



ORIGINAL RESEARCH PAPER

Obstetrics & Gynaecology

ABRUPTIO PLACENTA: ITS RISK FACTORS AND PREVENTIVE MEASURES

KEY WORDS: Abruption placenta, feto-maternal outcome, prevalence, fetal death, risk factors, disseminated intravascular coagulation

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ABSTRACT

Background: Placental abruption traditionally is defined as the premature separation of the implanted placenta before the delivery of the fetus. The existing clinical criteria of severity rely exclusively on fetal (fetal distress or fetal death) and maternal complications without consideration of neonatal or preterm delivery-related complications **Materials and Methods:** This was a retrospective study involving all pregnant women who had abruption. Data on socio-demographic characteristics, risk factors, and fetal and maternal Morbidity and mortality were extracted from patients' case notes for analysis. **Results:** Most of the abruption placenta cases were between 26 to 30 years 40.6%. Maximum number of abruption placenta cases was 2nd Gravida. Incidence of abruption was high in multiparous women and mainly abruption was seen in term pregnancy. Abruption was more common among patients who had severe preeclampsia than who were normotensive. Most of them were associated with anemia and PIH. Even normotensive groups had Abruption which was about 17.4%. 72.22% had live birth. 27.77% had still born. Among which postpartum hemorrhage contributes the majority of complications (33.33%). **Conclusions:** Abruption placenta is associated with poor maternal and fetal outcome. Hence early diagnosis and prompt resuscitative measures would prevent both perinatal and maternal mortality and morbidity.

INTRODUCTION

Abruption 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). 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).

Placental abruption continues to be a common disorder in obstetric practice. Despite, the advances in obstetrics, there are no reliable tests or biomarkers to predict and prevent the occurrence of placental abruption which could still be a nightmare for the treating team.

The detached portion of placenta is unable to exchange gases and nutrients when the remaining fetoplacental unit is unable to compensate for this loss of function, the fetus is compromised. The incidence appears to be increasing probably due to increase in prevalence of the risk factors for the disorder.

Some of the predisposing factors to abruption placenta include hypertensive disorders of pregnancy, multiparity, young women (<20 years), advanced maternal age (>35 years), previous episode of abruption placenta, uterine over distension (multiple pregnancy, polyhydramnios), cigarette smoking, cocaine use, uterine anomalies, retro placental uterine leiomyoma, blunt abdominal trauma, premature rupture of membrane, thrombophilic disorder, and short umbilical cord(2,5).

It is a serious obstetric condition that increases maternal and neonatal morbidity and mortality (6). Abruption occurs in 0.4-1% of pregnancies. Obstetric haemorrhage accounts for 1/3rd of maternal death. Perinatal mortality is high with abruption due to its strong association with preterm. Even babies born at 40weeks of gestation, birth weight of 3.5- 3.9kg had 25-fold higher mortality with abruption (7).

MATERIAL AND METHODS

This is a retrospective study by analyzing the case sheets of abruption placenta. The details regarding the age of the patient, parity and maternal high-risk factors were collected. All other causes of APH like placenta previa and other extra placental causes were excluded. All study patients underwent a complete obstetrical examination and clinical workup

including history, general physical examination and abdominal and pelvic examination. Detailed obstetric history was obtained and maternal high- risk factors like PIH, GDM, and polyhydramnios was noted. As 95% patients were admitted as emergencies, placental abruption was suspected depending on clinical features of vaginal bleeding, uterine tenderness, hypertonic uterus and diagnosis was confirmed by retro placental clots. After initial resuscitation mode of delivery was decided depending upon state of mother and fetus. Relevant investigations such as lab tests and imaging were performed. Fetal well-being was assessed with ultrasonography. The presence of retro placental clots was used to estimate the amount of bleeding and severity of abruption. Patients were managed according to the fetal and maternal conditions. All information's were gathered and results were analyzed. Maternal complications studied were PPH, DIC, ARF, shock, pulmonary edema and infections. Fetal outcome in the form of perinatal mortality (still births and neonatal deaths), prematurity and admission to the neonatal care unit were studied.

RESULTS

A total of 2000 deliveries were considered over a span of one year. Out of which total number of abruption placenta cases were 18. The results of the present study showed increased incidence of severe preeclampsia with abruption. Increasing age has been implicated as a predisposing factor in Abruption placenta. Mean age of patients of APH was 25-30 years. Most of the patients were unbooked and not taking antenatal care. Incidence was high in multiparous women.

Mainly abruption was seen in term pregnancy. Most of them were associated with anemia and PIH, and the mode of delivery varied accordingly. Major complication on maternal side was shock.

Table showing different parameters of patient

Details of patient	parameters	number	percentage
Age	>20 years	2	11.11
	20-25	5	27.77
	26-30	8	44.44
	>30	3	16.66
Parity	Primigravida	3	16.66
	G2	9	50.00
	G3	4	22.22
	G4 and more	2	11.11

Associated with PIH	Normal BP	5	27.77
	Chronic HT	1	5.55
	Eclampsia	2	11.11
	Severe pre-eclampsia	10	55.55
Fetal outcome	Live birth	13	72.22
	Still birth	5	27.77
complications	PPH	5	27.77
	Shock	2	11.11
	Infection	1	5.55
	DIC	4	22.22
	Renal failure	2	11.11
	others	4	22.22

Most of the abruptio placenta cases were between 26 to 30 years 40.6%. Next most common age group was between 20 to 25 years. Least incidence was seen among the age group <20yrs. Maximum number of abruptio placenta cases was 2nd Gravida. Incidence of abruption was high in multiparous women and mainly abruption was seen in term pregnancy. Abruptio was more common among patients who had severe preeclampsia than who were normotensive. Most of them were associated with anemia and PIH. Even normotensive groups had Abruptio which was about 17.4%. 72.22% had live birth. 27.77% had still born. Fetal complications included hypoxia, anemia, growth restriction, prematurity, and neurodevelopment problems, prematurity and fetal death. Maternal complications associated with Abruptio were Postpartum haemorrhage (PPH), Disseminated Intravascular Coagulation (DIC), Acute renal failure (ARF), Shock, Pulmonary edema, Infection. Among which postpartum hemorrhage contributes the majority of complications (33.33%).

DISCUSSION

Placental abruption is one of the serious complications of pregnancy, as it leads to both poor maternal and fetal outcome. The signs and symptoms of abruptio placenta vary depending upon the severity of bleeding and the degree of separation of the placenta. Abruptio can occur at any stage in pregnancy but 32-36 weeks appears to be the most vulnerable period (8). We found 55.55% of patients with severe preeclampsia, 11.11 % of patients with eclampsia, and 5.55 % of patients with chronic hypertension developed abruptio in our study. Among the maternal complications, Postpartum Hemorrhage (PPH) was commonest followed by Disseminated Intravascular coagulation (DIC), Acute Renal Failure (ARF), shock and infection. PPH occurred in 27.77 % of patients in our study, were as study by Talpur NN reported PPH in 28% of patients (9). DIC was associated with 22.22 % of the patients in our study. Sher G observed DIC in 10-20% of his study patients with severe abruption and fetal demise which is comparable to our study (10). Renal failure is one of the major causes of maternal death (11). We found ARF is reported in 11.11% of the cases and Shock in 11.11 % was as study from Shrivatsava V reported 24.6% shock cases (12). Puerperal sepsis was found to be in 17.5% of patients in the study by Choudhary V, in our study it is reported in 5.55 % of the patients (13). Regarding fetal outcome, 72.22 % were born alive and 27.77 % were still births. Abruptio was not an independent risk factor for poor outcome among infants born before 32 weeks of gestation. A premature delivery can increase the fetal morbidity in cases of abruption (14-18). Routine antenatal check-up, correction of anemia, timely referral, timely caesarean section, liberal blood and blood components transfusion and good neonatal intensive care unit will help further to lower the prenatal and maternal morbidity and mortality.

CONCLUSION

This study reveals that Severe pre-eclampsia, eclampsia, chronic hypertension, high parity are independent risk factors for abruptio placenta. Antenatal care which identifies

the risk factors like PIH plays an important role in decreasing the incidence of abruptio placenta and improving the maternal and fetal outcome. Regular antenatal checkup, anemia correction, early diagnosis & identification of gestational hypertension would prevent the maternal and prenatal morbidity and mortality. It should be managed in centers where advanced maternal and neonatal facilities are available. Though maternal morbidity is reduced with modern management of abruptio placenta, timely diagnosis and intervention is necessary. Early detection and active management will reduce morbidity. Team efforts by obstetricians, intensivists and neonatologist are required for better maternal and fetal outcome.

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