ABSTRACT Background: Antepartum haemorrhage (APH) has always been one of the most feared complications in obstetrics. Antepartum haemorrhage is a grave obstetric emergency contributing to a significant amount of maternal and perinatal morbidity and mortality in our country. Haemorrhage was a direct cause of maternal death in about 30% of cases. APH complicates about 2-5% of all the pregnancies with the incidence of placenta praevia (PP) about 0.33% to 0.55% and incidence of abruption placenta (AP) about 0.5-1%. The maternal complications in patients with APH are malpresentation, premature labour, postpartum haemorrhage (PPH), sepsis, shock and retained placenta. Methods: This study was a Prospective study conducted in the Department of Obstetrics & Gynaecology of Burdwan Medical College and Hospital, Burdwan, West Bengal, from February 2018 to July 2019 after approval from the Institutional Ethical Committee. One hundred patients who presented at emergency OPD with APH were included in the study. The template was generated in an MS excel sheet, and analysis was done on EPI INFO software. Results: Incidence of antepartum haemorrhage (APH) is 2.35% during the study period among 4256 cases studied. The incidence rate of placenta previa, abruptio placentae and undetermined causes of APH in this study was 1.17%, 0.94% and 0.23%. The majority of the cases (62%) were in the age group between 20-29 years, and the least (11%) was found greater than 29 years age group. Bleeding (80%) was a common presentation in PP. Pain abdomen and bleeding per vagina (45%) were common with abruption placentae. Most of the patients (89 %) were anaemic at admission. Most anaemic patients (49%) had blood haemoglobin levels 7-7.9gm. 50% of placenta previa patients had Hb % level 7-7.9 Conclusions: Antepartum Haemorrhage cannot be reliable be predicted. All women presenting with APH should be assessed to establish whether urgent intervention is necessary to manage or compromise. Though maternal morbidity is reduced with modern management of APH, but timely diagnosis and intervention is necessary

KEYWORDS Maternal, fetal outcome, antepartum haemorrhage

Introduction

Antepartum haemorrhage has always been one of the most feared complications in obstetrics. Antepartum haemorrhage is defined as any bleeding from or into the genital tract after the period of viability (20 weeks in the US, 28 weeks in India) and before the end of the second stage of labour. Antepartum haemorrhage can be due to placenta previa, abruption placentae, indeterminate or local causes of the genital tract. Placenta previa
refers to the condition when the placenta is situated wholly or partially in the lower uterine segment and account for one-third of all cases of APH. It is further classified as type 1, type 2, type 3 and type 4. An Abruptio Placentae is the condition whenever bleeding occurs due to premature separation of the normally situated placenta, and it also contributes to nearly one-third of cases. Haemorrhage is one of the leading causes of maternal mortality and morbidity. According to the centre for disease control and prevention, haemorrhage was a direct cause of maternal death in about 30% of cases. Antepartum haemorrhage complicates about 2-5% of all pregnancies,\(^1\) with the incidence of placenta about 0.33%\(^2\) to 0.55%\(^3\) and incidence of Abruptio Placentae about 0.5-1%.\(^4\) The maternal complication in APH patients are malpresentation, premature labour, postpartum haemorrhage, sepsis, shock, and retained placenta. Various fetal complications are premature baby, low birth weight, intrauterine fetal death, congenital malformation and birth asphyxia.\(^5\) Maternal mortality due to APH significantly decreased in developed countries to about 6/100000 live birth due to better obstetrical outcomes. In India, maternal mortality is still very high and is 4.08/1000 live births.\(^6\) In developing countries, widespread preexisting anaemia, difficulties with transport, restricted medical facilities, decreased awareness of patient parties and relatives are largely responsible for high MMR (Maternal Mortality Rate). Perinatal is less than 10 per 1000 total birth in developed countries while it is much higher in India 60/1000 total birth.\(^6\) Although APH cannot be prevented, maternal and perinatal morbidity and mortality associated with APH can be reduced significantly by aggressively expectant and active management. Presently increasing use ultrasonography (TAS/TVS) for placental localization and to diagnose abruptio placentae, improved obstetrical and anaesthetic facilities, increasing use of blood and its products to correct anaemia and advanced neonatal care facilities, to make increased chances of survival of the preterm infant. All collectively have played an important role in decreasing perinatal as well as maternal morbidity and mortality.\(^7\) With the above background, the present study has evaluated how far we have come and the effect of treatment on the perinatal and maternal outcome at Tertiary Care Hospital of West Bengal, India.

**Objectives of the study**

1. To emphasize the importance of early diagnosis and prompt treatment in the improvement of maternal and perinatal outcome and to study the prevalence of Antepartum Haemorrhage at tertiary care hospital.

2. To determine the cause of APH and to assess the value of current obstetrics practice in managing APH.

**Method and Materials**

The study was conducted after receiving approval from the ethical committee of Burdwan Medical College and the hospital.

**Study Design**

Prospective study.

**Study Population**

All consenting pregnant mothers who presented with APH in the antenatal OPD and an emergency over a period of one and half years.
### Table 1
Age distribution of the participation (n=100).

| Age   | Total Number (%) | p Value | Significance |
|-------|------------------|---------|--------------|
| <20   | 14 (28)          | 0.414   | Not Significant |
| 20-29 | 29 (58)          |         |              |
| >29   | 7 (14)           |         |              |
| Total | 50 (100)         |         |              |

### Table 2
Distribution of the participants according to their parity, gestational age at the time of admission, booking status, clinical presentation, Fetal status at the time of presentation and haemoglobin status at the time of admission (n=100).

| Gravida          | placenta previa % | abruption % | Undetermined % | P Value |
|------------------|-------------------|-------------|----------------|---------|
| Primi gravida    | 22                | 44          | 20             | 4       | 40  |
| Multi gravida    | 28                | 56          | 20             | 6       | 60  |
| Total            | 50                | 100         | 40             | 10      | 100 |

| Gestational age at the time of admission | 28-30 wks 6 days | 31-33 wks 6 days | 34-36 wks 6 days | 37-39 wks 6 days | >40-42 wks |
|------------------------------------------|-----------------|-----------------|-----------------|-----------------|------------|
| Total                                    | 50              | 100             | 40              | 100             | 100        |

| Booking status | 27 | 54 | 18 | 45 | 4 | 40 |
|----------------|----|----|----|----|---|----|
| Total          | 50 | 100| 40 | 100| 10| 100|

| Clinical presentation | BPV | Pain abdomen | BPV + pain abdomen | PROM |
|-----------------------|-----|--------------|--------------------|------|
| Absent                | 4   | 8            | 5                  | 12.5 |
| Reduced               | 2   | 4            | 9                  | 22   |
| good                  | 44  | 88           | 26                 | 65   |

| Hb status | >11 | 10-10.9 | 7-9.9 | 4-6.9 | <4 |
|-----------|-----|---------|-------|-------|----|
| Absent    | 5   | 5       | 2     | 2     | 4  |
| Reduced   | 18  | 36      | 11    | 27.5  | 4  |
| good      | 25  | 50      | 22    | 55    | 2  |
|           | 2   | 4       | 5     | 12.5  | 0  |
|           | 0   | 0       | 0     | 0     | 0  |

Dr Kajal Kumar Patra et al./ International Journal of Medical Reviews and Case Reports (2022) 6(6):7-15
the incidence of APH was more in multigravida patients than primigravida. Gestational age-wise distribution of the study group. Majority of the patients presented with APH at a gestational age between 34 to 36 weeks 6 days (48%).

In this study, 49 (49%) were booked, and 51(51%) patients were the unbooked majority of unbooked patients referred from another hospital. No significant association was observed groups and booking status as p-value 0.414.

A significant association was seen between clinical presentation and various groups of APH. Bleeding (80%) was a common presentation in PP. Pain abdomen and bleeding per vagina (45%) were common with abruptio placenta. P-value is 0.012.

Fetus with good fetal heart sound was seen in 88% in placenta previa. In contrast, a fetus with reduced fetal heart sound was seen in 22% in abruption placentae, and in 12.5% abruptio placenta cases, fetal heart sound was absent.

Most of the patients (89%) were anaemic at admission. Most anaemic patients (49%) had blood haemoglobin levels 7- 7.9gm. 50% of placenta previa patients had Hb% level 7-7.9. 55% abruptio placentae had Hb level 7-7.9gm and 12.5% patients had Hb% level <7g. p-value 0.001.

Table 3 shows 89 cases (89%) that required blood transfusion. Blood and blood product were transfused for both placenta previa (47%) & abruption placenta (36%). P-value was 0.010, which was significant.

42 Cases of APH had associated risk factors. Most of the risk factors were pregnancy-induced hypertension and previous lower cesarean section. In this study, a P-value of 0.701 no significant. Most of the infants, about 89 infants, had low weight at birth (less than 2.5 kg). In placenta previa, 41 cases were low birth weight, and 31 cases of abruption placenta cases low birth weight baby were delivered. P-value in this study was 0.950. non-significant.

Out of 100 babies, 74 babies were preterm, and they were delivered before 37 weeks of GA. The incidence of premature babies is higher in patients presenting with antepartum haemorrhage. It is because of iatrogenic induced labour to prevent maternal and perinatal mortality. P-value significant (0.01).

Out of 100 patients, 83 patients delivered alive babies. 5 patients had stillbirths 6 patients had intra-uterine fetal demise. In this case p-value not significant (0.627).

Table 4 showed 18 cases LSCS associated with APH. And 3 cases postcCS with D/E,1 cases present with previous h/o 2 LSCS, 4 cases h/o D/E,1 cases D/E with eclampsia and 1 cases D/E with severe pre- eclampsia. 7 cases pre-eclampsia, 1 cases eclampsia,4 cases mild eclampsia.

Table 5 shows out of 100 cases 25 cases had severe morbidity. Out of 14 abruptio placenta cases 3 cases developed haemor-
### Table 3: Distribution of the participation according to no of blood transfusion (unit), associated risk factors, birth weight, term / preterm and live / still born, IUFD (n=100).

| NO OF BLOOD TRANSFUSION (UNIT) | Type of APH | Total Number (%) | p Value | Significance |
|--------------------------------|-------------|------------------|---------|--------------|
|                                | Placenta Previa Number (%) | Abruptio Placenta Number (%) | Undetermined Number (%) | |
| 0                              | 3 (6)       | 4 (10)           | 4 (40)  | 11 (11)      | 0.010 | Significant |
| 1                              | 38 (76)     | 21 (52.5)        | 6 (60)  | 65 (65)      |       |             |
| 2                              | 8 (16)      | 10 (25)          | 0 (0)   | 18 (18)      |       |             |
| 3                              | 0 (0)       | 4 (10)           | 0 (0)   | 4 (4)        |       |             |
| 4                              | 0 (0)       | 1 (2.5)          | 0 (0)   | 1 (1)        |       |             |
| >5                             | 1 (2)       | 0 (0)            | 0 (0)   | 1 (1)        |       |             |
| Total                          | 50 (100)    | 40 (100)         | 10 (100)| 100 (100)    |       |             |

#### Associated risk factors

- **No**: 28 (56) - 25 (62.5) - 5 (50) - 58 (58) - 0.701 - Not Significant
- **Yes**: 22 (44) - 15 (37.5) - 5 (50) - 42 (42)

#### BIRTH WEIGHT (KG)

- ≤ 1.5: 6 (12) - 3 (7.5) - 0 (0) - 9 (9) - 0.950 - Not Significant
- 1.5-2: 18 (36) - 15 (37.5) - 4 (40) - 37 (37)
- 2-2.5: 17 (34) - 13 (32.5) - 3 (30) - 33 (33)
- >2.5: 9 (18) - 9 (22.5) - 3 (30) - 21 (21)

#### Term / preterm

- Preterm: 42 (84) - 28 (70) - 4 (40) - 74 (74) - 0.012 - Significant
- Term: 8 (16) - 12 (30) - 6 (60) - 26 (26)

#### live / still born, IUFD

- IUFD: 2 (4) - 4 (10) - 0 (0) - 6 (6)
- Live: 46 (92) - 33 (82.5) - 10 (100) - 89 (89) - 0.627 - Not Significant
- Still born: 2 (4) - 3 (7.5) - 0 (0) - 5 (5)

#### Table 4: Distribution of the participation according to associated risk factors (n=100).

| Associated risk factors | placenta previa | % | abruptio placenta | % | undetermined | % |
|-------------------------|-----------------|---|-------------------|---|--------------|---|
| Post CS                 | 12              | 24| 4                 | 10| 2            | 20|
| Post CS+D/E             | 2               | 4 | 0                 | 0 | 1            | 10|
| Both LSCS               | 0               | 0 | 0                 | 0 | 1            | 10|
| D/E                     | 4               | 8 | 0                 | 0 | 0            | 0 |
| D/E+E Eclampsia         | 1               | 2 | 0                 | 0 | 0            | 0 |
| D/E+ Severe preeclampsia| 0               | 0 | 2                 | 5 | 0            | 0 |
| Eclampsia               | 0               | 0 | 1                 | 2.5| 0            | 0 |
| Severe pre-eclampsia    | 2               | 4 | 3                 | 7.5| 2            | 20|
| Mild pre-eclampsia      | 0               | 0 | 4                 | 10| 0            | 0 |
| Total                   | 50 (100)        | 40 (100) | 10 (100) | 100 (100) |
D) Age distribution
Increasing age has been implicated as a predisposing factor in both placenta previa and abruptio placentae.

In the present study highest number cases 62 were in the age group of 20-29 yrs. This study was comparable with Archana mourya et al, where the commonest age group was 21-29 yrs and mean age of 23 yrs and bhandiwad A et al showed a mean age of 23.3+-3.9 years with the most common age group being 20-29 yrs Bako, et al 45% of the cases were in the age group of 21-29 years with the mean age 27 years.

E) Clinical presentation
Taylor et al shows that most of the patient presented with vaginal bleeding (70%), pain abdomen 51%, bloody AF 50%, FHR abnormality 69% neither bleeding or pain 19%, PROM not studied. Sarwar I et al 20% PROM. Bhandiwad A et al showed 86% bleeding per vagina followed by pain abdomen (73%) and FHR abnormality (47%). In present study 66% patient present with bleeding per vagina, 29% present with pain abdomen and 10% PROM was seen in abruptio placentae. Which are comparable to other study.

F) Fetal heart rate at the of admission
Fetal heart sound (FHS) indicate fetal well-being. Absence of FHS or evidence of fetal distress was important in gauging the condition of the fetus and the obstetric management of the patient depended on this. In the present study with antepartum haemorrhage (APH), 5% still birth was noted in abruptio placentae. In 9% cases fetal heart sound was absent at the time of admission. 12.5% cases absent FHS, 22.5% reduced FHS in abruptio placentae. In placenta previa 88% good fetal heart sound, 9% cases reduced fetal heart sound. 90% good fetal heart sound in undetermined cases. The result of the study is similar to that Chakraborty et al 10 who reported that normal FHS was present in 66% of all patients of APH. In their series 72.6% of AP and 82.26% of undetermined cases had normal FHS. FHS was absent in 33.33% of AP patients. In their study evidence of fetal distress was present in 26.08% patients with AP. Sarwar I et al was showed 58.5% absent fetal heart sound and Bhandiwad A et al study showed 17.4% absent FHS and 47.8% reduced fetal heart sound.

G) Associated risk factors
In the present study 29% cases of APH had a history of previous LSCS and abortion. History of prior LSCS was found 12 cases of placenta previa patients has compared to 4 cases of AP. This comparable to study of Taylor et al who found that 20% cases and 15% cases of PP respectively in their study had a history of previous LSCS.

The present study showed that 24% had history of previous LSCS, % cases had history of LSCS and abortion.

In the present study showed that 42% patients with APH had associated risk factors. 7.5% cases with abruptio placentae presented with severe preeclampsia and 10% had mild pre-eclampsia, 2.5% had eclampsia. Rai et al found 4.4% incidence of hypertensive disorders of pregnancy in APH patients.

H) Haemoglobin status
In the present study showed that 56% patients with APH were anaemic with Hb<10gm% at the time of admission out of which 49% had Hb% of 7-9.9gm.

Similar findings were observed by chakraborty, et al 10 who reported that 60% of their patients were anaemic. In contrast Sarwar, et al 9 reported high incidence (96.2%) and bhandiwad A, et al 13 reported low incidence of 35%.

In the present study, 55% of the patients with abruptio had Hb% of 7-9.9gm, and 50% of placenta previa had Hb% 7-9.9 gm. 12.5% of abruptio placentae had Hb% 4-6.9 gm/dl and 4% placenta previa had Hb% 4-6.9gm. In the undetermined haemorrhage group, 40% had Hb% >11gm, and 40% had Hb% 10-10.9% at the time of admission. Compared to placenta previa, most cases of abruptio have concealed haemorrhage, so severe anaemia is more common in abruptio case.

I) Blood transfusion in unit
Many patients needed blood and blood products transfusion to correct anaemia, ongoing blood loss and to correct DIC. Among abruptio placentae patients, 90% of patients needed a blood transfusion. Among placenta previa, 93.8% cases blood transfusion.

In our present study, 83% of cases of APH in our study was delivered by caesarean section, and 13% of cases were delivered by vaginal delivery (VD). In abruptio, 67.5% of cases had a caesarean section in the present study 46 (92%) patients of placenta previa delivered by emergency caesarean section and 3 (6%) delivered by elective caesarean section. This was comparable to the study done by Chakraborty et al 10, Bako et al. 14, where 82%, 78.3%, 86.8% of placenta previa subjects were delivered by caesarean section. In the study of antepartum haemorrhage by Archana Mourya et al. 12, 92% of placenta previa delivered by caesarean section rate of caesarean section was more in placenta previa because it is the preferred mode of delivery in this case.

J) Mode Of Delivery
In the present study, 13 (32.5%) patients were delivered by vaginal delivery because many of the abortion cases had intrauterine death at the time of presentation. Twenty-seven cases (67.5%) of abortion placentae were delivered by LSCS. This study was comparable to Bako et al. 14 reported 63.3% of normal deliveries in patients with abortion. Under determined haemorrhage, 3 patients (30%) were delivered by vaginal route.

K) Maternal Mortality and Morbidity
In the present study, postpartum haemorrhage was the most common complication. Total 17 (17%) cases were observed in APH. This was similar to the study done by Chakraborty et al. 10, who reported a 16.2% incidence of PPH.

The shock was present in 7.5% of cases of abruptio placentae. Postpartum haemorrhage in 17.5% of cases is seen in abruptio placentae, and DIC is seen in 5% of cases. Couvelaire uterus was seen in 2.5% and scar dehiscence in 2.5% cases in abruptio placentae. There was no death in death in the abortion group. Rai, et al. 16 reported couvelaire uterus in 10.5% of abortion patients. In the present study, 1 patient with placenta previa had placenta accreta, and one patient placenta previa type iv had undergone caesarean section followed by obstetric hysterectomy.

L) Perinatal Outcome
In the present study, 89 of the patients with antepartum haemorrhage had live births, 6% had intrauterine death, 5% had a stillbirth, and 18% had neonatal deaths. In the abortion group, 53.57% and placenta previa, 95% were live births. This was in contrast to Bako et al. 12 studies where 61% of the birth patients with abortion were dead born. However, only 10% of the patients with placenta previa died born in the same study.
### Table 5 Distribution of the participation according to maternal morbidity, fetal presentation and prenatal mortality (n=100).

| Maternal morbidity   | Placenta previa | %     | Abruptio  | %     | Undetermined | %     |
|----------------------|-----------------|-------|-----------|-------|--------------|-------|
| PPH                  | 8               | 16    | 7         | 17.5  | 0            | 0     |
| OBS. hysterectomy    | 2               | 4     | 0         | 0     | 0            | 0     |
| Scar dehiscence      | 1               | 2     | 1         | 2.5   | 0            | 0     |
| Shock                | 0               | 0     | 3         | 7.5   | 0            | 0     |
| DIC                  | 0               | 0     | 2         | 5     | 0            | 0     |
| Couvellarie uterus   | 0               | 0     | 1         | 2.5   | 0            | 0     |

**Fetal presentation**

|       | Cephalic | 35    | 70    | 37    | 92.5 | 7    | 70    |
|-------|----------|-------|-------|-------|------|------|-------|
| Breech| 9        | 18    | 3     | 7.5   | 3    | 30   |
| Transverse| 3   | 6     | 0     | 0     | 0    | 0    |
| Unstable| 3     | 6     | 0     | 0     | 0    | 0    |

**Perinatal mortality**

|       | Respiratory distress | 5     | 10    | 2     | 5    | 1    | 10    |
|-------|----------------------|-------|-------|-------|------|------|-------|
| Birth asphyxix | 1   | 2     | 4     | 10   | 0    | 0    |
| Sepsis      | 1               | 2     | 2     | 5     | 0    | 0    |
| HIE         | 1               | 0     | 0     | 0     | 0    | 0    |
| Jaundice    | 5               | 10    | 2     | 5     | 0    | 0    |

### Table 6 Distribution of the participation according to Apgar Score 1 minute and 5 minute (n=100).

| Type of APH | Total Number (%) | p Value | Significance |
|-------------|------------------|---------|--------------|
|             | Placenta Previa Number (%) | Abruptio Placenta Number (%) | Undetermined Number (%) |
|            |                  |         |              |
| APGAR Score 1 Minute | | | |
| 3           | 3 (6.52)         | 4 (11.76) | 0 (0)       | 7 (7.78) |
| 4           | 11 (23.91)       | 6 (17.65) | 5 (50)      | 22 (24.44) |
| 5           | 2 (4.35)         | 1 (2.94)  | 0 (0)       | 3 (3.33)  |
| 6           | 14 (30.43)       | 8 (23.53) | 0 (0)       | 22 (24.44) |
| 7           | 15 (32.61)       | 13 (38.24) | 5 (50) | 33 (36.67) |
| 8           | 1 (2.17)         | 2 (5.88)  | 0 (0)       | 3 (3.33)  |
| Total       | 46 (100)         | 34 (100)  | 10 (100)    | 90 (100)  |
|            |                  |         |              |
| APGAR Score 5 Minute | | | |
| 4           | 5 (12.2)         | 4 (13.79) | 0 (0)       | 9 (11.25) |
| 5           | 7 (17.07)        | 4 (13.79) | 4 (40)      | 15 (18.75) |
| 6           | 2 (4.88)         | 0 (0)    | 1 (10)      | 3 (3.75)  |
| 7           | 10 (24.39)       | 7 (24.14) | 0 (0)       | 17 (21.25) |
| 8           | 15 (36.59)       | 12 (41.38) | 5 (50) | 32 (40) |
| 9           | 2 (4.88)         | 2 (6.9)  | 0 (0)       | 4 (5)     |
| Total       | 41 (100)         | 29 (100)  | 10 (100)    | 80 (100)  |

### Table 7 Distribution of the participation according to NICU Admission (n=100).

| Type of APH | Total Number (%) | p Value | Significance |
|-------------|------------------|---------|--------------|
|             | Placenta Previa Number (%) | Abruptio Placenta Number (%) | Undetermined Number (%) |
| NICU Admission |                  |         |              |
| No          | 35 (70)          | 28 (70) | 7 (70)       | 70 (70) |
| Yes         | 15 (30)          | 12 (30) | 3 (30)       | 30 (30) |
| Total       | 50 (100)         | 40 (100) | 10 (100)    | 100 (100) |
Table 8 Comparison between placenta previa and abruptio placenta (n=100).

| TYPE OF APH     | AGE    | GESTATIONAL AGE IN WEEK | HB%  | BIRTH WEIGHT(KG) | APGAR SCORE 1 Minute | APGAR SCORE 5 Minute |
|-----------------|--------|-------------------------|------|------------------|----------------------|----------------------|
| Placenta Previa | Mean   | 23.24                   | 34.76| 9.47             | 2.11                 | 5.65                 | 6.71                 |
|                 | Median | 22.50                   | 35.00| 9.50             | 2.10                 | 6.00                 | 7.00                 |
|                 | Std. Deviation | 4.66           | 2.34 | 1.28             | 0.46                 | 1.39                 | 1.54                 |
| Abruptio Placenta | Mean   | 22.83                   | 34.85| 8.73             | 2.16                 | 5.76                 | 6.86                 |
|                 | Median | 22.00                   | 36.00| 9.00             | 2.15                 | 6.00                 | 7.00                 |

In the present study, 54 cases (60%) with APH had an Apgar score <7 at one minute. The study conducted by Adkannele et al. 17 reported that 61.1% of babies in the APH group had an Apgar score of <6 at one minute. In addition, 61.1% had an Apgar score of >6 at 5 minute. In the present study, Apgar score >7 in 5 minutes was 66.25%.

In the present study, 8% had respiratory distress comparable to 3% in the study of Jaju KG, et al. 18 28.79% had NICU admission contrary to the present study, which showed 30%. In the present study, physiological jaundice was 7, contrary to this 7.58% in a study of Jaju KG et al.18

18 neonatal deaths were observed in a present study out of which 5 cases birth asphyxia, 8 cases of respiratory distress, 1 case of death due to HIE and another 4 cases due to sepsis

Limitation of the study
The present study was done with small sample size and over a shorter duration of time in a single centre with different inclusion and exclusion criteria. Therefore, a multicentric study with a large cohort should be required for better results.

Conclusion and Recommendations
The study findings emphasize that APH cannot be reliably predicted. APH is associated with maternal and perinatal morbidity and mortality. It is a good practice to avoid vaginal examination and to avoid penetrative sexual intercourse if placenta previa is diagnosed. All women presenting with APH should be assessed to establish whether urgent intervention is necessary to manage or compromise.

A multi-disciplinary approach and senior input are necessary for deciding the timing and mode of delivery. Investigations should be performed to assess the extent and physiological consequences of the APH. Ultrasound can be used to diagnose placenta previa and an ultrasound scan does not exclude abruption. However, the placenta is a clinical diagnosis. No sensitive or reliable diagnostic tests are available.

ACKNOWLEDGEMENTS
The authors would like to acknowledge the patients who participated in this research study.

Funding
No funding sources.

Conflict of interest
None declared.

Ethical approval
The study was approved by the institutional ethics committee

References
1. Fraser D, I Mukhopadhyay S. Antepartum hemorrhage, Chapter 12, The management of labour. 2nd Edition, Orient Longman,2005;177-194.
2. Crane JM van-den-Hof-MC; Dodds, Armson BA, Liston R. Neonatal outcomes with placenta previa. Obstet-gynecol 1999Apr;93(4):541-4.
3. Frederiksen MC, Glassenberg R, Stika CS: Placenta previa: a 22- years analysis. AJ Obstetr Gynecol.1999;180
4. Ananth CV, Smulian JC, Vintzileos AM. Incidence placental abruption in relation to cigarette smoking and hypertensive disorders during pregnancy: A meta-analysis of observational studies. Obstet Gynecol.1999;93:622-8.
5. Cunningham F Leveno K, Bloom S, Hauth J, Gilstrap L, Rouse D et al. Obstetrical haemorrhage. Williams Obstetrics.23rd edition, New York, McGraw Hill Professionals;2009.
6. Park K. Maternal and child health.In Park’s textbook of preventive and social medicine. 17th edition. Banarasi Das Bhanot, Jabalpur;2007:p.445-447.
7. DC Dutta. Antepartum haemorrhage.: Hiralal Konar, editor. Textbook of obstetrics.8th edition. New Central Book Agency, Calcutta;2015:282-302
8. Arora R, Devi U, Majumdar K. Perinatal morbidity and mortality in antepartum haemorrhage. J Obstet Gyna Gynecology 2011; 33:102-4.
9. Bhide A, Sebire N, AbuHamad A, et al. Morbidly adherent placenta : the need for standardization. Ultrasound Obstet Gynecologist 2011; 33:39-44.
10. Chakraborty B, De KC. Evaluation of third trimester bleeding with reference to maternal and perinatal outcome. J Obstetrics & Gynecology India 1993;42: 166-71.
11. Ananth CV, Smulian JC, Vintzileos AM. Incidence of placental abruption in relation to cigarette smoking and hypertensive disorders during pregnancy: a meta-analysis of observational studies. Obstet Gynecol. 1999 Apr;93(4):622-8.

Dr Kajal Kumar Patra et al./ International Journal of Medical Reviews and Case Reports (2022) 6(6):7-15
12. Archana Maurya, Sonal Arya. Study of antepartum hemorrhage and its maternal and fetal outcome. International Journal of Scientific and Research Publications, 2014; 4(2):1-8.

13. Ambarisha Bhandiwad, Abishek A. Bhandiwad. A study of maternal and fetal outcome in antepartum hemorrhage. Journal of evidence based medicine and healthcare, 2014; 11(6):406-427.

14. B.Bako, B.M., Audu, C.M., Chama O., Kyari, A. Idrisa A. 8 year clinical review of antepartum hemorrhage 1999-2006; BOMJ, 2008; 5(2):14-21.

15. Taylor VM, Peacock S, Kramer MD, Vaughan TL. Increased risk of placenta previa among women of Asian origin. Obstet Gynecol. 1995 Nov; 86(5):805-8.

16. Rai L, Duvvi H, Rao UR, Vaidehi, Nalinii V. Severe abruption placentae Still unpreventable Int J Gynecol Obstetr. 1989; 29:117.

17. Adekanle D, Adeye A, Fadero F. Antepartum hemorrhage and pregnancy outcome in Lautech Teaching Hospital, Southwestern Nigeria, Journal of Medicine and Medical Sciences, 2011; 2(12):1234-1247.

18. Kalavati Girdharilal Jaju, A P Kulkarni, Shivprasad Kachrulal Mundada. Study of perinatal outcome in relation to APH. International Journal of Recent Trends in Science and Technology, 2014; 11(3): 355-358