

## Assessment of abruptio placentae cases in M.G.M. healthcare institute, Kalamboli: A cross-sectional study

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### Abstract

**Introduction:** Abruptio placenta is a serious obstetric complication which is characterised by the premature separation of the placenta. It is also associated with premature deliveries, maternal and fetal morbidities. Multiple factors are known to be associated with increased risk of placental abruption as alcohol and cocaine use and cigarette smoking, and nutritional deficiencies etc.

**Materials and Methods:** It was a retrospective study conducted among 47 cases of abruptio placentae admitted under the department of obstetrics and gynecology, in MGM Hospital, Kalamboli, Navi Mumbai, for a period of 2 years (December 2015 to December 2017).

**Results:** The mean age of presentation was reported to be 26.59 years. The incidence of abruptio placentae was found to be least after the age of 35 years (Table 1). Majority of cases were multigravida, while 32% cases presented with AP were primigravida. Among the multigravida cases, the majority of cases were of gravida 2 and 3 and the mean gravida order was 2.4.

**Conclusions:** From the current study, we can conclude that multiparity, cesarean section, previous abortion, and placental abruption can be considered at high risk of placental abruption.

**Keywords:** Abruptio placenta, Obstetric complications, Premature delivery, Maternal mortality, Maternal morbidity.

### Introduction

Abruptio placenta is a serious obstetric complication which is characterised by the premature separation of the placenta that occurs in about 1–2 per 100 pregnancies.<sup>1</sup> It is a major obstetric complication associated with increased risk of fetal and maternal morbidity and mortality globally, especially in developing countries. Over 50% of all perinatal deaths attributed to abruptio placentae pregnancies are accompanied by premature delivery.<sup>2-4</sup> However, rates as high as 4.5% have been reported in developing countries.<sup>5</sup> The etiology of placental abruption is unknown, but it occurs more for equinity among smokers, in hypertensive pregnancies, in pregnancies with intra uterine growth restriction (IUGR), in instances of trauma, with advancing maternal age, with male fetuses, and in women with a previous placental abruption.<sup>6</sup> Multiple factors are known to be associated with increased risk of placental abruption as alcohol and cocaine use and cigarette smoking, but there are fewer studies about the importance of opioid abuse in placental abruption.<sup>7</sup> Some studies observed nutritional deficiencies as a risk factor for placental abruption, and perinatal morbidity and mortality due to placental abruption can be reduced by good antenatal care and improved nutrition.<sup>8,9</sup> The signs and symptoms of AP vary depending on the severity of bleeding and degree of separation of the placenta. 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.<sup>5</sup> Antepartum hemorrhage (APH) is a grave obstetrical emergency. Maternal and perinatal complications in APH are anemia, malpresentation, post-partum hemorrhage, shock, low birth weight, intrauterine death, and birth asphyxia.<sup>6</sup> The present retrospective study was conducted to assess socio-demographic profile, risk factors associated and various modes of presentations of abruptio placentae cases. And hence its consequences on the fetal and maternal outcome and to identify the associated risk factors.

### Materials and Methods

It was a retrospective study conducted among 47 cases of abruptio placentae admitted under the department of obstetrics and gynecology, in MGM Hospital, Kalamboli, Navi Mumbai, for a period of 2 years (December 2015 to December 2017). The study included all the diagnosed cases of abruptio placenta during the study period. We defined abruptio placentae as complete or partial separation of normally located placenta before parturition. AP was diagnosed based on clinical signs and symptoms of vaginal bleeding, tense and tender abdomen, hypertonic uterus, and confirmed at delivery by the local examination of placenta for separation and presence of a retroplacental hematoma. All the relevant clinical information was collected: Maternal age, parity, gestational age at delivery, birth weight, and medical complications such as diabetes mellitus, hypertension and thyroid disease, general physical examination, and abdominal and pelvic

examination. Relevant investigations such as laboratory tests like hemoglobin (Hb), peripheral smear, platelet count, coagulation profile, kidney function tests, liver function tests, urine examination, and ultrasonography (USG) imaging and cardiocography were performed especially to assess fetal well-being. The data was entered and analyzed using MS-Excel software.

## Results

The present study was conducted among 47 diagnosed cases of abruptio placentae admitted under the department of obstetrics and gynecology during the period of December 2015 to December 2017 in MGM Hospital, Kalamboli, Navi Mumbai. Majority of the cases belonged to 20-25 years of age group followed by 26-30 years of age group. The mean age of presentation was reported to be 26.59 years. The incidence of abruptio placentae was found to be least after the age of 35 years (Table 1). Majority of cases were multigravida, while 32% cases presented with AP were primigravida. Among the multigravida cases, the majority of cases were of gravida 2 and 3 and the mean gravida order was 2.4 (Table 3). When we assessed their gestational age at the time of presentation, we found that majority of cases presented between 36-40 weeks of gestation, followed by 31-35 weeks of gestation, with the mean gestational age of 34.1 weeks. The occurrence of cases was found to be minimal before a gestational age of 30 weeks (Table 2). Most of the cases presented with complaints of bleeding per vaginum (93.6%), followed by abdominal pain (80.86%). 68.02% cases were associated with pregnancy-induced hypertension, whereas 29.78% cases were having a history of abortions during their past pregnancies (Fig. 1). 21.27% cases were found to be moderately anemic with hemoglobin levels between 7 to 10 mg/dl, while 8.51% cases reported being severely anemic. Anemia was reported probably due to bleeding during the course of their disease (Table 4). 82.97% cases of abruptio placentae were managed using lower section caesarian section, followed by 17% cases by vaginal delivery (Fig. 2). We also assessed outcomes of these cases. 34 (72.34%) cases delivered live-born fetuses out of which 19 (55.88%) of the fetuses required specialized care under NICU. The mean weight of live born fetuses was reported to be 1.98 Kg. 13 cases (27.65%) resulted in intrauterine fetal deaths (Table 5).

**Table 1: Distribution of cases according to their age groups**

Age group	Number of cases	Percentage
21-25 years	23	48.93%
26-30 years	16	34.04%
31-35 years	5	10.63%
More than 36	3	6.38%
Total	47	100%
Mean age	26.59 years	

**Table 2: Distribution of cases according to their gestational age at presentation**

Gestational age	Number of cases	Percentage
Less than 25 Weeks	1	2.12%
26-30 Weeks	9	19.14%
31-35 Weeks	17	36.17%
36-40	20	42.55%
Total	47	100%
Mean gestational age	34.01 weeks	

**Table 3: Distribution of cases according to their order of gravida**

Order of gravida	Number of cases	Percentage
Primigravida	15	31.91%
Gravida 2-3	20	42.55%
Gravida 4-5	11	23.4%
Gravida more than 5	1	2.12%
Total	47	100%
Mean order of gravida	2.4	

**Table 4: Distribution of cases according to their clinical presentation**

Hemoglobin levels	Number of cases	Percentage
Moderate Anemia (Hb: 7-10 mg/dl)	10	21.27%
Severe anemia (Hb: less than 7 mg/dl)	4	8.51%

**Table 5: Distribution of cases according to their outcome**

Outcome measures	Number of cases	Percentage
Live-born fetuses	34	72.34%
Live-born fetuses requiring specialized care in NICU	19	55.88%
Intra-uterine fetal deaths	13	27.65%
Mean weight of fetuses born	1.98 Kg	

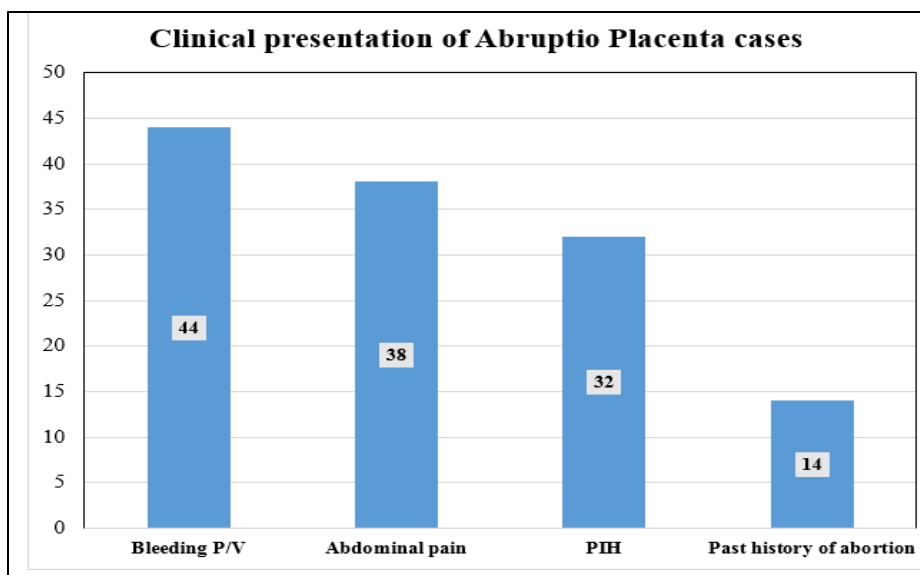


Fig. 1: Distribution of cases according to their clinical presentation

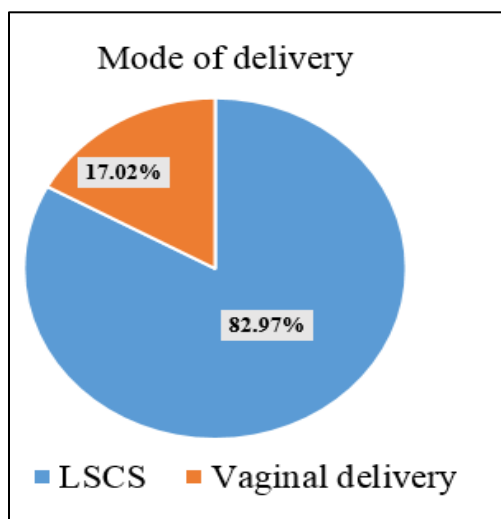


Fig. 2: Distribution of cases according to their modes of delivery

### Discussion

Placental abruption, the premature separation of the placenta, is a serious obstetric complication associated with increased risk of fetal and maternal morbidity and mortality. The most common age of presentation was found to be between 20-30 years with mean age of 26.59 years. Majority of cases belonged to gravida 2 and gravida 3 followed by primigravida. Most of the placental abruption cases presented after 31 weeks of gestation, specifically between 36 to 40 weeks of gestation. Almost all cases complained of bleeding per vaginam, and pain in the abdomen as presenting symptoms. Almost 30% cases had a previous history of abortions, which was responsible for recurrent losses of pregnancies. 17% cases were found to be associated with pregnancy-induced hypertension, which itself is a complication of pregnancy, which worsens the outcome.

As a preferred modality, most of the cases (83%) were delivered by lower segment caesarian section. Majority of the cases delivered live-born fetuses, out of them almost 56% newborns required specialized care under NICU. 28% cases had intrauterine fetal deaths. Pregnancies with placental abruption were appeared to have better obstetric outcomes when diagnosed early and managed using LSCS.

### Conclusions

From the current study, we can conclude that multiparity, cesarean section, previous abortion, and placental abruption can be considered at high risk of placental abruption. Early diagnosis, prenatal follow-up, and management using cesarean section can improve the maternal and fetal outcomes.

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