

RISK FACTORS ASSOCIATED WITH MAJOR PLACENTA PREVIA

Naheed Rahim, Taskin Rehana, Anjum Ara

Department of Gynaecology, Naseer Teaching Hospital, Peshawar - Pakistan

ABSTRACT

Objectives: To evaluate potential risk factors associated with major placenta previa.

Material and Methods: This was a retrospective study conducted in the Department of Obstetrics and Gynaecology of Naseer Teaching Hospital, Peshawar from January 2005 to December 2011. Chart records of all women who had undergone cesarean section for placenta previa were reviewed. Data on potential risk factors for placenta previa development was carefully extracted from medical records. Placenta previa was diagnosed by ultrasonography and/or direct visualization of placental location during cesarean section. Statistical analysis was performed using simple percentages.

Results: During the study period, there were 58 cases of cesarean sections done for placenta previa, which is 0.7% of the total deliveries. Maximum number of women were in the age group ≥ 35 yrs and majority (62%) of them were grandmultipara. The identified risk factors included previous cesarean section, multiparity, previous abortions and history of placenta previa. Maternal complications included postpartum anemia, postpartum haemorrhage and operative site infection.

Conclusion: Placenta previa poses danger to both the mother and the baby. The most important risk factors for placenta previa development are advanced maternal age, multiparity and previous cesarean sections.

Key Words: Placenta, previa, risk factors, cesarean section.

INTRODUCTION

Hemorrhage in pregnancy is the most important cause of maternal death world wide. It's contribution to maternal mortality rate is even more striking in countries with low resources¹. Placenta previa is used to describe a placenta that is implanted over or very near the internal os². It complicates 0.4 – 0.6% of all deliveries^{3,4}, and is a common cause of antepartum Haemorrhage (APH) resulting in maternal and fetal morbidity and mortality^{5,6}. Its prevalence in Asians has been shown to be significantly higher than other races and ethnicities⁷.

The aetiology of placenta previa is frequently unclear⁸. However the established risk factors include advanced maternal age, multiparity, previous cesarean section, multiple gestation and smoking during pregnancy^{8,9}. Other known risk factors are previous abortions, placenta previa in previous pregnancy, cocaine use and history of retained placenta. Several clinical and epidemiological studies have reported disparate data on the prevalence and risk factors associated with this condition¹⁰.

The primary objective of this study was identification of risk factors associated with placenta

previa so that effective counseling, close monitoring of those high risk mothers, prompt detection of complication and timely optimal intervention can be done. This can cause reduction in maternal and perinatal mortality.

MATERIALS AND METHODS

This retrospective study was conducted from January 2005 to December 2011. Chart records of all women who had undergone cesarean section for placenta previa were reviewed. The following data was obtained: age of pregnant women, parity, previous cesarean sections, history of spontaneous or induced abortions, history of previous placenta previa and history of substance abuse during pregnancy (smoking and illicit drugs) and child sex. The diagnosis of placenta previa for this study was based on sonographic diagnosis during the third trimester at 28 wks gestation or more. Further more the diagnosis was confirmed by direct inspection of placental location at the time of cesarean section. The exclusion criteria were incomplete medical records, uncertain gestational age, and placental abruption. The data was analyzed using simple percentages.

RESULTS

During the period of study of the 7560 deliveries in the hospital, 58 patients were confirmed to have major placenta previa at surgery. The prevalence was 0.7%. Twenty (34.4%) patients were booked for

Address for Correspondence:

Dr. Naheed Rahim

Assistant Professor

House No. 245/ J-1, Street-04, Phase-2,

Hayatabad, Peshawar - Pakistan

Contact: 0300-5879100

Email: naheed.rahim@yahoo.com

antenatal care, while 38 (65.5%) were unbooked. Table 1 demonstrates that advancing maternal age is associated with progressively increased risk of placenta previa. Majority (43%) of the patients were 35+ years old, where as (13.8%) were less than 24 years of age. Thirty six (62%) of the women were grand multipara.

Table 2 shows the potential risk factors related to placenta previa. Twenty four patients had history of cesarean section (3 cases had previous two cesarean sections). Of these, 8 had both cesarean section and abortion. Regarding abortion, 34% of cases had spontaneous/induced abortions and 45% of cases had more than one abortion. No association was found between placenta previa development and drug abuse during pregnancy. There was no identifiable risk factor in 5 (8.6%) of the patients. The male babies were 55.5% while female babies were 44.4%.

DISCUSSION

Placenta previa is one of the dreaded complications in obstetrics due to its associated adverse maternal and perinatal outcome. In this study, placenta previa complicated 0.7% of all deliveries, which was within the range of 0.3 — 0.8% observed in other studies^{10,11}.

Table 1: Age and Parity distribution of patients

Age Range	No. of patients & percentage
≤ 24 years	8(13.8%)
25-29	10(17.24%)
30-34	15(25.9%)
35+	25(43.10%)
Parity	
0	4(6.9%)
1-4	18(31.03%)
≥ 5	36(62.1%)

Table 2: Identified risk factors

Predisposing Factor	No. of patients & percentage
Grandmultiparity	36(62.06%)
Previous cesarean section	24(41.37%)
Previous abortion	20(34.48%)
Previous cesarean section +	8(13.79%)
Abortion	5(8.62%)
Multiple pregnancy	2(3.44%)
Previous history of plcenta previa	Nil
New born's sex	
Male	35(55.6%)
Female	28(44.44%)

- Some patients had more than one risk factor.
- 5 patients had no identifiable risk factor.

The incidence of placenta previa increases in older grandmultiparous women^{3,11,9,12}. This was clearly defined in this study as that 43% of the Patients were 35 years old or above. The mechanism by which advanced maternal age impairs normal placental development is not well understood. One of the possible explanations could be that the percentage of sclerotic changes on intra myometrial arteries increases with increasing age, thereby reducing blood supply to placenta. Routine curettage after all spontaneous abortion may be avoided unless it is needed. Similarly grandmultiparity was noted in a significant proportion (62%) of the patients, which suggests its association with placenta previa as noted in other studies^{3,4}. Family planning services should be further improved to attain a decline in the high parity. Women with previous cesarean section are at higher risk of developing placenta previa than those with out prior cesarean section^{3,11,6,12,14}. This is one of the most identifiable risk factor in this study as it was noted in 41.3% of the patients. The exact mechanism of previous uterine scar predisposing to low implantation of placenta is not well understood. It has been recently shown that uterine scar prevented migration of placenta during the course of pregnancy toward the more vascularized uterine fundus.

Our study has confirmed that previous history of miscarriage was strongly associated with placenta previa, which is comparable to that reported by Naveed P et al¹⁶. However this was contraindicated by another study conducted by Parazzini et al. The mechanism how previous abortions predispose to placenta previa development could be explained with possible endometrial damage during repeated abortions, which impedes successful fundal implantation of placenta. Other identified risk factors included multiple pregnancy and previous history of placenta previa¹⁸. There is slight predominance of male babies in this study, which is in consistency with results of other studies^{11,14,19}.

Contrary to some previous studies, which managed to prove 2—4 fold higher risk for placenta previa in smokers^{13,11}, our study showed no association between placenta previa and smoking.

Knowing obstetric factors predisposing women for placenta previa development in our population is important for choosing adequate preventive measures for these women. These women should receive counseling as soon as pregnancy is confirmed. Careful monitoring of these high risk pregnancy is of utmost importance, especially ultra sono graphic examination for placental localization in the second trimester of pregnancy. Early recognition and proper monitoring of placenta previa could minimize the possibility of poor outcome.

CONCLUSION

Careful monitoring of high risk pregnancies is of utmost importance. This will minimize the possibility

of poor outcome. Family planning should also be emphasized as a strategy towards reduction of parity, caesarean section rate and thereby the incidence of placenta previa.

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