



## Study of Maternal and Perinatal Outcome in 100 Cases of Abruption Placentae

Lalit D Kapadia<sup>1</sup> and Bindeeya Dhrangiya<sup>2\*</sup>

<sup>1</sup>Professor and Head, Department of Obstetrics and Gynaecology, Civil Hospital, Ahmedabad, Gujarat, India

<sup>2</sup>Resident Doctor, Department of Obstetrics and Gynaecology, Civil Hospital, Ahmedabad, Gujarat, India

\*Corresponding e-mail: [dhrangiyabindeeya@gmail.com](mailto:dhrangiyabindeeya@gmail.com)

### ABSTRACT

**Aims and objectives:** 1) To study possible etiological factors of abruption placentae 2) To analyse maternal outcome in the form of maternal morbidity and mortality 3) To study perinatal outcome in the form of mortality and morbidity 4) To discuss possible preventive measures and future management option. **Methodology:** This prospective study was conducted from June 2016 to May 2017 at Department of Obstetrics and Gynaecology, BJ Medical college Ahmedabad. Total of 100 diagnosed cases of abruption placentae were included in the study after obtaining informed consent. **Results:** In the present study incidence of abruption placentae is higher in the age group of 21-30 year that were 66% and more in primi patient. As PIH was most common risk factor of the abruption placentae accounting for 48%, most of the patients (89%) were anaemic at the time of admission and majority of them required blood transfusion. On account of complication like PPH (11%) and DIC (16%), AKI (6%) patients needed to be transfused PCV/FFP/PRC/Cryoprecipitates. About 5% of cases required ICU monitoring. Four maternal mortalities (4%) occurred, perinatal mortality was 72%. Such a high rate was due to IUD which had more occurred in cases of abruption placentae leads to poor prognosis as there is late presentation of the patient to the hospital, during which time the disease progress to an advanced stage. **Conclusion:** Abruption placentae do stand out as a serious condition with manifestation of significant maternal and perinatal morbidity and mortality. These complications can be reduced by provision of antenatal care to every woman at their doorsteps and with improvement in medical facilities, early diagnosis, availability of blood transfusion, good anaesthesia, proper management of shock and other complication of pregnancy along with liberalization of caesarean section, the rate of maternal morbidity and mortality is gradually on the decline.

**Keywords:** Abruption placenta, Maternal morbidity, Maternal mortality, Perinatal mortality

**Abbreviations:** AKI: Acute Kidney Injury; DIC: Disseminated Intravascular Coagulation; FFP: Fresh Frozen Plasma; ICU: Intensive Care Unit; IUD: Intrauterine Device; NND: New and Nonofficial Drugs; PPH: Postpartum Haemorrhage; PIH: Pregnancy-Induced Hypertension; PRC: Packed Red Cells; USG: Ultrasonography

### INTRODUCTION

Abruption placentae can be defined as “Separation of the placenta-either partially or totally- from its implantation site before delivery of the baby”. Abruption placentae are one form bleeding occurs due to premature separation of normally situated placenta. With improvement in medical facilities, early diagnosis, availability of blood transfusion, good anaesthesia, proper management of shock and other complication of pregnancy along with liberalization of caesarean section, the rate of maternal morbidity and mortality is gradually on the decline [1-3].

Defective maternal vessels in the decidua basalis rupture and cause the separation, the damaged vessels cause bleeding which results in a decidual hematoma that can lead to placental separation, destruction of placental tissue and a loss of maternal-foetal surface area for nutrient and gas exchange [4].

Approximately one third of antepartum bleeding can be attributed to placental abruption. Even though there is a

very big list of identified risk factors, abruption is a sudden and unexpected obstetric emergency, not predictable by means of known reproductive risk factors. It was found that approximately 70% of abruption cases occur in low risk pregnancies [4,5].

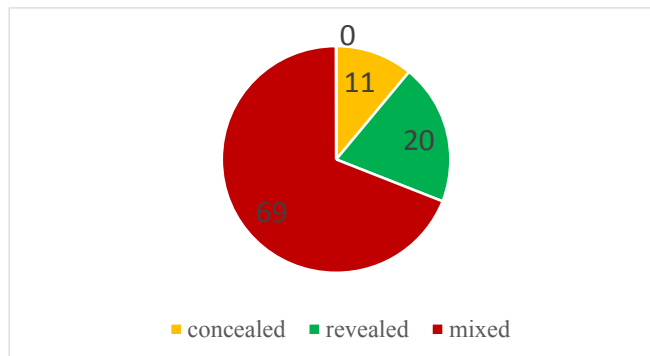
**METHODS**

This prospective observational study was conducted at Department of Obstetrics and Gynaecology, BJ Medical College, Civil Hospital, Ahmedabad from June 1, 2016 to May 31, 2017. A detailed history was taken including previous obstetric history. A proforma was filled up in every case.

The age, gravida status, gestational age, menstrual history, past, family, and personal history were all recorded. General physical examination was done in every case. Obstetrics examination included per abdominal, per speculum and per vaginal examinations after USG. Routine investigations were carried out. Specific investigations were carried out when required.

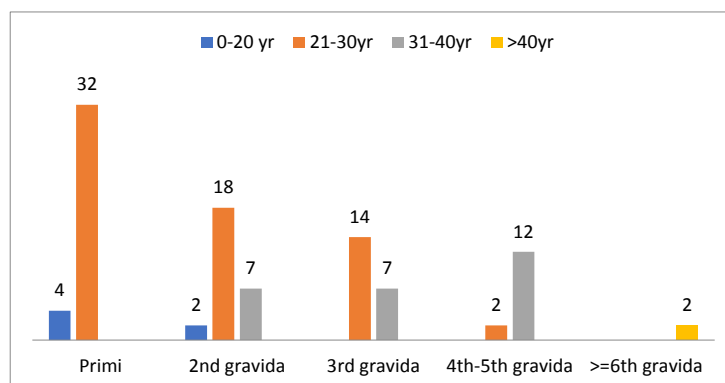
Ultrasonography was done and details of viability, gestational age, presentation, placenta, effective foetal weight, and any gross congenital anomaly were recorded in detail.

Management protocol was recorded in terms of chief complaints of patient, maternal, and foetal condition. Induction if done, mode of delivery, foetal outcome was all recorded. Mother and baby both were followed up till discharge.



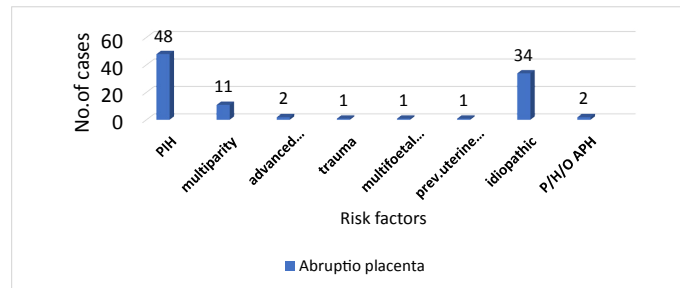
**Figure 1 Distribution of cases according to type of abruptio placentae**

Figure 1 shows that in the present study, out of 100 cases of abruptio placentae, there was 69 cases were of mixed variety (concealed and revealed), 20 cases were presented as a revealed variety whereas 11 cases presented as concealed variety. It was observed that mixed (69%) type of variety is common presentation of abruptio placentae in our study.



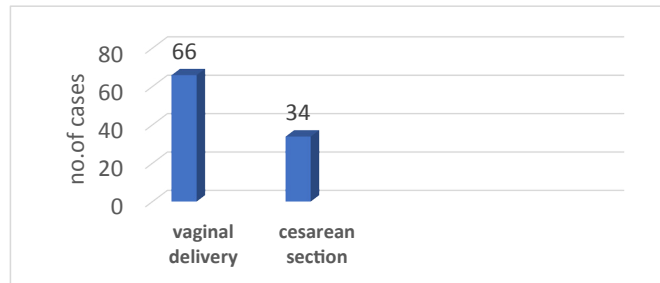
**Figure 2 Age and parity wise distribution**

Figure 2 shows that incidence of abruptio placentae is higher in the age group of 21-30 year (66%) in the present study and the incidence of abruptio placentae is higher in primi patient followed by 2nd and 3rd para patient.



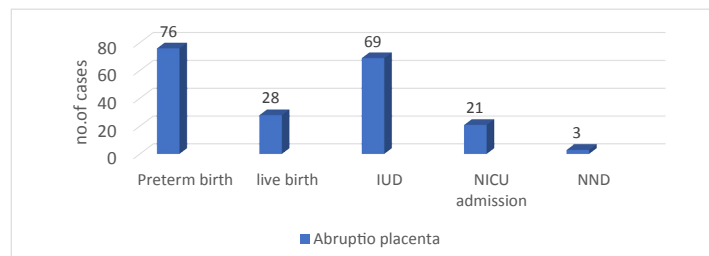
**Figure 3 Distribution of cases according to risk factors**

Figure 3 shows that in the present study PIH were most common risk factor of the abruptio placentae accounting for 48 cases out of 100 cases, other risk factors were multi parity, advanced maternal age, trauma, multifetal gestation and previous H/O abruptio, etc.



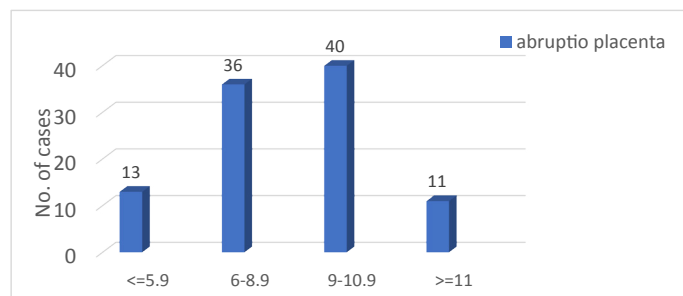
**Figure 4 Mode of delivery in abruptio placentae**

Figure 4 shows in abruptio placentae; caesarean section rate is 34% which was mainly to improve foetal salvage and to reduce maternal complications.



**Figure 5 Perinatal outcomes in cases of abruptio placentae**

Figure 5 results suggest that there is 72% mortality in perinatal (69 IUD + 3 NND). Such high rate *in utero* compromise occurs in accidental haemorrhage due to placental insufficiency leading to adverse perinatal outcome.



**Figure 6 Hb (gm%) at the time of admission**

Figure 6 shows that in the present study most of the patients (89%) were anaemic (<10.9 gm%) at the time of admission. These findings suggest that abruptio placentae cause anaemia and subsequent shock due to blood loss.

**Table 1 Number of cases with complication with abruptio placentae**

Complication	Abruptio placenta (n=100)
Postpartum haemorrhage	11
DIC	16
AKI	6
Shock	9
Wound gap	2
ICU admission	5
Maternal mortality	4

Table 1 shows that in the present study, pregnant women with abruptio placentae were at higher risk for developing complication like PPH (11%), DIC (16%), AKI (6%), Shock (9%) wound gap (2%) and mortality in 4%.

**Table 2 Blood product requirements**

Number of cases	Blood components			
	PCV	FFP	PRC	Cryoprecipitate
Abruptio placentae (n=100)	72	40	28	8

Table 2 shows that in the present study 72% of the cases of abruptio placentae required blood transfusion and 40% FFP transfusion, 8% cases required cryoprecipitates transfusion, 28% cases required PRC transfusion.

In abruptio placentae, most of the times uterus contracts but in cases of severe anaemia or Couvelaire uterus, uterus become atonic causing PPH and DIC requiring blood component transfusion.

## RESULTS

This is a prospective study of 100 cases of abruptio placentae at our institute during the period of June 1, 2016 to May 31, 2017. High incidence of cases shows that antenatal care started in early pregnancy would help in early detection of cases of patients who are at risk of development of abruptio placentae, hereby helping in reduction of maternal and foetal morbidity.

In the present study, incidence of abruptio placentae is higher in the age group of 21-30 year that were 66% and more in primi patient in the present study (Figure 2). In the present study PIH was most common risk factor of the abruptio placentae accounting for 48% cases (Figure 3).

Most cases of abruptio placentae were diagnosed clinically; however USG was performed in almost all the cases to know the size of clot and to decide further management.

In the present study, most of the patients (89%) (Figure 6) were anaemic at the time of admission and majority of them required blood transfusion (Table 2).

On account of complication like PPH (11%) and DIC (16%), AKI (6%) patients needed to be transfused PCV/FFP/PRC/Cryoprecipitates. About 5% of cases required ICU monitoring in the present study (Table 1).

In the present study, 4 maternal mortalities (4%) occurred (Table 1).

In the present study, perinatal mortality was 72% (Figure 5). Such a high rate was due to IUD which had more occurred in cases of abruptio placentae leads to poor prognosis as there is late presentation of the patient to the hospital, during which time the disease progress to an advanced stage.

So, overall maternal outcome (96%) was good in present study due to proper obstetric (intrapartum and post-partum) care, availability of wide range of antibiotics and blood components transfusion at our institute.

The present study clearly shows the importance of timely diagnosis and expert management by experienced clinician at all levels will help in improving maternal and foetal outcome in cases of abruptio placentae.

## CONCLUSION

Abruptio placentae are a grave and potentially life-threatening condition for mother and foetus which tests the limits of even the best equipped obstetrical and neonatal units. Educating the pregnant mother about the importance of

antenatal care and easy accessibility to quality antenatal services would go a long way in bringing down the maternal and perinatal morbidity and mortality related with abruptio placentae. There are no reliable predictors of the timing in pregnancy at which placental abruption may happen but when patient came with risk factor like pregnancy induced hypertension, special attention should be paid and active management should start and when abruptio placentae diagnosed active team management should be done [6-9]. Present study indicates that uncorrected anaemia still common in India contributing to increased maternal mortality and morbidity and also necessitating high requirement of blood transfusion. There is need for directed efforts for correction of anaemia in pregnancy and abruptio placentae. Introduction of availability of injectable iron at rural level can lead to a major reduction in anaemia complicating pregnancy. National Anaemia Prevention Programme needs to be modified by incorporating the facility for iron at rural level. In India, it is essential to strengthen the emergency transport facilities from periphery to tertiary care center as correct intervention at the appropriate time in these patients is crucial to bring out a good outcome of pregnancy.

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