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Maternal and Perinatal Outcomes in Abruptio Placenta - A Retrospective study

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Abstract

Aim: Retrospective study was conductedto determine the maternal and fatal outcome in pregnancies complicated by abruption placenta.

Methods: All case sheets were reviewed and information was collected. The study patients underwent complete obstetric examination and clinical workup was done. Fetal wellbeing was assessed by Cardiotocography and Ultra sonogram. 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.

Results: The total number of cases assessed were 6500, out of which, 72 cases of Abruptio Placenta were found. The incidence of Abruptio Placenta was found to be 1.1%. Majority of patients were in the age group of 25-30yrs. Incidence was higher in multi-parous. Live births recorded were 69.8% and Stillbirths were 30.2%. Most common complications were PPH, DIC and shock.

Conclusion: Abruptio placenta is a life-threatening complication of pregnancy which can be associated with poor maternal and fetal outcome if not managed appropriately. Hence, early diagnosis and prompt resuscitative measures would prevent both perinatal and maternal mortality and morbidity.

Keywords: Perinatal outcomes, Placental abruption, maternal outcomes

Introduction

Abruptio placentae (AP) is defined as the preterm partial or complete separation of normally implanted placenta from the uterine wall.[1] AP is a major cause of maternal morbidity and perinatal mortality globally and specially in the developing world.[1-4]AP complicates one in 100-200 (0.5-1%) pregnancies in western population,[4,5] However, rates as high as 4.5% have been reported in developing countries.[2] Although etiology of AP is not fully understood, its generally multifactorial, that is, impaired placentation, placental insufficiency, intrauterine hypoxia, uteroplacental under perfusion, hyper tensive disorders of pregnancy, nonvertex presentation, poly hydramnios, intrauterine growth restriction, advanced maternal age, maternal trauma, cigarette smoking, alcohol consumption, cocaine abuse,

short umbilical cord, sudden decompression of the uterus, retroplacental fibro myoma, retroplacental bleeding from needle puncture (i.e., post amniocentesis), prior fetal demise, previous miscarriage, grand multiparity, preterm rupture of mem branes (PROM), trauma, and/ or low prepreg Nancy body mass index are associated with AP.[1-8]The signs and symptoms of AP vary depending on the severity of bleeding and degree of separation of the placenta.[1-3,6] The most common presentations include vaginal bleeding, uterine and abdominal pain and tenderness, abnormal uterine contractions, premature labor, maternal hemodynamic instability, fetal distress, and fetal death.[1-3,6]

Additionally previous incidence of AP, family history and measurement of uterine artery flow in early pregnancy may provide useful information. Although several biochemical markers for AP are studied none of these are clinically useful.[6] We conducted this retrospective study to determine the maternal and fetal outcome in pregnancies complicated by abruption placenta.

Material and Methods

Study Setting

This was a retrospective study of Abruptio Placenta cases carried out over a period of 5 years, between January 2016 and December 2021 in the Department of Gynaecology and Obstetrics, at Rajarajeshwari Medical College and Hospital, Bangalore and about its Perinatal and Maternal outcomes.

All case sheets were reviewed, and information was collected. The study patients underwent complete obstetric examination and clinical workup was done. Fetal wellbeing was assessed by Cardiotocography and Ultrasonogram.

Data Collection

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. For Maternal data the parameters included were the Incidence, Age, Parity, Gestational age, Risk factors (PIH, GDM, Poly hydra Minos, Twins), Previous history of abruption, PROM and Intra-operative events (amount of blood loss including retroplacental clots). With respect to Neonatal data the parameters assessed were Term/ preterm, Birth weight, NICU admission, and Perinatal morbidity and mortality.

Results

The total number of cases assessed were 6500; out of which, 72 cases of Abruptio Placenta were found. Therefore, the incidence of Abruptio Placenta was found to be 1.1%. Majority of patients were in the age group of 25-30 yrs. Incidence was higher in multi-parous. Live births recorded were 69.8% and Stillbirths were 30.2 %. Most common complications were PPH, DIC and shock. Table 1 showed that most of the abruptio placenta cases were between 26 to 30 years 42.5%. Next most common age group were between 20 to 25 years. Least incidence was seen among the age group <20 years.

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. Live births recorded were 69.8% and stillbirths were 30.2%. Fetal complications included hypoxia, anemia, growth restriction, prematurity, neurodevelopmental problems, prematurity and fetal death. Most common complications were PPH, DIC and shock. Haemoglobin levels are presented in figure 1. Amount of blood

transfusion is presented in figure 2. PPH was seen in 35% of the patients.

Table 1: Distribution of cases.

Age (In Years)	No. of Cases	Percentage
<20 years	7	7.5%
20-25 years	19	27.5%
26-30 years	30	42.5%
>30 years	16	22.5%
Parity		
Primigravida	7	20%
2nd gravida	24	30%
3rd gravida	18	22.5%
4th gravida	11	10%
Grand multigravida	12	17.5%
Fetal Outcome		
Live births	50	69.8%
Stillbirths	22	30.2%
Maternal Complications		
Shock	11	15%
PPH	25	35%
DIC	5	8.57%
Renal Failure	3	5%
Couvelaire Uterus	3	4.29%
Obstetric Hysterectomy	1	0.71%
Sepsis	9	12.86%
Maternal Mortality	0	5.71%

Figure 1: Haemoglobin levels at the time of hospital

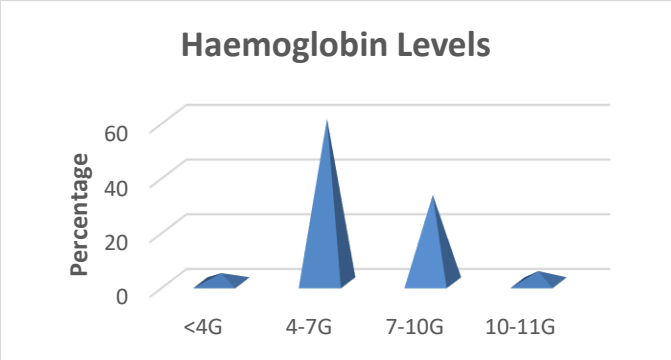
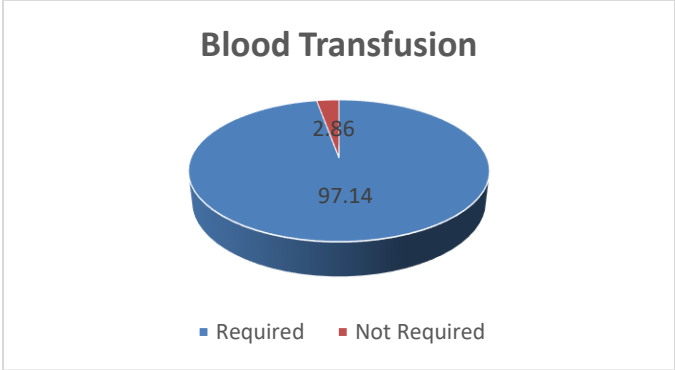


Figure 2: Rate of blood transfusion required in abruption placenta.



Discussion

Placental abruption is one of the serious complications of pregnancy, as it causes both poor maternal and fetal morbidity and mortality. The incidence of abruptio placenta was 1.1% in our study, which is somewhat near to study by Plowman RS [9]and P. Renuka et al. [10] Mukherjee S et al reported a slightly higher incidence of 4.4%.[11] The signs and symptoms of abruptio placenta vary depending upon the severity of bleeding and the degree of separation of the placenta. The signs and symptoms of abruptio placenta vary depending upon the severity of bleeding and the degree of separation of the placenta. Abruption can occur at any trimester in pregnancy but mostly it occurs at 32-36 weeks of pregnancy.[12]

In our study, majority of patients were in the age group of 25-30yrs. This is in agreement with various previous studies like Shrivastava et al[13], VI Jayshree Metal[14], Sengodan et al[15], Sambath et al[16] who reported an incidence of below 3% in their population aged between 25-30 yrs. The incidence of abruption increases with maternal age. In the First and Second Trimester Evaluation of Risk (FASTER) trial, women older than 40 years were 2.3 times more likely to experience abruption compared with those 35 years or younger.[17]

Regarding fetal outcome, livebirths recorded were 69.8% and stillbirths were 30.2%. Abruption was not an in dependent 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. Perinatal mortality has been strongly associated with Abruptio Placenta in both national and international literature. Many studies from our Nation, found the perinatal mortality around 59%. The high perinatal mortality rate was not due solely to placental abruption, but also to the associated increased incidence of preterm delivery and fetal-growth restriction. Nath and co-workers, however, reported that preterm birth was the overriding association with these low-birthweight babies.[18]

Our study found complications like PPH, DIC and shock among the maternal complications. Postpartum hemorrhage (PPH) was commonest followed by disseminated intravascular coagulation (DIC) and then shock. PPH occurred in 30% of patients in the study, were as study by Talpur NN reported PPH in 28% of patients.[19] DIC was associated with 25% 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 the study.[20] Shock was seen in 12% cases similar to Shrivatsava V who reported 24.6% shock cases in his study.[13]

Increasing age has been implicated as a predisposing factor in Abruptio placenta. Most of the patients were unbooked and incidence of abruptio was high in multi parous. Mainly abruption was seen in term pregnancy. Majority of patients had associated anemia and PIH, and the mode of delivery varied according to maternal and fetal factors. Major complication on maternal side was PPH and fetal complications included hypoxia, anemia, growth restriction, prematurity, neurodevelopmental problems, prematurity and fetal death. Thus, this study suggests that severe pre-eclampsia, eclampsia, high parity is independent risk factors for abruptio placenta. Routine antenatal check-up, correction of anemia, timely referral, timely caesarean section, liberal blood and blood com ponents transfusion and good neonatal intensive care unit will help further to lower the perinatal and maternal morbidity and mortality.

Conclusion

Abruptio placenta is a life-threatening complication of pregnancy which can be associated with poor maternal and fetal outcome if not managed appropriately. It may recur in subsequent pregnancy. Improved nutritional status, antenatal care and delivery between 34- 37 weeks of gestation, once lung maturity is established, may improve outcome in subsequent pregnancies. Hence, early diagnosis and prompt resuscitative measures would prevent both perinatal and maternal mortality and morbidity.

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