

Babies Born to Mothers with Placental Abruption

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Abstract

Objective: The objective of the study is to evaluate the clinical characteristics of babies born to mothers who experienced placental abruption, and risk factors, maternal and neonatal outcomes.

Materials and Methodology: A total of 1777 neonates were admitted to the neonatal intensive care unit between November 2014 and July 2017 in our hospital. Of these babies, 8 were born to mothers with placental abruption, and their records were retrospectively evaluated.

Results: Of these 8 babies, 7 were term babies and 1 was preterm babies of 36 weeks, and 5 were male and 3 were female. 7 of these babies were born via emergency Caesarean section whereas 1 was born spontaneously through the vaginal route. Mean birthweight was 2975 ± 301 grams, mean pregnancy week was 36.5 ± 2.7 , mean duration of hospitalization was 14.5 ± 19.6 (3 - 62), mean 1-minute Apgar score was 4.8 ± 3.1 and mean 5-minute Apgar score was 6.2 ± 3.3 . Risk factors were as follows: 2 mothers were smokers, 1 baby was breech, 1 baby had the umbilical cord wrapped around its neck. All patients had elevated liver enzyme levels, and one of the babies who had severe asphyxia died on the postnatal day 3. The other baby who had asphyxia was followed up under mechanical ventilation for 44 days. On the day 64, since the baby did not have sucking and swallowing reflexes, gastrostomy was performed and the baby was discharged on the day 66.

Conclusion: In conclusion, although placental abruption is rarely observed, it is one of the major causes of morbidity and mortality in the newborns. Although the number of cases is relatively low, we consider smoking a significant preventable cause of placental abruption. Early diagnosis, frequent follow-up of high-risk pregnancies, and going into labor in centers with neonatal intensive care units are very important to reduce the mortality and morbidity.

Keywords: *Placental Abruption; Newborn*

Introduction

Placental abruption is the partial or complete detachment of the placenta prior to the birth of the fetus. It is one of the major causes of maternal and neonatal mortality and morbidity. It is seen in 0.4 - 1% of the pregnancies [1,2]. Risk factors include; advanced maternal age, intrauterine infections, oligohydramnios, polyhydramnios, intrauterine growth retardation, preeclampsia, hypertension, multiple pregnancies, uterine anomalies, trauma, smoking and cocaine use, placental abruption in the previous pregnancy and non-cephalic presentation [3-5]. Prematurity, low birthweight, asphyxia and fetal death are the major perinatal complications.

Objective of the Study

The objective of our study is to evaluate the clinical characteristics of the babies born to mothers with placenta abruption, risk factors, maternal and neonatal outcomes.

Materials and Methodology

A total of 1777 neonates were admitted to the neonatal intensive care unit between November 2014 and July 2017 in our hospital. Of these babies, 8 were born to mothers with placental abruption, and their records were retrospectively evaluated. Gestational week, birthweight, gender, type of delivery, Apgar score, maternal age risk factors, laboratory findings, complications, and mortality rate were recorded from the patient files.

Results

Of these 8 babies, 7 were term babies and 1 was preterm babies of 36 weeks, and 5 were male and 3 were female. 7 of these babies were born via emergency Caesarean section whereas 1 was born spontaneously through the vaginal route. Mean birthweight was $2975 \pm$

301 grams, mean pregnancy week was 36.5 ± 2.7 , mean duration of hospitalization was 14.5 ± 19.6 (3 - 62), mean 1-minute Apgar score was 4.8 ± 3.1 and mean 5-minute Apgar score was 6.2 ± 3.3 . Three patients were resuscitated and admitted to intensive care unit while intubated. Mean maternal age was 30.6 ± 2.5 years. Risk factors were as follows: 2 mothers were smokers, 1 baby was breech, 1 baby had the umbilical cord wrapped around its neck. Three patients had severe asphyxia, 3 newborns had transient tachypnea (TTN), 1 patient had asphyxia and respiratory distress syndrome (RDS), 1 patient had TTN and sepsis. Six patients were followed up under mechanical ventilator. Mean duration of follow up under mechanical ventilator was 12 ± 17.9 (2 - 44). All of the patients had elevated liver enzyme levels, four patients had PT and Pt activity was prolonged. Four patients received fresh frozen plasma. The newborn who had asphyxia died on the postnatal day 3. The other newborn with asphyxia was followed up under ventilation for 44 days. On the day 64, since the baby did not have sucking and swallowing reflexes, gastrostomy was performed and the baby was discharged on the day 66. The mortality rate was 12.5% (Demographic characteristics of the patients table 1).

Patient number	7 term 1 preterm
Cesarean/vaginal delivery	7/1
Birth weight	2975 ± 301 gr
Gestation week	$36,5 \pm 2,7$
Mean duration of hospitalization (days)	$14,5 \pm 19,6$ (3-62)
Apgar score	$4,8 \pm 3,1$
1.ci dakika	$6,2 \pm 3,3$
5.ci dakika	
Mother average age	$30,6 \pm 2,5$
Smoking	2
Breech presentation	1
Umbilical cord wrapped	1
Severe Asphyxia	3
TTN	3
Asphyxia +RDS	1
TTN+sepsis	1
Mortality	1(%12.5)
Duration of ventilator(days)	$12 \pm 17,9$ (2-44)

Table 1: Demographic characteristics of patients.

TTN: Transient Tachypnea of the Newborn; RDS: Respiratory Distress Syndrome

Discussion

Placental abruption is one of the major causes of low birthweight, preterm labor, stillbirth, and early neonatal mortality, and its reported incidence in our country is 0.09 - 1.38% [2,6]. Placental abruption, which is first described in 1775, is defined as hemorrhage from the abnormally small uterine arterial veins into the decidua basalis [7].

Diagnosis is usually clinical, and in 50% of the cases, ultrasonography can assist the diagnosis [8].

Many risk factors were held responsible in the etiology process. As the age and number of births increase, the risk of placental abruption increases [9]. Still, the gestational week is important for mortality. In the series comprising 55 cases by Adalı., *et al.* the mean maternal age was 30.18 and the mean number of births was 5.83, and mean gestational week was 31.3 [10]. In our study, the mean maternal age was 30.6 ± 2.5 , mean gestational week was 36.5 ± 2.7 , the mean number of birth was 1.7.

Smoking has been reported among the major preventable causes of placental abruption in the literature. It was found that smoking increased the rate of placental abruption by 2.5 fold, and this risk still exists even among people who stopped smoking before the pregnancy [11,12]. The mothers of two of our patients were smokers. Although the number of cigarettes they smoke was not many, we considered smoking as a risk factor.

Fetal asphyxia, intrauterine growth retardation, fetal death are among the major causes of mortality in babies born to mothers who experienced placental abruption. Approximately 55% of the perinatal deaths occur due to preterm birth [13]. In the study comprising 92 cases by Yilmaz, *et al.* the mean of 1st minute Apgar scores were 4.37. Again, while 22.83% of the fetuses were dead upon admission, in 19.5% of the patients, the fetus died within 24 hours of birth [14]. In our study, Apgar score was similar and the mean 1-minute Apgar score was 4.8 ± 3.0 . Three patients had severe asphyxia, 1 patient had asphyxia and respiratory distress syndrome (RDS) and was followed up in the neonatal intensive care unit. Our patient with severe asphyxia died on the 3rd day of treatment. The mortality rate was 12.5%. We think that a lower mortality rate than the one reported in the literature can be due to the fact that we have a Level 3 Intensive Care Unit, and the labors occur in the hospital.

Conclusion

In conclusion, although placental abruption is rarely observed, it is one of the major causes of morbidity and mortality in the newborns. Although the number of cases is small, we claim that smoking can be a risk factor for placental abruption. Early diagnosis, frequent follow-up of high-risk pregnancies, and going into labor in centers with neonatal intensive care units are very important to reduce the mortality and morbidity.

Conflict of Interest

The authors declare that they have no conflict of interest.

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