of newborns, with placenta previa accounting for 72% of these cases. Asphyxia was a concomitant condition in 12.2% of the cases, with placenta previa accounting for 59% of the cases.

A blood transfusion was required for 58.6% of the individuals diagnosed with APH in our research. There were 45% and 50.3% of blood transfusions in the studies conducted by Tyagi P et al. [9] and Chufamo N et al. [15]. In our investigation, there was just one patient who needed eight units of blood to be transfused. She got DIC, was taken to the intensive care unit, and made a full recovery.

One of the strongest associations between placenta previa and low birth weight was found. A total of 79% of neonates were born with a birth weight of less than 2.5 kilograms. The most significant factors that led to low birth weight (LBW) were premature births. In our research, the average birth weight was 2.17 kg plus or minus 36 kilograms. Samal SK et al. [10] and Sharmila G et al. [18] found that 66.5% and 78.43% of newborns had birth weights that were less than 2.5 kilograms. Our results were in agreement with these studies. As a result of the early choice and surgical intervention in consideration of maternal health and fetal discomfort, as well as the availability of a neonatal intensive care unit that is well-equipped, the low birth weight may have occurred.

64% of neonates in our research had an APGAR score that was more than 7 at five minutes after delivery, whereas 35% had scores that were lower than 7. Placenta previa accounted for 53% of these 46% of instances, whereas abruptio placentae accounted for 40% of them. We found that our findings were in line with those of Adeknale DA et al. [8], who discovered that 61% of the patients in their research had an APGAR score of seven or higher. Similar findings were seen in studies carried out by Rajini P et al. [19] and Singhal SR et al. [20], which indicated that 74.6% and 80.4% of the cases had an APGAR score of seven or higher at five minutes.

Of the total 109 births, there were 114 infants, 90 of which were alive, and six of them passed away while they were in the neonatal intensive care unit. 10 were fatalities that occurred inside the uterus, and 8 were stillbirths. Twenty-four, or twenty-one percent, of all newborns died. The most prevalent cause of mortality among newborns is neonatal shock, which accounts for 75% of all fatalities. This is followed by sepsis and pulmonary hemorrhage as the next leading causes of death.

Out of the issues that were documented in our research, the most prevalent ones were preterm (28%), fetal distress and asphyxia (15%), jaundice (9%) and sepsis (2.1%), stillbirth (7%) and intrauterine devices (8.7%), and early newborn mortality (5.2%). The findings of the research carried out by Kedar K et al. [21] provide support for this assertion. There were 16% of neonates that were born prematurely, 10% of stillbirths, and 10% of IUDs, according to Samal SK et al. [10]. who achieved comparable findings with 38.5% of those born prematurely and 11.8% of those born still.

Fetal distress was seen in 30.2% of the neonates that were included in our research. Placenta previa, which had a prevalence of 48%, was the most prevalent cause of this condition, followed by abruption, which had a prevalence of 36%. When compared to the findings of investigations carried out by Taylor F et al. [22] and Bhandiwad A et al. [23], the percentage of instances in which fetal distress was documented was 69% and 47.8% respectively. An early surgical intervention to prevent maternal morbidity, which may occasionally in reality circumvent appropriate steroid therapy, might be the cause of fetal discomfort. This operation is intended to prevent maternal morbidity. In our research, there were no cases of maternal mortality. The outcomes of the investigation that Samal Sk and his colleagues carried out were in agreement with this as well. [10] according to Sheikh et al. [11], who did not experience any cases of maternal death. A maternal mortality rate of three percent was reported by Chufamo N et al. [15]. According to the findings of their research, the rate of maternal death was 3.1%.

It is possible that the absence of maternal death in our research was due to a higher incidence of booked cases, thorough prenatal checkups, improved referral services, super specialist services, well-equipped intensive care units, and a blood bank facility that is open 24 hours a day, seven days a week.

According to the findings of our research, perinatal death was seen in 31% of instances with APH. The maternal hemorrhage that resulted in fetal shock was the main cause of the

majority of cases. Neonatal mortality was seen in 5.2% of the cases, intrauterine devices were observed in 8.7% of the cases with apnea-puerperal hypertension, and abruption was the most prevalent occurrence, followed by placenta previa. This was comparable to the research that Singhal S. and his colleagues [24] carried out. of whom the perinatal death rate was 23.70 percent. According to the results of investigations carried out by Maurya an et al. [7], similar effects were reported. In instances of placenta previa and abruptio placentae, respectively, and perinatal death rates of 12.6% and 18.5%, respectively, were observed.

Conclusion

Antepartum hemorrhage stands as a primary contributor to maternal and perinatal morbidity and mortality, with Placenta previa emerging as the prevailing cause, followed closely by abruptio placenta. Placenta previa frequently presents among multiparous individuals and those with a history of obstetrical surgeries. Conversely, abruptio placenta tends to manifest in patients with hypertension and primigravida. Notably, abruptio placenta is characterized by a more severe degree of hemorrhage and is strongly linked to maternal and perinatal morbidity and mortality.

Comment [TO24]: Any recommendations?

.

Reference:

1. Sheikh F, Khokhar SA, Sirichan P, Shaikh RB. A study of antepartum haemorrhage: maternal and perinatal outcomes. Med channel Gynaecol Obstet. 2010; 16(2):268-71.
2. Ananth CV, Wilcox AJ. Placental abruption and perinatal mortality in the United States. Am J Epidemio I. 2001; 153:332-37.
3. Crane JM, Van den Hof MC, Armson BA, Liston R. Neonatal outcome with placenta previa. Obstet Gynecol. 1999; 93(4):541-44.
4. Jharaik H et al. Int J Reprod Contracept Obstet Gynecol. 2019; 8(4):1480-1486.
5. Bhide A, Thilaganathan B. Recent advances in the management of placenta previa. Curr Opin Gynecol. 2004; 16(6):447-51.
6. Arora R, Devi V, Majumder. Perinatal morbidity and mortality in Antepartum haemorrhage, J of obst and Gyn of India, May/ June. 2001; 51(3):102-104.

7. Maurya A, Arya S. Study of Antepartum Haemorrhage and its maternal and perinatal outcome. Int J Sci and research Pub. 2014; 4(2):2250-3153.
8. Adekanle DA, Adeyemu A, Fadero F. Antepartum haemorrhage and pregnancy outcome. J Med and Med Sci. 2011; 2(12):1243-47.
9. Tyagi P, Yadav N, Sinha P, Gupta U. Study of antepartum haemorrhage and its maternal and perinatal outcome. Int J Reprod Contracept Obstet Gynecol. 2016; 5:3972-77.
10. Samal SK, Rathod S, Rani R, Ghose S. Maternal and perinatal outcomes in cases of antepartum haemorrhage: a 3-year observational study in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2017; 6:1025-29.
11. Sheikh F, Khokhar SA, Sirichan P, Shaikh RB. A study of antepartum haemorrhage: maternal and perinatal outcomes Med channel Gynaecol Obstet. 2010; 16(2):268-71.
12. Siddiqui SA, Tariq G, Soomro N, Sheikh A, Hasnain FS, Memon KA. Perinatal outcome and near-miss morbidity between placenta praevia versus abruptio placenta. J Coll Phys Surg Pak. 2011; 21(2):79-83.
13. Chufamo N, Segni H, Alemayehu YK. Incidence, contributing factors and outcomes of antepartum hemorrhage. Uni J Pub Health. 2015; 3(4):153-59.
14. Bhide AG, Venkatraman V, Deftary SN. Factors affecting prenatal outcome in antepartum hemorrhange. J Obstet Gynecol. 1990; 40(1):517-20.
15. Chufamo N, Segni H, Alemayehu YK. Incidence, contributing factors and outcomes of antepartum hemorrhage. Uni J Pub Health. 2015; 3(4):153-59.
16. Jejani A, Kawthalkar A. Study of obstetric outcome in antepartum haemorrhage. Panacea Journal of Medical Science. 2015; 5(3):153-57.
17. Kalam F, Faruq MO, Chowdhary SB. Maternal and perinatal mortality, morbidity and risk factor evalution in ante partum hemorrhage associated with Placenta Previa, Bangladesh. Crit Care J. 2013; 12:65-70.
18. Sharmila G, Prasanna. Maternal and perinatal outcome in antepartum hemorrhage IAIM. 2016; 3(9):148-60.
19. Rajini P, Devi A, Singh A, Grishma P. Maternal and Perinatal Outcome in Cases of Antepartum Hemorrhage in Gandhi Hospital. Journal of Dental and Medical Sciences. 2016; 15(6):09-11.

20. Singhal SR, Chaudhary S, Nanda S, Dahiya P. Characteristics of patients of ante-partum hemorrhage at a tertiary care centre. Indian Journal of Obstetrics and Gynecology Research. 2016; 3(2):86-89.
21. Kedar K, Uikey P, Pawar A, Choudhary A. Maternal and fetal outcome in antepartum haemorrhage: a study at tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2016; 5:1386-93.
22. Taylor F. Clinical presentation and risk factors of placental abruption. Acta ObstetGynecol Scand. 2006; 85(6):700-05.