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ORIGINAL ARTICLE

"Association Between Placenta Previa and Previous C-Sections"

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ABSTRACT

Placenta Previa is defined as a condition where the placenta covers the opening of the cervix. It can cause severe bleeding during pregnancy. Its incidence is about 0.28–2%.

Objective: The main objective of this study was to find any association between placenta previa and previous C-section among patients presenting at Obstetrics & Gynaecology Department of Sheikh Zayed Hospital, Rahim Yar Khan.

Methods: This descriptive cross sectional study was carried out from April 2019 to October 2019 at Department of Obstetrics and Gynaecology Unit III, Sheikh Zayed Hospital, Rahim Yar Khan. 60 patients were selected aged 18-40 years with singleton pregnancy at gestational age more than 24 weeks and having history of one or more cesarean sections in previous pregnancies were included in the study.

Results: 60 patients included in this study had mean age of 32.31+ 4.0 years, the mean gestational age was 32.02+ 3.21 weeks. Out of 60 cases, 2(9.5%) placenta previa was seen in one previous C-Section, 3(8.6%) and 1(25%) placenta previa were seen in 2nd 3rd previous C-section respectively. Placenta previa less seen in 2(9.1%) cases with abortion as compare to 4(10.5%) cases with no abortion. The smoking history was seen in only 2(40%) cases having placenta previa.

Conclusion: The conclusion of this study that placenta previa is not so common in pregnancies after cesarean section but its number is significantly high in cases that had previous 1 or 2 cesarean sections.

Keywords: Placenta Previa, C-section, multiparity, vaginal bleeding

INTRODUCTION

Placenta Previa is a condition where the placenta lies low in the uterus and partially or completely covers the cervix.[1]

Placenta previa affects around 3–5 births out of every 1,000[2] It is the partial or full attachment of placenta in lower uterine segment. It usually takes place in second or third trimester but can be observed in early part of pregnancy as well. This complication is a primary cause of antepartum haemorrhage or vaginal bleeding.[3]

Placenta previa is more common among women with:

- Multiparity
- Scars on the uterus, such as from previous surgery, including C-section, fibroid removal from uterus, and dilation & curettage
- History of placenta previa in previous pregnancy
- Duplets or triplets
- Age 35 years or above
- Race other than white
- History of smoking
- Cocaine addiction[4]

Some local studies have reported the incidence of such cases to be around 051-3.5%.[5]

The exact etiology of placenta praevia remains hypothetical but some risk factors are considered to be associated with this ailment. The threatening factors which can enhance the chance of placenta praevia include higher age of mother, multiple parity and multiple gestations, history of abortion and placenta praevia in previous pregnancy.[6]

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Literature shows the evidence of increase in risk for placenta praevia in subsequent pregnancies after caesarean section but in Pakistan this aspect has not been studied extensively and information regarding risk of placenta praevia in pregnant women is limited in our population and we also notice that caesarean deliveries are on increase in our population.

The main objective of this study was to find any association between placenta previa and previous C-section among patients presenting at Obstetrics & Gynaecology Department of Sheikh Zayed Hospital, Rahim Yar Khan.

MATERIAL & METHODS

This descriptive cross sectional study was carried out from April 2019 to October 2019 at Department of Obstetrics and Gynaecology Unit III, Sheikh Zayed Hospital, Rahim Yar Khan. A total of 60 cases with history previous C-sections were enrolled to determine the association of placenta previa with previous C-sections among these patients, coming to a tertiary care hospital with placenta previa present or not. Sample size 60 was calculated with 80% power of test and 5% level of significance by expecting 3% placenta previa present in these females by using formula: n=Z^2(p) (1-p)/d^2

Patients aged 18-40 years, with singleton pregnancy at gestational age more than 24 weeks and having history of one or more cesarean sections in previous pregnancies were included in the study.

Patients with primi-gravid uterus or with bleeding in 2nd trimester or having scars other than C-section e.g. placental abruption, ante-partum hemorrhage, myomectomy were excluded from the study.

SPSS version 21.0 was used to enter and analyzed the data. Quantitative data like age, gestational age were presented as means and standard deviation and qualitative data like parity, no. of C-sections were presented as frequencies and percentages. Chi-square test was used to compare the relationship between placenta previa and smoking, no. of C-sections, no. of abortion. P value was kept significant ($p< 0.05$).

RESULTS

60 patients included in this study, the patient mean age was 32.31+ 4.0, the mean gestational age was 32.02+ 3.21 weeks. Out of 60 patients, 15(25%) patients were in 21-25 years of age, 27 (45%) were between the 26-30 years of age, 13 (21.6%) were in 31-35years of age and only 5(8.3%) patients were between the age of 36-40 years of age i.e Table# 01.

48(80%) cases were present in 3 or less than 3 parity and 12 (20%)cases with parity more than 3.I our study, 5(10.4%) placenta previa seen in less than or equal to 3 parity and 1(8.3%) placenta pevia seen in more than 3 parity i.e Table# 02.

Table 01: Age Distribution of cases

Descriptive Statistics	Mean (SD)
Age	32.31+ 4.0
Gestational Age	32.02+ 3.21
Age in years	No. of patients
18-25	15(25%)
26-30	27 (45%)
31-35	13 (21.6%)
36-40	5(8.3%)

Table 02: Frequency of placenta previa in relation to no. of caesarean sections

Variables	Frequency (%)	
Parity:		
Less than or equal to 3	48(80%)	
More than 3	12(20%)	
No. of cesarean sections:		
1	21(35%)	
2	35(58.3%)	
3	4(6.6%)	
Other factors:	Yes	No
History of abortion	22(36.6%)	38(63.3%)
History of smoking	5(8.3%)	55(91.6%)
Placenta Previa	6(10%)	54(90%)

Table 03: Incidence of placenta previa with respect to age group, parity, history pf smoking and abortion

Factors		Placenta Previa		p-value
		Yes	No	
Age:				
21-25		2(13.3%)	13(86.7%)	0.797
26-30		2(7.4%)	25(92.6%)	
31-35		1(7.1%)	12(92.3%)	
36-40		1(20%)	4(80%)	
Parity:				
Less than or equal to 3		5(10.4%)	43(89.6%)	0.830
More than 3		1(8.3%)	11(91.7%)	
No. of cesarean section:				
1		2(9.5%)	19(90.5%)	0.0581
2		3(8.6%)	32(91.4%)	
3		1(25%)	3(75%)	
History of abortion	Yes	2(9.1%)	20(90.9%)	0.858
	No	4(10.5%)	34(89.5%)	
History of Smoking	Yes	2(40%)	3(92.7%)	0.020
	No	4(7.3%)	52(92.7%)	

Out of 60 cases, 2(9.5%) placenta previa was seen in in one previous C-Section, 3(8.6%) and 1(25%) placenta previa were seen in 2nd 3rd previous C-section respectively. Placenta previa less seen in 2(9.1%) cases abort as compare to 4(10.5%) cases no abortion. The smoking history was seen in only 2(40%) cases had placenta previa seen in this study i.e Table # 03.

Statistically there were no significant difference between placenta previa and abortion history, age groups and Parity. But smoking history and previous C-section were statistically significant with placenta previa. ($p< 0.05$) i.e Table# 03.

DISCUSSION

Placenta previa can lead to several complications that threaten the health of the mother and baby including preterm birth, bleeding/hemorrhage of mother or fetus, placenta accrete, placental abruption and many more.[7]

One study from a teaching hospital in Khairpur concluded the incidence of placenta previa to be 161(5.7%) where mean maternal age was 31 years as compared to our study, where placenta previa was seen in 6(10%) with mean maternal age to be 32.31+ 4.0 years.[8]

Another study was conducted at Jordan University of Science & Technology which showed incidence of placenta previa to be higher among patients with gravidity >4, parity >3 and with previous C-sections but no increase in incidence of placenta previa in relation to increasing maternal age and previous abortions. As compared to our study, incidence of placenta previa is higher among patients with gravidity <2, previous caesarean section and previous abortion.[9]

According to a study, the placenta previa was seen in 7 21.5% of cases after ceserean section,[10] while in another study done in Iran revealed it only in 3.68% 8 of the cases.[11] As compare to our study, placenta previa was seen in 6(10%).

In this study, 10% of cases presented placenta previa between the age of 18-40 years compared to 77% of cases by Faiz et al and 95% of cases by Rangaswamy et al. Maximum patients were in the age range of 26 to 30.[12,13]

In our study, placenta previa was present in less than every 3 patients that included 10.8% of cases that is similar to the study conducted by Iqbal K et al[14] which included 48% of cases and also similar results were seen in 2020, where placenta previa was mostly present in 1-5 parity that included 67%.

Zahoor et al have reported that placenta previa was seen in 4 (4%) out of 100 cases. There was no significant difference of placenta previa with respect to gravida and parity.[15]

Placenta previa was more in cases with history of smoking affecting 1(7.14%) cases vs 3(3.48%) cases with no smoking in their respective groups with p= 0.11. As compared to our study, 2(40%) had smoking history with placenta previa ($p<0.05$). Placenta previa was significantly higher in cases with previous history of more than 1 C-sections affecting 3(7.50%) out of 40 cases with p=0.01. As compared to our study, variability of placenta previa was found significantly different in patients with previous history of one or more than 2 C- sections affecting 2(9.5%) and 3(8.6%) patients with $P < 0.05$.[15]

CONCLUSION

The conclusion of this study is that placenta previa is not so common in pregnancies after cesarean section but its number is significantly high in cases that had previous 1 and 2 cesarean sections. Placenta praevia also has a significant relationship with smoking and insignificant relationship with parity and age.

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