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RESEARCH ARTICLE

A ONE YEAR CROSS SECTIONAL ANALYSIS OF ABRUPTIO PLACENTA IN A TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: To determine risk factors, fetal and maternal outcomes in women diagnosed with placental abruption over a duration of one year.

Methods: A retrospective study carried out in the Department of Obstetrics and Gynecology, Lady Goschen Hospital, Mangalore, from August 2014 to July 2015. All pregnant women with the diagnosis of placental abruption were included in the study. Patient records were reviewed and analyzed regarding the maternal risk factors, fetal outcome and maternal outcome.

Results: 58 cases were diagnosed with abruption in the given time period of which 33 were referred cases. Hypertensive disorders of pregnancy were found to be most frequently associated with abruption (n=29) followed by anemia (n=11). Most women (n=49) required transfusion of blood and blood products. Pregnancy was more commonly terminated by caesarean section (n=37). The fetal prognosis was characterized by high perinatal mortality rate (63.79%), hypoxia and prematurity being the important causes. There were no maternal deaths; however, 3 patients required ICU care in view of sepsis and DIC.

Conclusion: Hypertensive disorders, pre-existing anemia are the most common associated risk factors for placental abruption. Early detection, correct diagnosis and timely intervention are components essential for good maternal and fetal outcome.

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INTRODUCTION

Placental abruption is defined as the complete or partial separation of the normally implanted placenta before delivery. It occurs in 0.4–1% of pregnancies.¹ Placental abruption is an important cause of maternal and perinatal morbidity and mortality.² The maternal consequences are secondary to the severity of placenta abruption. The fetal effects depend not only on the severity of placental abruption, but also on the gestational age and underlying risk factors like intra-uterine growth restriction.³

Aims and Objectives

- To identify risk factors associated with placental abruption.
- Assess the fetal and maternal outcome in a cohort of women diagnosed with placental abruption over a period of one year.

MATERIALS AND METHOD

Study Design: This was an observational retrospective study.

Study Setting: This study was conducted in the Department of Obstetrics & Gynecology at Lady Goschen Hospital, Mangalore.

Study Duration: The study was conducted from August 2014 to July 2015.

Sample Size: All pregnant women admitted to the Department of Obstetrics & Gynecology at Lady Goschen hospital, from August 2014 to July 2015 with a diagnosis of placental abruption.

Exclusion Criteria

- Patients with indeterminate Antepartum Hemorrhage.

Method: Medical records of the patients were reviewed and analyzed regarding the maternal risk factors, fetal and maternal

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outcome in the cases diagnosed with placental abruption. A note on the referral status of the patient and delay in management caused due to referral was noted. Perinatal outcome was recorded according to gestational age, mode of delivery, perinatal mortality and neonatal morbidity. Maternal outcome studied included the need for transfusion, need for prolonged hospital stay and peripartum complications like postpartum hemorrhage, sepsis, DIC, need for Intensive care and Maternal mortality. An attempt was made to correlate the severity of abruption with the pregnancy outcome.

RESULTS

There were 5859 deliveries between August 2014 and July 2015, among which 58 cases of abruption were diagnosed. The prevalence of abruption during this time frame was 9.8 per 1000 deliveries.

33 of the cases (56.89%) were referred to our center for tertiary care. Among the 33 cases, 19 patients had a confirmed fetal demise at the time of presentation to our center. Among these 19 cases, FHR was recordable for 9 cases at the time of referral, thus highlighting the importance of timely intervention. The average time interval between referral and presentation was 90 minutes.

35 cases (60%) presented to us with Grade 2 abruption. 40 patients had identifiable risk factors -hypertensive disorders complicating pregnancy in 29 cases, while in 11 cases abruption could be attributed to preexisting anemia. Table 1 represents the Grade of abruption at the time of presentation and the identifiable risk factors.

Table 1 Identifiable risk factors and Grade of Abruptio at the time of presentation.

Risk Factor	Grade 0	Grade 1	Grade 2	Grade 3
Hypertensive Disorders	2	6	18	3
Anaemia	1	5	5	0
No identifiable risk factor	0	9	7	0

Pregnancy was terminated by caesarean section in 37 cases (65.5%). 28 cases underwent surgery for fetal indication. When there was a stillbirth, decision for mode of delivery was made based on Bishops score and maternal condition.

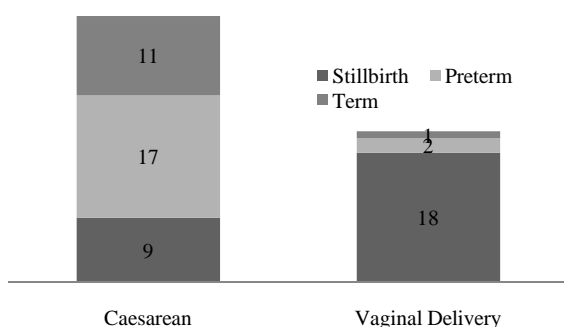


Figure 1 Mode of termination based on fetal status and maturity.

49 (84%) women required transfusion of blood and blood products, among them 9 cases required massive blood

transfusion. The most common maternal complication encountered was postpartum hemorrhage which occurred in 21 patients (36%), 19 were medically managed, 2 required B-Lynch sutures and uterine artery ligation. 3 patients were transferred to ICU in view of sepsis and DIC, all of them recovered fully. Maternal Outcome is summarized in Table 2.

Table 2 Maternal Outcome

Need for transfusion	49 (84%)	On an average 2 units of blood was transfused 9 Cases required 4 or more units.
Postpartum Hemorrhage	21 (36%)	19 cases were managed medically, 2 cases required uterine artery ligation and B-Lynch suture
Prolonged Hospital stay	17 (29%)	Most common cause for prolonged hospital stay was prematurity of fetus.
Transfer to ICU	3(5.17%)	Transferred in view of Sepsis, DIC

Perinatal mortality was high with 37 patients presenting with stillbirth and 10 babies dying in the early neonatal period. Overall abruption was associated with a case fatality rate of 63.7%. The cause for perinatal mortality is summarized in Table 3.

Table 3 Perinatal Mortality Causes

Cause	Preterm	Term
Stillbirth	22	5
Respiratory Distress	4	-
Sepsis	2	2
HIE	-	1
Congenital Heart Disease	-	1

DISCUSSION

Placental abruption is a complex disease. It is a serious obstetric emergency that tends to compromise fetal viability and affects neonatal mortality and morbidity, and maternal health and well-being.

The incidence of abruption in the present study was 0.98% which was comparable to other studies. (0.4-1%)^{1,2,3}. This can be attributed to factors like low socioeconomic status, lack of antenatal care leading to poor diagnosis and management of contributory factors.

50% of the cases were found to have Hypertensive Disorders of pregnancy, abruption occurring probably as a result of hypertensive vasculopathy. The incidence of hypertensive disorders in abruption varies widely among other studies (8-52%)^{3,4,5}. The high incidence in our study can be attributed to the higher proportion of cases with medical complications being referred to our hospital for tertiary care. 19% of the patients were found to have pre-existing anemia, most probably due to nutritional deficiency. This incidence was lesser than that observed in other studies (79%, 57%)^{4,5} which probably could be due to other studies considering anemia at presentation, which could be due to ongoing abruption rather than pre-existing anemia.

As abruption is an obstetric emergency, the mode of terminating the pregnancy had to be carefully selected. Majority of the women underwent Caesarean section (37 cases,

65.5%) especially when they presented with a live fetus (28/31).. The caesarean section rate varied between 27 – 46% in other studies.^{4,5} Other indications for Caesarean included poor Bishop's score with severe ongoing abruption, non-reassuring fetal heart status during labor or failed induction. Three patients with live fetus who presented in advanced labor were allowed to deliver vaginally.

Most of the patients (84%) required transfusion of blood and blood products. Postpartum hemorrhage was the most common complication encountered (36%), which was medically managed in 19 patients and surgically in 2 patients. Three patients required shift to ICU for complications like sepsis and DIC and all three recovered completely. No maternal deaths were noted. This could be attributed to timely availability of blood and blood products and timely availability of tertiary care in our set-up.

There was high perinatal mortality (63.7%) which was comparable to other studies^{4,5,6}. Hypoxia and early termination of premature pregnancies due to abruption were the two most important factors contributing to perinatal mortality.

CONCLUSION

Abruptio placenta is associated with an alarmingly high rate of adverse fetal outcomes. Hypertensive disorders and maternal anemia are important risk factors. Delay in referral plays an important role in perinatal mortality

Early intervention, expeditious delivery and strengthening the motherhood services will help to reduce the severity of the situation.

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