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Research Article

ANTEPARTUM HAEMORRHAGE: FETO-MATERNAL OUTCOME REVIEW AT A TERTIARY HOSPITAL IN NIGERIA

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Abstract

Antepartum haemorrhage (APH) is an obstetric emergency which contributes significantly to maternal and perinatal morbidity and mortality globally, particularly in the developing world. Prevention, early detection, and prompt management cannot be overemphasized in the attempt to significantly reduce the morbidity and mortality associated with this condition. This study was aimed at determining the prevalence, aetiology, sociodemographic characteristics, and the feto-maternal outcome of pregnancies complicated by APH. It was a descriptive retrospective study which was carried out on managed cases of antepartum haemorrhage at the Obstetrics and Gynaecology department of the Federal Medical Centre, Yenagoa, Bayelsa State. A total of 62 cases of APH were recorded out of the 2,375 cases admitted for delivery during the study period, giving an institutional prevalence rate of 2.6%. The most common causes were placenta praeviae and abruptio placentae, constituting 61.3% and 38.7%, respectively. Sociodemographic characteristics associated with the occurrence of APH included age, booking status, parity, and socioeconomic status. The peak prevalence of APH was observed in the 31–35 year age group accounting for 38.7%. There were 58 live births and 6 stillbirths. The caesarean section rate was 95.2%. Major complications were, postpartum haemorrhage in 72.7% and intrauterine fetal deaths in 27.3%. Within the study period 62.9% were transfused and there was no maternal death. The prevalence of APH in our setting is higher than 1%. The major causes were placenta praevia and abruptio placenta. The main fetal and maternal complications were intrauterine fetal death, and postpartum haemorrhage, respectively.

Keywords: Antepartum, haemorrhage, prevalence, feto-maternal, outcome.

INTRODUCTION

Antepartum haemorrhage just like any other catastrophic obstetric emergencies carry an increased risk of maternal and perinatal morbidity and mortality. The risk increases more so because the obstetrician is managing at least two individuals, the fetus and the mother (Kwawukume *et al.,* 2015). APH is defined as bleeding from the genital tract as from the age of fetal viability to just before the onset of labour (Kwawukume *et al.,* 2015). It comprises 2-5% of pregnancies and most cases involve relatively small amount of blood loss (Kenny, 2017). However, significant blood loss poses a risk of morbidity and mortality to both the baby and mother. The causes can be classified into placenta, fetal and maternal (Kwawukume *et al.,* 2015; Kenny, 2017). The main causes of APH include placenta praevia and abruptio placentae, however the exact cause of the bleeding in most cases may be undetermined (Kwawukume *et al.,* 2015; Kenny, 2017; Varouxaki *et al.,* 2018). In a comparison of maternal risk factors, research reports have concluded that abruptio placentae is more likely to be related to conditions occurring during pregnancy such as preeclampsia, abdominal trauma, intrauterine infections, preterm or prelabour rupture of membranes, polyhydramnios elevated maternal serum alpha-fetoprotein, smoking, and substance abuse while placenta praevia was related to conditions existing prior to the pregnancy such as uterine scar, manual removal of placenta, curettage, advanced maternal age, multiparty, and previous placenta praevia (Takai *et al.,* 2017; Onebunne and Aimakhu, 2019). Maternal complications of APH include hypovolemic shock, disseminated intravascular coagulation, and acute renal failure.

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It also includes higher rates of caesarean sections, peripartum hysterectomies, and postoperative anaemia (Kwawukume *et al.,* 2015; Onebunne and Aimakhu, 2019; Joel *et al.,* 2015). The maternal mortality rate was about 1% in studies (Joel *et al.,* 2015; Borodo and Shehu, 2013). Fetal complications are premature delivery, low birth weight, birth asphyxia, and intrauterine fetal death (Kwawukume *et al.,* 2015; Onebunne and Aimakhu, 2019; Borodo and Shehu, 2013). Up to one-fifth of very preterm babies are born in association with APH and the known association of APH with cerebral palsy can be explained by preterm delivery (Joel *et al.,* 2015). A retrospective observational study from Australia found that women with unexplained APH are at greater risk of preterm delivery, and their babies are more likely to develop hyperbilirubinaemia (Joel *et al.,* 2015). Furthermore, women with unexplained APH were more likely to have smaller babies, and this difference remained statistically significant when the birth weight was adjusted for gestational age at delivery and other confounders. Neonatal complications may extend into childhood as many survivors develop other complications including neurological deficit within the first year of life (Wasnik and Naiknaware, 2015; Wagner, 2018). The objectives of this study were to determine the prevalence of APH in the period under review, determine common aetiologies of APH, to identify the sociodemographic characteristics of women managed for APH and to identify the fetomaternal outcome of pregnancies complicated by APH.

METHODOLOGY

It was a descriptive retrospective study of women managed for APH at the Obstetrics and Gynaecology department of the Federal Medical Centre, Yenagoa over a period of 3-years.

Ethical clearance was obtained from the Institution's Ethics and Research Committee prior to the commencement of the study. A list of all parturients that had APH from the 1st of January 2019 to the 31st of December, 2021 was compiled from labour ward and obstetrics theater records, and the case notes were retrieved from the Medical Records Department of the hospital.The total number of deliveries during the study period was also obtained from the statistics unit of the Records Department. Relevant data relating to aetiology, age, social status, parity, booking status, gestational age at presentation, baby's sex, birth weight, mode of delivery and the fetomaternal outcomes were extracted and entered into a proforma. The data was coded and entered into a spread sheet and analyzed using SPSS for windows 25.0 version.

RESULTS

Comparison of sociodemographic factors between placenta praevia and abruptio placentae

During the study period APH accounted for a total of 62 out of 2,375 deliveries giving an institutional prevalence of 2.6%, with placenta praevia 1.6% while abruptio placentae had 1.0%. The other causes of APH were not found during the study period.

Table 1. Comparison of sociodemographic factors between placenta praevia and abruptio placentae

Factors	Placenta praevia	Abruptio placentae
Age	Frequency (%)	Frequency (%)
≤20	-	2 (100)
21 – 25	5 (100)	-
26 – 30	5 (38.5)	8 (61.5)
31 – 35	16 (66.7)	8 (33.3)
36 – 40	11 (68.8)	5 (31.2)
>40	1 (50)	1 (50)
Parity		
Nulliparous	1 (50)	1 (50)
Primipara	16 (66.7)	8 (33.3)
Multipara	15 (51.7)	14 (43.3)
Grandmultipara	5 (71.4)	2 (28.6)
Booking status		
Booked	19 (65.5)	10 (34.5)
Unbooked	14 (44.2)	19 (55.8)
Employment status		
Employed	28 (62.2)	17 (37.8)
Unemployed	10 (58.8)	7 (41.2)
Marital status		
Single	4 (66.7)	2 (33.3)
Married	34 (60.7)	22 (39.3)

Table 1 displays the comparison of sociodemographic characteristics of the patients and the relative occurrence of placenta praevia and abruptio placentae among patients. Placenta praevia was higher among the 31-35year age range. Abruptio placentae cases were high and equally distributed in the 26-30years and 31-35year age ranges. On the overall, APH occurred more in the 31–35year age group accounting for 38.7%. The occurrence of placenta praevia was higher among the primiparous women while that of abruptio placentae was strikingly common among the multiparous patients. The prevalence of antepartum haemorrhage in this study was more in the multiparous women (46.8%). Significantly, more abruptio placentae cases were seen among the unbooked patients.

Causes of antepartum haemorrhage

Table 2 shows the causes of APH. The main cause of APH in the period under review was placenta praevia which accounted for slightly above three-fifth of the cases (61.3%) while the remaining two-fifth of the cases (38.7%) were of abruptio placentae origin.

Table 2. Causes of antepartum haemorrhage

Causes	Frequency (n)	Percentage (%)
Placenta praevia	38	61.3
Abruptio placentae	24	38.7
Others	-	-
Total	62	100

Risk factors for Antepartum haemorrhage in the patients

Figure 1 showed the identifiable risk factors of APH in this study, which were previous caesarean section (35.1%), hypertensive disorders (35.1%), trauma/ abdominal massage (21.1%), previous history of APH (5.2%) and multiple pregnancy (3.5%).

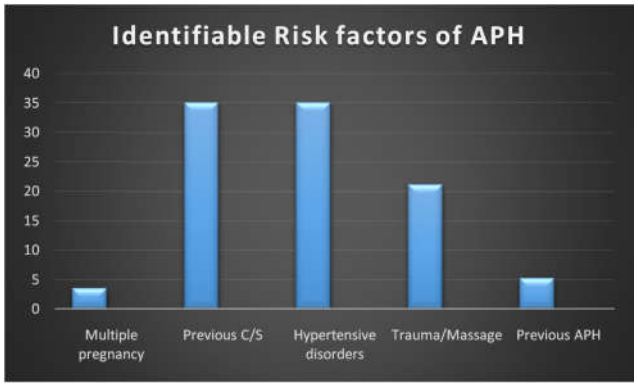

Fig. 1. Risk factors for Antepartum haemorrhage in the patients

Comparison of fetomaternal outcome between patients with Placenta praevia and Abruptio placentae

Table 3 depicted more stillbirths in the cases complicated by Abruptio placentae than the Placenta praevia ones. Blood transfusion was almost equally distributed between both cases that had APH from placenta praevia and Abruptio placentae. There was no single case of vaginal delivery for the placenta praevia group.

Table 3. Comparison of fetomaternal outcome between patients with Placenta praevia and Abruptio placentae

Outcome	Placenta praevia	Abruptio placenta
Birth outcome	**Frequency (%)**	**Frequency (%)**
Live birth	39 (67.3)	19 (32.7)
Stillbirth	1 (16.7)	5 (83.3)
Sex		
Male	20 (64.5)	11 (35.5)
Female	20 (60.6)	13 (39.4)
GA at delivery		
Preterm	22 (68.8)	10 (31.2)
Term	19 (59.4)	13 (40.6)
Mode of delivery		
Vaginal	-	3 (100)
C/S	38 (64.4)	21 (35.6)
Blood transfusion		
4 units of blood	1 (100)	-
3 units of blood	5 (83.3)	1 (16.7)
2 units of blood	5 (35.7)	9 (64.3)
1 unit of blood	10 (58.8)	7 (41.2)
None	17 (70.8)	7 (29.2)
SCBU Admission	16 (80)	4 (20)
PPH	10 (58.8)	7(41.2)
Death	-	-

SCBU: Special Care Baby Unit

DISCUSSION

The prevalence of antepartum hemorrhage (APH) varies widely with demographic profiles and geographical areas. The prevalence of APH in this study was 2.6% which is comparable to 2.86% in a study by Kavita *et al.* (2019) and lower than 5.8% (Onebunne and Aimakhu, 2019) in a study done in Ibadan. It is however higher than 1.2% documented in a Northern Nigerian Teaching Hospital (Takai *et al.,* 2017). The cases of APH recorded in this study were due to placenta previa 61.3% and abruptio placenta 38.7% which was comparable with studies by Kavita *et al.* (2019) and Tyagi *et al.* (2016) however different from a study done by Onebunne *et al.* (2019). About 38.7% of APH cases were aged 31-35years which was in concordance with a study in Ilorin (Adeniran, 2018) and contradicts a study in India (Das and Bhattacharyya, 2020). The prevalence in this study were more in the multiparous women (46.8%) when compared to patients with lower parity. This agrees with reports from Kano (Takai *et al.,* 2017), Ibadan (Onebunne and Aimakhu, 2019) and Bayelsa (Joel *et al.,* 2015). Hence a reduction in family size using contraception is highly recommended to reduce the morbidity and mortality associated with APH. Slightly above half of the patients were unbooked, which accounted for 53.2% and agrees with studies by Idris *et al.* (2017) and Onebunne *et al.* (2019). The relatively high percentage of unbooked cases may be due to prevailing poverty and cultural practices in the locality the Hospital is situated, which tends to prevent women from coming to the hospital except in life‑threatening conditions (Takai *et al.,* 2017; Kavita and Chavda, 2019; Bakari *et al.,* 2015). Identifiable risk factors of APH includes previous caesarean section (35.1%), hypertensive disorders (35.1%), trauma/massage (21.1%), previous history of APH (5.2%) and multiple pregnancy (3.5%) which were similar to other studies (Takai *et al.,* 2017; Das and Bhattacharyya, 2020; Akadri *et al.,* 2018).

The decision on the mode of delivery in APH is individualized but guided by fetal viability, gestational age, onset and stage of labour as well as severity of the disease based on maternal and fetal status. Vaginal delivery has been suggested in cases of fetal demise or advanced labour with imminent delivery. Abdominal delivery is favored with fetal/maternal compromise or onset of complications in women with mild disease initially on conservative management (Kwawukume *et al.,* 2015; Kenny, 2017). In this study a high caesarean section rate of 95.2% was observed compared to a vaginal delivery rate of 4.8% and this is comparable to other studies (Kavita and Chavda, 2019; Lakshmipriya *et al.,* 2019; Olugbenga, 2019). Early and timely caesarean section improves perinatal outcome in patients with abruption placentae (Olugbenga, 2019). In this present study, 90.6% of patients with APH had live birth and 9.4 % had stillbirth which is inconsistent with a study done by Kavita *et al.* (2019) and similar with a study done by Lakshmipriya *et al.,* (2019). This may be due to the prompt intervention through abdominal delivery in these patients when they presented with marked bleeding or when at term at our center also contributed to the good outcome reported. The study also observed mild birth asphyxia in 9.4% and moderate asphyxia in 17.2% of the newborns and it was seen more in babies born to mothers with abruptio placenta. This agrees with findings from a study done by Das *et al.* (2020) The gestational age at termination of pregnancies was preterm delivery in 50% of the patient's which was one of the factors accounting for perinatal mortality of 9.4% and SCBU admission of 31.3% in this study. About 34.4% pregnancies with placenta praevia were terminated before 37 weeks and 15.6% patients with abruption placentae delivered before 37 weeks and this was consistent with a study in India (Tyagi, 2016). In this study postpartum hemorrhage was seen in 27.4%. This was similar to studies in Takai *et al.* (2017) and Adeniran *et al.* (2018) in Nigeria and higher than studies in Kavita *et al.* (2019) and Tyagi *et al.* (2016) in India. About 61.3% of the patients required blood transfusion, which was comparable to the study by Kavita *et al.* (2019) and Tyagi *et al.* (2017). There was no maternal mortality during the study period which was similar to a study reported by Adeniran et al[12]. This may be due to early presentation, a functional and prompt blood bank services and expert management of these patients.

Conclusion

The prevalence of antepartum haemorrhage in our healthcare facility is 2.6%. The main causes of antepartum haemorrhage in patients presenting to the facility were placenta praevia and abruptio placentae. Intrauterine fetal death was implicated as a critical fetal complication in patients with APH. The prime maternal complications were postpartum hemorrhage and anemia with consequent high blood transfusion rate. Hence antenatal care, early and timely intervention will improve fetomaternal outcome.

Statement of competing interests

The authors have no competing interest

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