Original Article

Abruptio Placenta: A retrospective analysis in a tertiary hospital, Sagamu, Nigeria

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ABSTRACT

Context: Abruptio placenta is an important contributor to perinatal and maternal morbidity and mortality in Nigeria. Although the primary etiology remains unknown, there are many associated risk factors, some of which are preventable or treatable.

Aim: To determine the prevalence, sociodemographic characteristics, risk factors, and feto-maternal outcome of abruptio placenta in Olabisi Onabanjo University Teaching Hospital Sagamu.

Materials and Methods: This was a retrospective study involving all pregnant women who had abruptio placenta from January 1, 2012, to December 31, 2016. Data on sociodemographic characteristics, risk factors, and fetal and maternal morbidity and mortality were extracted from patients' case notes for analysis.

Results: The mean age of the subjects was 33.4 ± 6.3 years. The prevalence of abruptio placenta was 1.03%. Hypertensive disorder was the most important risk factor, seen in 53.1% of the subjects. Birth asphyxia was the major perinatal morbidity and was found in 42.9% of the babies, whereas 46.9% were still births. The caesarean section rate was 63.3%. Forty subjects (81.6%) had blood transfusion, 17 subjects (34.7%) had postpartum hemorrhage, and 40.8% had postpartum anemia. There were two maternal deaths giving a case-specific fatality rate of 4.1%.

Conclusion: Abruptio placenta is an important pregnancy complication in Olabisi Onabanjo University Teaching Hospital Sagamu, Nigeria. Good antenatal care services will enable caregivers to identify women at risk who may benefit from targeted management aimed at reducing the adverse outcomes associated with the condition.

Key words: Abruptio placenta; feto-maternal outcome; prevalence; risk factors.

Introduction

Abruptio placenta is the partial or total separation of a normally situated placenta after the age of viability and before the delivery of the fetus.[1] It occurs in about 0.6%–1% of pregnancies.[2,3] Abruptio placenta is one of the major causes of antepartum hemorrhage and is associated with serious obstetrics complications with attendant increased risks of perinatal and maternal morbidity and mortality.[4] The hemorrhage may be concealed, revealed, or mixed type. The concealed type is particularly dangerous because the degree of blood loss does not correlate with maternal vital signs and also has been noted to have higher fetal death compared to the revealed type.[4] Some of the predisposing factors to abruptio placenta include hypertensive disorders of pregnancy, multiparity, young women (<20 years), advanced maternal age (>35 years), previous episode of abruptio placenta, uterine overdistension (multiple

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pregnancy, polyhydramnios), cigarette smoking, cocaine use, uterine anomalies, retroplacental uterine leiomyoma, blunt abdominal trauma, premature rupture of membrane, thrombophilic disorder, and short umbilical cord.[2,5]

The clinical features at presentation depend on the degree of placental separation and amount of vaginal bleeding. The most common presentations are vaginal bleeding and abdominal pain. Others include uterine and abdominal tenderness, preterm labor, evidence of hemodynamic instability, fetal distress, and fetal death.[1,5] The diagnosis of abruptio placenta is largely clinical but ultrasound can be used to exclude placenta praevia.[6] Ultrasound is relatively insensitive for diagnosis.[3,7] This is partly because a retroplacental hematoma is sometimes isoechoic to the placenta on ultrasonography.[8] The ultrasonographic appearance of abruptio placenta is dependent on the size, location of the bleed, and the time interval between the abruption and when ultrasonography was performed.[8] Diagnosis is confirmed at delivery by direct visualization of retroplacental clots and indentation of the maternal surface of the placenta.

Abruptio placenta can be classified as asymptomatic, mild, moderate, and severe depending on the degree of placenta separation, amount of hemorrhage, evidence of coagulopathy, and clinical status of the fetus and mother.

The management of abruptio placenta entails assessing the patient's clinical status, amount of blood loss, fetal maturity, whether the patient is in labor or not, presence of any complication, and the grade of placenta abruption. Immediate delivery either through the vagina or by caesarean section is the usual option of management in most cases of abruptio placenta. The route of delivery is dictated by severity of abruptio placenta, fetal condition, state of the cervix, and severity of bleeding.[9] Expectant management is rarely used in abruption placenta unless in carefully selected cases where bleeding is slight and has stopped, fetus is alive with reactive cardiotocograph, and remote from term.[10] The goal of the management is to prolong the pregnancy with hope of improving fetal maturity and survival. Continuous electronic fetal monitoring is maintained and the patient should be observed in labor ward for 24–48 h to ensure no further placental separation occurred.[10] In this instance, serial hematological profile, coagulation profile, and ultrasound scan will be essential.

Some major maternal complications associated with abruptio placenta include hemorrhage, shock, disseminated intravascular coagulopathy, acute kidney injury, and postpartum hemorrhage.[2,11,12] Measures that are useful in managing these complications are transfusion with fresh whole blood, fresh frozen plasma, and cryoprecipitate.[13] Emergency hysterectomy could be indicated in intractable postpartum hemorrhage. Abruptio placenta is associated with a high fetal morbidity and perinatal mortality.[14,15] This is often related to the severity of the abruption, misdiagnosis, and delay in instituting treatment.[16]

There are no published data on abruptio placenta in Sagamu, Ogun State. Hence, the aim of this study is to determine the prevalence, sociodemographic characteristics, risk factors, and feto-maternal outcome of abruptio placenta in Olabisi Onabanjo University Teaching Hospital Sagamu.

Materials and Methods

Olabisi Onabanjo University Teaching Hospital commenced operation in 1986. It is a 300-bedded tertiary hospital located in Sagamu, a Semi-urban town in Ogun State, South Western Nigeria. This was a retrospective study involving all pregnant women who had abruptio placenta from January 1, 2012, to December 31, 2016. The source of the data was patients' case files retrieved from the central medical records department.

The following information were extracted: age, parity, marital status, educational status, booking status, risk factors for abruptio placenta, management options (vaginal deliveries, caesarean section, and conservative management), and fetal and maternal morbidity and mortality. Data analysis was done using IBM-SPSS Statistics for Windows version 21.0 (IBM Corp, Armonk, NY, USA). Categorical variables were summarized using frequencies and percentages, whereas mean and standard deviation were used for continuous variables.

Results

Of a total of 5,124 deliveries during the period of review, there were 53 cases of abruptio placenta giving a prevalence of 1.03%. Due to incomplete data in some of the case notes, a total of 49 cases (92.4%) were analyzable.

Table 1 shows the demographic characteristics of the subjects. The mean age of the subjects was 33.4 ± 6.3 years with a age range of 16–48 years. The majority (28; 57.1%) were in the 30–39 years age group, whereas 2 (4.1%) were less than 20 years of age. Two subjects (4.1%) were nulliparous, whereas 36 subjects (73.5%) had parity of three and above. In all, 31 subjects (63.3%) presented before term, whereas 18 (36.7%) presented at term. The majority of the subjects (43; 87.8%) had at least primary level of education. A total of 41 subjects (83.7%) were unbooked whereas only 8 (16.3%) subjects were booked.

Table 2 depicts the risk factors associated with abruptio placenta. Hypertensive disorder of pregnancy was seen in 26 (53.1%) subjects, 8 (16.3%) subjects had multiple pregnancies, while smoking was found in only 1 (2%) subject.

A total of 26 subjects (53.1%) were in established labor at presentation. Vaginal bleeding and abdominal pain were the major presenting complaints in almost all the patients. Eleven subjects (23%) presented with hemorrhagic shock; 31 subjects (63.3%) had emergency caesarean section. Most of the caesarean sections were done on account of abruptio placenta with live fetus. Sixteen subjects (32.6%) had vaginal delivery, whereas only 2 subjects (4.1%) were managed conservatively. The mean weight of retroplacental clot measured at delivery was 305.6 ± 15.2 g.

The fetal morbidities associated with abruptio placenta are depicted in Table 3. There were 26 live births (53.1%) and 23 still births (46.9%). Six of the 26 live births suffered early neonatal death. Birth asphyxia was the major perinatal morbidity and was found in 21 (42.9%) of the babies.

Maternal complications are shown in Table 4. Forty subjects (81.6%) had bleeding severe enough to require blood transfusion. Twenty subjects (40.8%) had postpartum anemia, 17 subjects (34.7%) had postpartum hemorrhage, 2 subjects (4.1%) had coagulation disorder, and 4 subjects (8.2%) had caesarean hysterectomy. Maternal mortality was recorded in two (4.1%) of the subjects. Both deaths were due to severe anemia and irreversible shock.

Table 1: Sociodemographic characteristics of pregnancies complicated with abruptio placenta

Characteristics	Frequency	Percentage
Age (years)		
<20	2	4.1
20-30	11	22.5
30-39	28	57.1
>40	8	16.3
Parity		
0	2	4.1
1	5	10.2
2	6	12.2
3	18	36.7
>4	18	36.7
Level of education		
None	6	12.2
Primary	18	36.7
Secondary	15	30.6
Tertiary	10	20.4
Booking status		
Booked	8	16.3
Unbooked	41	83.7
Gestational age		
<37	31	63.3
≥37	18	36.7

Table 2: Risk factors for abruptio placenta

Factors	Frequency	Percentage
Hypertensive disorders	26	53.1
Multiple pregnancy	8	16.3
Polyhydraminos	6	12.2
Trauma	4	8.2
Previous abruptio placentae	4	8.2
Smoking	1	2.0

Discussion

Abruptio placenta is an important pregnancy complication associated with high fetal and maternal morbidity. The incidence of abruptio placenta in this study was 1.03% and this is similar to estimates from other studies.[2,3,12,13] About 75% of the subjects with abruptio placenta were above 30 years of age and had parity of three and above. Advanced maternal age and high parity are well-documented risk factors for abruptio placenta.[6,14,17-19] The majority of patients with abruptio placenta were unbooked. A similar result was reported in Kano, Northern Nigeria.[19] The association of abruptio placenta with hypertension was demonstrated in this study. More than half of patients with abruptio placenta had hypertensive disorder in index pregnancy. Similar findings were also reported in other studies.[11,12,16] Since most of the patients in this study were unbooked, they could not have benefitted from management of their hypertensive disorder. Some authors have connected low socioeconomic status to lack of antenatal booking.[19] Such women may also be

Table 3: Fetal complications associated with abruptio placenta

Complications	Frequency	Percentage
Mild birth asphyxia	9	18.4
Moderate birth asphyxia	7	14.3
Severe birth asphyxia	5	10.2
Anemia	2	4.1
Neonatal admission	23	46.9
Still births	23	46.9

Table 4: Maternal complications associated with abruptio placenta

Complications	Frequency	Percentage
Blood transfusion	40	81.6
Postpartum anemia	20	40.8
Postpartum Haemorrhage	17	34.7
Acute renal failure	6	12.2
Puerperal pyrexia	6	12.2
Caesarean hysterectomy	4	8.2
Coagulation disorder	2	4.1
Maternal mortality	2	4.1

poorly educated and likely seek care from traditional birth attendants who will not check their blood pressure. Lack of antenatal care and low socioeconomic status of pregnant women are often associated with anemia and other untreated medical conditions such as hypertension in pregnancy.[15] This highlights the deleterious effects that poverty, ignorance, and low social status of women have on their obstetric performance. Multiple pregnancy, polyhydramnios, trauma, and cigarette smoking are also recognized risk factors for abruptio placenta in this study. This is also in tandem with other studies.[2,4,12,13]

It is noteworthy that a majority (63.3%) of the patients were delivered by emergency caesarean sections. This agrees with reports from Nnewi, South Eastern Nigeria.[20] However, some other studies indicated a larger proportion of patients having vagina delivery.[15] The reason for disparity in mode of management may be due to status of the fetus at the time of presentation. Pregnancies complicated by abruptio placenta and with a live fetus are best managed by emergency caesarean section.[5]

Interestingly, two (4.1%) patients were managed conservatively. This is an exception and not the rule as abruptio placenta is an obstetric emergency with attendant disease progression leading to worsening of hemorrhage, coagulopathy, and adverse feto-maternal outcome.[5,10]

Abruptio placenta is often associated with high perinatal mortality. It has been stated to account for as much as 12% of all perinatal deaths.[2] In this study, there were 29 (59%) perinatal deaths. This is similar to findings in other studies done in other tertiary institutions.[17,21-24] The high perinatal mortality underscores the importance of immediate and appropriate management.

Abruptio placenta is also associated with high maternal morbidity. Over 80% of the subjects required blood transfusion. Similar findings were reported by other authors.[19,21] The two maternal deaths from abruptio placenta in this study were both unbooked patients who presented late to hospital with irreversible shock following massive hemorrhage. This underscores the importance of early presentation and expert management to prevent the adverse maternal and fetal morbidities and mortalities associated with abruptio placenta.

Conclusion

Abruptio placenta is an important pregnancy complication in Sagamu, Nigeria, and is associated with maternal and fetal morbidity and mortality. Hypertensive disorder of pregnancy was identified as the most important risk factor.

Good antenatal care services will enable caregivers to identify women with this important risk factor for targeted management. More importantly, early referral of identified cases to well-equipped institutions with qualified personnel, efficient blood banking system, and good neonatal services is invaluable in reducing the adverse outcomes of abruptio placenta.

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Conflicts of interest

There are no conflicts of interest.

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