



## MATERNAL RISK FACTORS AND FETAL OUTCOME IN PATIENTS OF ABRUPTION PLACENTAE.

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**ABSTRACT:** Abruption placentae are a major cause of maternal and perinatal morbidity and mortality. Placental abruption is due to the rupture of the uterine spiral artery. Bleeding into decidua leads to separation of the placenta. There are many major maternal and fetal complications associated with placental abruption. **Objectives:** To assess the maternal risk factors, perinatal mortality and morbidity in relation to the severity of placental abruption. **Study Design:** Descriptive case series. **Setting:** Department of Obstetrics and Gynecology, Jinnah Hospital, Lahore for one year. **Period:** From Jan 2016 to Dec 2016. **Material & Methods:** Hundred females were included with placental abruption and were followed-up till delivery. At the time of delivery maternal and fetal complications were noted. **Results:** Mean age of females was 29.24 + 3.58 years. The mean gestational age at delivery was 32.95 + 3.12 weeks. About 64% underwent vaginal delivery while 36% underwent cesarean section. Among pre-disposing factors increased risk of anemia i.e. 46%, hypertension was found in 28%, multiple pregnancies with 18% and polyhydromnias were found in 8%. The incidence of fetal mortality was 58% and only 42% were born alive at time of delivery. Fetal morbidity is analyzed, 95.23% were in need of resuscitation, admission to nursery was done in 95.23%, neonatal jaundice was seen in 80.95%, anemia in 71.42% and respiratory problems were found in 85.71%. APGAR score at 5 minutes among 21 alive born fetuses was <8 in 85.71%. **Conclusion:** Resultantly maternal morbidity and perinatal mortality is significant, and this calls for early detection, regular visits, and special surveillance. There should be timely referral to tertiary care center where antenatal care plays an important role in decreasing the incidence of abruption placenta.

**Key words:** Abruption Placentae, Apgar Score, Cesarean Section, Perinatal Morbidity & Mortality.

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## INTRODUCTION

Abruption placenta is defined as detachment of placenta before delivery. Approximately 0.7% to 1.0% singleton pregnancies have abruption placenta.<sup>1-3</sup> The incidence increases in twin up to 1% to 2%.<sup>4,5</sup> Even though abruption placenta is not very common; it is still a major cause of fetal and neonatal mortality. This high mortality in abruption placenta can be linked to its association with preterm birth.<sup>6</sup> More than 50% of fetal death in abruption placenta was because of premature delivery.<sup>6</sup> There are many maternal complications as well because of abruption; however the major complications are life threatening blood loss, DIC and sepsis, kidney failure and even maternal death in few cases.<sup>7</sup> While the incidence of placenta abruption is 1%, it is still not well understood.<sup>8</sup>

Major risk factors responsible for placental abruption are increase maternal age, smoking and abuse of cocaine, multiparity, woman of poor socio-economic status, multiple births, black woman, male child, hypertensive disease in mother and intrauterine infections.<sup>4,9-15</sup> However, the strongest associated factor with placental abruption is history of abruption in previous pregnancy.<sup>16,17,18</sup> Despite being associated with grave maternal and fetal complications, clinical data on abruption, particularly local data is grave. It is important to recognize risk factors and complications associated with abruption, so that appropriate management plan can be made for pregnant women who are at risk of abruption. In this study, we assess the perinatal mortality and morbidity and risk factors in patients with

abruption placenta.

**MATERIAL AND METHODS**

This was a cross-sectional study conducted in department of Obstetrics and Gynecology, Jinnah Hospital Lahore from Jan 2016 to Dec 2016. During this period, total of 100 patients admitted at the time of their delivery with already established diagnosis of placental abruption after 24 weeks of gestation were included. After taking informed consent data was collected for selected cases. Data included age, parity, gestation age, predisposing factors and symptoms of abruption placentae. Mode of delivery, Neonatal Apgar Score at birth and five minute and fetal morbidity was also noted. The morbidity in the form of admission in neonatology unit for more than 48 hours and any complication developed was considered morbid. The data was analyzed using SPSS version 21. Calculating mean and standard deviation for numerical data like age, gestational age and APGAR score. Frequency and percentage were calculated for qualitative variables like parity, maternal and fetal outcome, predisposing factors like hypertension, anaemia, polyhydramnios and multiple pregnancy, symptoms of abruption placentae.

**RESULTS**

The mean age of patients was 29.24 + 3.58years. The mean gestational age at delivery was 32.95+3.12weeks. The parity distribution shows 10 (10%) having parity 0 (Primigravida), 48(48%) having parity 1-2, 48(48%) with 3-4 parity and ≥ 5 parity in 26(26%). Table-I.

In this study, 64 (64%) underwent normal vaginal delivery while 36 (36%) underwent cesarean section. Pre-disposing factors of abruption placentae in this research work are showing increased risk of anemia i.e. 46(46%), hypertension was found in 28(28%), multiple pregnancy with 18(18%) and polyhydromnias were found in 8(8%) (Table-I). There were 42 fetuses delivered alive while 58 (58%) died during delivery or soon after delivery. After 5minutes of birth, Apgar score of 42 alive fetuses was noted <8 in 36 (85.7%). Fetal morbidity is analyzed, where among 42 alive born fetuses, 40 (95.2%) were in

need of resuscitation, admission to nursery was done in 40 (95.2%), neonatal jaundice was seen in 34 (81%), anemia in 30 (71.4%) and respiratory problems were found in 36 (85.7%). Table-II.

	F (%)	
Mode of Delivery	Vaginal Delivery	64 (64%)
	Cesarean Delivery	36 (36%)
Factors	Hypertension	28 (28%)
	Anemia	46 (46%)
	Polyhydramnios	8 (8%)
	Multiple pregnancy	18 (18%)

**Table-I. Maternal Risk Factor placental abruption.**

Fetal Mortality	Yes	58 (58%)
	No	42 (42%)
Apgar score	<8	36 (85.7%)
	8-10	6 (14.3%)
Fetal Morbidity	Resuscitation required	40 (95.2%)
	Admission to nursery	40 (95.2%)
	Neonatal jaundice	34 (81.0%)
	Anemia	30 (71.4%)
	Respiratory problem	36 (85.7%)

**Table-II. Fetal outcome of placental abruption.**

**DISCUSSION**

Abruption placentae are one of the grave complications of pregnancy. It has very high maternal and perinatal mortality as well as morbidity. These can be avoided by treating shock and conducting early delivery preferably by vaginal route. While this study adds to limited local data available on abruption, because of its cross-sectional nature it was not able to establish causal relationship between risk factors and abruption. Large scale multi-centric prospective studies are needed to further establish associations between risk factors and abruption.

Parity of patients is a risk factor of abruption placentae in many studies.<sup>19-26</sup> Multiparity, particularly grand multiparity has been specified as a factor predisposing to increased frequency of abruption placentae. The number of multiparous females in this study was 90 (90%), while primigravida were only 10 (10%). Of the multiparous females, 32 (64%) were in the multigravida group (1 – 4 children) and 26 (26%)

were grand multigravida (more than 4 children). Hence, multiparity can be considered as a risk factor for abruption placentae.

Forty six (46%) patients had anaemia, with haemoglobin levels of severe to moderate anaemia. This high prevalence of anemia can be because of bleeding that occurs in abruption. Another reason for high prevalence of anemia can be nutritional deficit, which is very common in pregnant women in this country. Another local study supports our finding of a high number of patients with anemia; as they reported 34.4% of patients with abruption placentae have anemia.<sup>27</sup>

The patients in this study had a frequency of hypertension in 28% cases. This number may be even higher as actual blood pressure at the time of delivery may be masked because of bleeding due to abruption placentae. Various authors have studied the role of hypertension. Abdella<sup>28</sup> noted that incidence of abruption was highest in women who had eclampsia (23.6%), followed by chronic hypertension (10.0%) and then pre-eclampsia (2.3%). Abdella [28] helped establish that hypertension is associated with increased incidence of abruption and is associated more with eclampsia than any other hypertensive disorder. Similar findings were seen by Sharief and Manther;<sup>29</sup> in their study they compared hypertensive and normotensive pregnant women and found that there is an increase in incidence of abruption in the hypertensive group.

In this study, fetal mortality was very high. Fifty eight (58%) patients had intra-uterine fetal mortality. These high fetal mortality rates can be attributed to either abruption placentae itself or one of its complications. Similar high fetal mortality was found in studies from neighboring countries such as India and Iraq.<sup>29</sup>

To summarize, abruption placentae is a serious obstetric problem with very high neonatal mortality and morbidity and a grave influence on maternal health. It is important that efforts should be made to recognize women at risk of abruption placentae early and high risk management strategies should be adopted to reduce the risk.

## CONCLUSION

In this study, multiparity and hypertensive disorders were strong predictors of abruption placentae. Fetal mortality was very high. Hence, it is very important for early detection, regular visits and strict surveillance. Our results give relevant information to physicians regarding risk factors for abruption placentae which may help identify women at risk of abruption placentae. Considering high fetal mortality, it is important to improve attendance to antenatal care and timely management of the risk factors associated with abruption placentae.

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