ASSOCIATION OF PLACENTA PRAEVIA WITH MULTIPARITY & PREVIOUS CAESAREAN SECTION IN PREGNANT WOMEN

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ABSTRACT

Objective: To determine the association of placenta praevia with multiparity and previous caesarean section in pregnant women.

Study Design: Descriptive cross sectional study.

Place and Duration of Study: Conducted at department of Obstetrics and Gynaecology, Combined Military Hospital Lahore, from Jan 2017 to Jun 2017.

Material and Methods: The study involved 254 patients with placenta praevia reporting in Outpatient Department and Emergency Department at Combined Military Hospital Lahore. After taking informed consent, the outcome variables i.e. parity and history of previous cesarean deliveries along with demography of the patients were recorded on specifically designed proforma. The collected information was entered and analyzed through SPSS version 20.

Results: Among 254 patients with placenta praevia, majority was in age group 31-40 years i.e. 55.51%. Age group 20-30 years was next in a row i.e. 37.79%. Analysis of the parity distribution showed that majority of the patients with placenta praevia were multigravida i.e. 81.10% and only 18.89% of cases were primigravida. Majority of the patients presented at gestation ≤37 weeks i.e. 57.08% and 62.59% of cases were having previous history of caesarean section.

Conclusion: Multiparous women with history of previous caesarean section carry a higher risk for placenta praevia and should be counseled and managed accordingly.

Keywords: Multiparity, Placenta praevia, Previous caesarean section.

INTRODUCTION

Placenta praevia is defined as a placenta that has implanted into the lower segment of the uterus. It is now classified as either major, in which the placenta is covering the internal cervical os, or minor, when the placenta is sited within the lower segment of the uterus, but does not cover the cervical os[1].

Placenta praevia complicates 0.4-0. 6% of all deliveries[2]. Risk factors are multiparity, previous caesarean delivery, previous abortion, smoking, previous placenta previa, multiple gestation and previous intrauterine surgical procedure. Surgical disruption of the uterine cavity is a potent risk factor for placenta previa[3].

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Placenta praevia can have serious adverse consequences for both mother and baby, including an increased risk of maternal and neonatal mortality, fetal growth restriction leading to preterm delivery, antenatal and intrapartum hemorrhage, and women may require a blood transfusion or even an emergency hysterectomy[1].

Cesarean delivery is the most common of operative procedures in practice of Obstetrics and Gynaecology, which is known to cause lasting damage to the myometrium and endometrium[4,5].

Most of the risk factors that predispose patient to placenta previa will also predispose them to placenta accurete, increta and percreta. Indeed, the presence of placenta previa is a well-recognized risk factor for placenta accreta[6,7]. Placenta previa increases the risk of antepartum, intrapartum, and postpartum haemorrhage[8].

Perioperative morbidity significantly increases with the number of cesarean deliveries performed[9-11].

The aim of the study was to determine the association of placenta previa with previous caesarean section and multiparity.

MATERIAL AND METHODS

All pregnant women of reproductive age group (18-45 years), both primigravida and multigravida with placenta previa diagnosed on ultrasound scan presenting at Combined Military Hospital from January 2017 to June 2017 were included in the study. Patients with placental abruption, vasa previa and genital tract trauma were excluded.

After approval from ethical committee patients with placenta previa fulfilling the inclusion and exclusion criteria were admitted through Outpatient Department and Emergency Department. Informed consent was taken and then outcome variables i.e. parity and history of previous cesarean deliveries along with demography of the patients on specifically designed proforma.

The collected information were entered and analyzed through SPSS version 20. Descriptive statistics were used to analyze the data. Quantitative variables like age and gestational age of the patients were calculated by mean and standard deviation. Frequencies and percentages were calculated for qualitative variables like parity and history of previous caesarean delivery.

Effect modifiers like age and gestational age were controlled by stratification. Post stratification chi-square test was applied with level of significance ≤0.05.

Table-I: Stratification of multigravida with respect to age.

Age group (in years)	Multigravida	Primigravida	*p*-value
<20	1	5	0.0004
20-30	78	18	
31-40	119	22	
>40	8	3	
Total	206	48	

Chi-square value=17.75, df=3

Table-II: Stratification of multigravida with respect to gestational age.

Gestational age	Multigravida	Primigravida	*p*-value
≤37weeks	118	27	0.8965
>37weeks	88	21	
Total	206	48	

Chi-square value=0.0169, df=1

Table-III: History of previous caesarean section (n=254).

History of previous caesarean section	Number of cases	*p*-value
Yes	159	0.0042
No	95	
Total	254	

Chi-square value=8.193, df=1

RESULTS

Among 254 patients with placenta previa, 141 (55.51%) were in age group 31-40 years , 96 (37.79%) were in age group 20-30 years, 6 (2.36%) of cases were in age group less than 20 years and 11 (4.33%) of cases were more than 40 years of age. Mean age of patients was 31.23 ± 4.84.

Analysis of the parity distribution showed that 206 patients with placenta previa were multigravida i.e. 81.10% and only 48 patients were primigravida which accounts for 18.89%.

Among 254 patients, 145 patients presented at gestation ≤37 weeks i.e. 57.08% and 109 patients were at gestation more than 37 weeks i.e. 42.91%

159 patients with placenta previa, i.e. 62.59% of cases were having previous history of caesarean section and in 95 (37.40%) cases there was no previous history of caesarean section.

DISCUSSION

Bleeding from placenta previa is one of the most acute and life threatening emergencies in obstetric practice[12].

The strongest connection of placenta previa was found between previous history of cesarean section, high parity & advanced maternal age[13-15], but the strength of the connection varies from study to study.

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[16].

The results generated by the present study are supported by an International study in which, the average age of the patients was 30.2 years[17]. Another study revealed that Mean age of presentation was 29 years[18].

Similarly in another local study from Pakistan[19] 64% of patients were of 30 years and above age group. Almost similar results were obtained by Tuzovic *et al* where out of 202 patients, 127 (62.8%) were of 30 years and above age group[12]. Association of placenta previa with advanced maternal age is confirmed from the study done by Cieminski A[15].

Another risk factor for placenta previa is multiparity which is due to, atrophic endometrium changes after frequent births which are proved in multiple studies[10-15].

In a study conducted by Nisar & Sohoo[18] the incidence of abnormal placentation was 14.28% in previous caesarean section.

Several studies conducted around the world confirmed a 2-5 fold increased risk for placenta previa development in women with history of previous cesarean section[13]. Choi SJ and others showed a significantly high association between placenta previa and previous caesarean section (p<0.000)[17].

In a local study from Pakistan[18] 40% women had previous C/section and 18% patients had history of previous miscarriage.

Malik *et al* reported in their study that 50% women had history of previous caesarean section[19].

A study was conducted to evaluate potential risk factors and perinatal outcome of pregnancies complicated with placenta previa in Croatian population of pregnant women recruited from the largest tertiary care perinatal center in Croatia[12]. The results of this study revealed that the incidence of placenta previa was 0.4%. Factors significantly associated with a placenta previa development were advanced maternal age (especially >34 years, even after adjustment for high parity), gravidity of 3 and more (OR, 4; 95% CI, 2.5-6.6), more than one previous delivery (OR, 2.76; 95% CI, 1.7-4.3), history of previous cesarean sections (OR, 2.0; 95% CI, 1.17-3.44)[12].

The results of our study indicate that knowing obstetric factors predisposing women for placenta previa development in our population is important for choosing adequate preventive measures for these women.

CONCLUSION

From the available data, it is concluded that there is a high association between incidence of placenta previa in women with previous caesarean section as well as multiparity. Hence, we recommend that pregnant women should attend antenatal clinics regularly for follow up during their pregnancy. This is for planning, proper management and advice to use family planning methods. The aim is to anticipate any complication and to have safe deliveries.

Early recognition and proper monitoring of placenta previa could minimize the possibility of poor outcome in sudden massive vaginal bleeding.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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