

Frequency of Placenta Previa with Previous C-Section

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ABSTRACT

Background: Placenta previa is an obstetric complication in which the placenta is attached to uterine wall close to or covering the cervical os. Cesarean section is one of the important risk factor for placenta previa. It is a leading cause of APH and it affects approximately 0.5% of all labours according to epidemiologic studies.

Aim: To find out the frequency of placenta previa with prior C-section and further evaluating fetomaternal outcome in women with placenta previa and those without placenta previa.

Method: The study was held in Sir Ganga Ram Hospital Lahore, in obstetric emergency and OPD. It was an observational descriptive study based on non-probability technique. The inclusion criteria for the study were all the pregnant women with history of previous c-section with and without placenta previa. The exclusion criteria were primary gravids, pregnant women without previous c-section.

Results: Women with previous c-section were selected, out of which 33 were found to have placenta previa (21.5%). There was an increase in frequency of placenta previa with increasing number of c-section (50% with previous IV, n=8). almost equal frequency of major degree of placenta previa 51.5% (n=17) and minor degree of placenta previa (48.4%, n=16) was found. Placental adherence was significant (48.5, n=16 with 27.2% accreta n=9) with placenta previa compared to (0.017%,n=2) without placenta previa. Most of the women with placenta previa were multigravidas with parity>5 (60.6%,n=20) than those without previa (33.4% n=18). We also found that placenta previa is more common with baby boys (75.7%, n=25). Neonates with placenta previa mostly had low birth weight <2.5kg (45.5%, n=15). Newborns delivered after placenta previa graded low APGAR score <7 at 5 minutes after birth (51.5%, n=17). Malpresentation was found to be (57.6%, n=19). Women with placenta previa also had history of D&C (48.4%, n=16), abortions (48.4%, n=16), previous placenta previa (3%, n=1), twin pregnancy (3%, n=1)

Conclusion: The frequency of placenta previa increases with increasing number of previous c-section and associated adverse fetomaternal outcome.

Key words: Placenta Previa, Previous Caesarean

INTRODUCTION

Placenta previa is a form of impaired placentation when placenta lies low in the uterine cavity covering completely or partially the internal cervical ostium. It is one of the main causes of vaginal bleeding in the third trimester¹. This is not a common pregnancy complication as about one in every 250 pregnancies may have placenta previa¹. A trend of increasing placenta previa was observed in past decade, mainly because of increasing c-section and advancing maternal age at conception¹. Although the clinical course of placenta previa is highly suggestive, the etiology of this condition still remains obscure². The strongest connection was found with previous history of c-section^{5,6,7}, high parity⁸, advanced maternal age⁹ history of previous spontaneous or induced sections¹¹, previous placenta previa¹², child sex at birth (more in baby boys)¹³.

As a result, the studies in the risk factors and outcome of placenta previa pregnancy vary around the world⁷. We decided to evaluate the frequency of Placenta Previa with previous one or more c-section and to investigate the other risk factors of Placenta Previa which were present along with previous c-section and to compare fetomaternal outcome in females with previous c-section presented with Placenta Previa and without Placenta Previa.

MATERIALS AND METHODS

The study was conducted in Department of Obstetrics & Gynaecology over 3 months period (17th March-10th June). It was Observational Descriptive study based on non-probability technique. A total number of 153 patients with history of previous c-section were enrolled for the study purpose, which were either received as an emergency or were booked cases and they were followed up to 1 week after delivery.

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Inclusion criteria: The inclusion criteria for the study were all the pregnant women with history of previous c-section with Placenta Previa and without Placenta Previa.

Exclusion criteria:-The exclusion criteria was Primigravida and pregnant women without previous c-section. Women with history of previous c-section but presenting with APH in first trimester.

Criteria used to define placenta previa:-Criteria used to define placenta previa was abnormally placed placenta in lower uterine segment, partially or completely covering the internal os. Placenta Previa was diagnosed by Transabdominal ultrasonography and was classified according to Jauniaux and Campbell classification as under:

Type 1:-Placenta just encroaches on lower uterine segment.

Type 2:-placenta reaches the margin of the cervical os.

Type 3:- placenta, partially covering the internal os.

Type 4:-Total placenta covering the entire os.

Cases were subjected to the following:

A) Before delivery:-Full history taking which included possible risk factors for placenta previa like age, parity, previous no. of c-section and their indications, previous history of abortions, multiple pregnancy, D&C, placenta previa, fibroids and smoking were recorded on the specially designed performa designed for study. We also recorded the presenting complaint of the patient and lie and presentation of the fetus. Routine Laboratory Investigations i.e., Blood group, CBC, BSL, Viral markers, Urine examination were done. Special investigations like RFTS, LFTs etc were done according to the clinical condition of the patient.

Transabdominal Ultrasound was done for obstetrical reasons as well as exact localization of placenta. CTG was also performed in patients with symptoms of fetal distress.

B) During delivery:- Patient was evaluated for intra-operative complications like Haemorrhage, Cesarean Hysterectomy etc.

C) After delivery:- The newborns were evaluated by Apgar score at 5minutes, weight and gender of the baby, patients were followed post-operatively for 1week for complications like PPH, sepsis, thromboembolism.

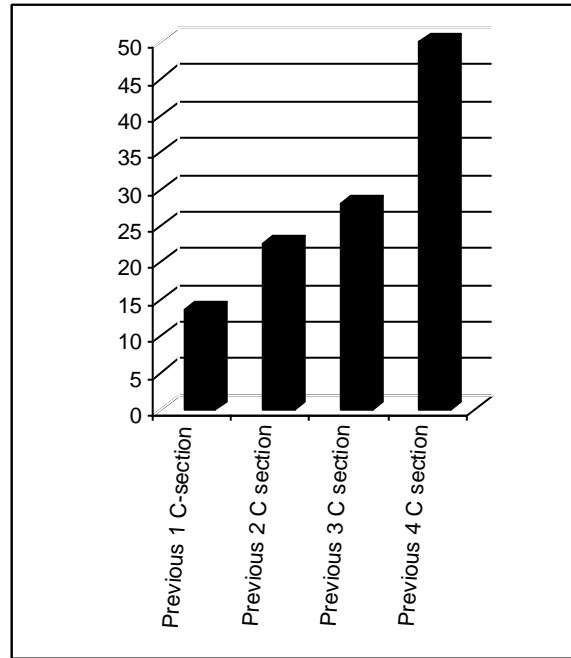
RESULTS

Out of total 153 patients taken with previous history of c-section during the study period, 33 patients (21.5%) had Placenta Previa and 120 patients (78.5%) were without Placenta Previa. Table1 shows that there was increasing frequency of Placenta Previa with increasing number of c-section.

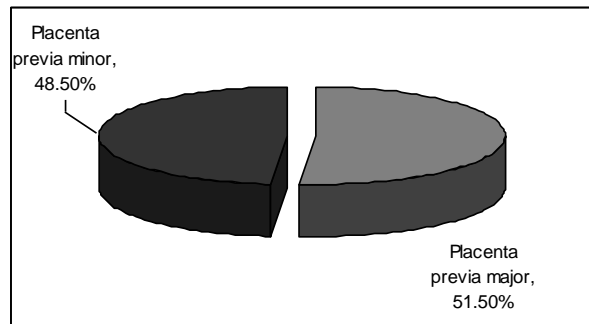
Table 1:-Association with previous C-section:-

Number of previous C-section	=n	%age
Previous 1 C-Section	11	13.5
Previous 2 C-Section	7	22.5
Previous 3 C-Section	7	28.0
Previous 4 C-Section	8	50.0

Graph 1: Increasing frequency of placenta previa with increase in number of previous c-section



Graph 2: Type of plaenta previa



Regarding the type of the placenta previa 16 patients (48.5%) had placenta previa of Minor grade and 17 patients(51.5%) had Major Placenta Previa as shown in the Graph 2. Table: 2 shows that Placenta Previa was significantly associated with abnormal adherence of Placenta, 15 patients (48.5%) with Placenta Previa had abnormal adherence as compared to 2 patients (1.67%) without Placenta previa.

Table 2: Abnormal adherence of placenta in women with previous c-section (both with previa and without previa)

Abnormal Adherence Of Placenta	With placenta previa		Without Placenta Previa	
	n	%age	N	n%
No adherence	17	51.5	118	98.33
Abnormal adherence of placenta	16	48.5	2	1.67
Placenta accreta	9	27.2	2	1.67
Placenta percreta	4	12.12	0	0
Placenta increta	3	9.0	0	0

Table 3: Distribution according to age and parity in women with previous c-section (both with previa and without previa)

Age	With placenta previa		Without placenta previa	
	N	%age	N	%age
<35years	24	72.7	111	92.5
>35years	9	27.3	9	7.5
Distribution according to parity				
Parity	N	n%	N	n%
Gravida 2-5	13	39.3	102	85
Gravida >5	20	60.7	18	15

The is significantly high frequency of women with placenta previa above 35 years and Gravida >5 as compare to those without previa. Table 4 shows that 72.7% of the pregnant women with placenta previa as compared to 60% of those without placenta previa were asymptomatic.

Table 4: Presentation of pregnant women with previous c-section (both with previa and without previa)

Presentation of the Patient	With Placenta Previa		Without Placenta Previa	
	n	n%	N	N%
Symptomatic	24	72.7	72	60
asymptomatic	9	27.3	48	40

Previous history of D&C and abortion was present in high frequency 48.4%(n=16)in frequency in women with placenta previa as shown in table5

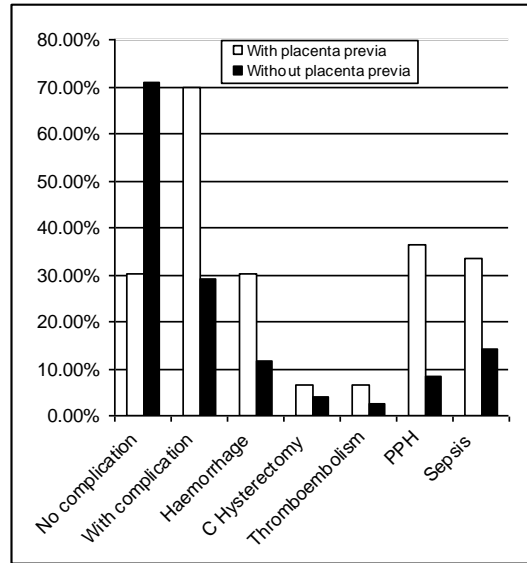
Table 5: Other risk actors associated with placenta preva in addition to previous c-section

Previous history of risk factors	With placenta previa		Without placenta previa	
	n	%age	n	%age
D and C	16	48.4	31	25.83
Abortion	16	48.4	30	25
Twin pregnancy	1	3	5	4.16
Placenta previa	1	3	4	3.33
Fibroids	0	0	1	0.83
Smoking	0	0	0	0

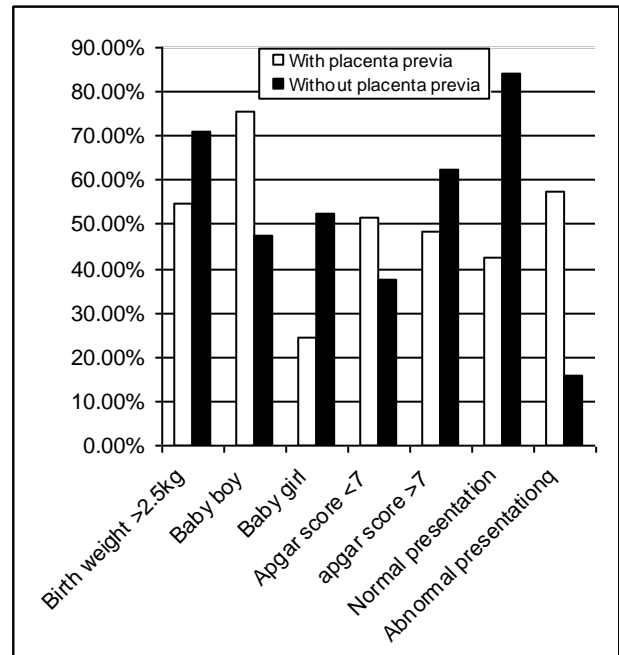
60.6% of women with placenta previa showed per-operative or post-operative complications as compared to 29.16% without placenta previa as shown in the graph 3.

Fetal outcome showed that placenta previa is associated with high risk of low birth weight<2.5kg (45.5%) APGAR score <7 (51.5%)at 5 min, abnormal presentation(57.6%) and interestingly high outcome of baby boy (75.7%) as in graph 4

Graph 3:- Maternal complications in women with previous c-section (both with and without placenta previa)



Graph 4:-Fetal outcome in women with previous c-section (both with and without placenta previa)



DISCUSSION

Placenta previa is a form of obstetrical problem associated with considerable fetal and maternal morbidity¹⁴. Many studies conducted around the world confirm a 2 to 5 fold increase risk of placenta previa with previous history of c-section^{1,19,17} showing up to 37.5% increased risk with previous c-section. Present study confirms the association of high frequency of placenta previa with previous c-section (21.5%) and is in agreement with these previous studies. The high frequency of placenta previa with previous c-section can be explained by the fact that scars of c-section give a more feasible site for the placement of placenta. We have also found that risk of placenta previa increases with increasing number of c-section 13.5% with previous I, 22.5% with previous II, 28% with previous III, and 50% with previous IV c-sections. This is in agreement with previous studies which show that risk of placenta previa, after 1, 2 and 3 c-sections increase 2.2, 4.1, and 24 times¹⁷. In another study increasing risk of placenta previa with increasing number of c-sections showing 1.9%, 15.6%, 23.5%, 29.4%, 33.3% and 50% after 0, I, II, III, IV, and V previous c-sections respectively²¹. There is increase risk of abnormal adherence of placenta in women with placenta previa and previous c-section, placenta accrete occurs 1 out of 2500 births. Chances of having this problem is 1 in 10 if associated with placenta previa¹⁹. Our study also shows increase risk of abnormal adherence in women with placenta previa 48.5% of which placenta accrete occurs in 27.2% as compared to those without previa (0.016%). Previous researches showed that 3.5% of women with placenta previa, 2.3% had major placenta previa is more prevalent than minor type, 1.2% have minor type²⁰, similarly in another study major type occurs in 56.5% and minor 43.5%¹⁸. Our study also shows that of 33 women who have placenta previa 51.5% had major type and 48.4% minor type of placenta previa. Risk of placenta previa is higher in women with advanced maternal age more than 35 years, gravida >5^{16,17,18,23}. According to our study 60.6% women with placenta previa are gravida > 5 and 27% of women with placenta previa are >35 years as compared to those without placenta previa. In previous studies other risk factors of placenta previa in addition to previous c-section are, previous history of abortion, D&C, placenta previa, twin pregnancy and cigarette smoking^{9,19}. The percentage of previous abortions were significantly higher in women with placenta previa^{9,24}. One of the studies also showed that risk of placenta previa is three times higher with history of D&C than previous c-section¹⁸. According to one study, 36% of women with previa had previous history of abortion¹⁸, 35.5%²⁶ and 37%²⁵. According

to our study 48.4% of women with previa had previous history of D&C and abortion in addition to previous c-section. In our study 1 in 33 women with placenta previa had history of previous placenta previa, however there are some indications from other studies that previous placenta previa could be a risk factor for its development in current pregnancy. Effect of smoking is insignificant, because it is not common in our social setup. Among women with placenta previa increase in number of prior cesarean delivery there is increasing association of maternal morbidity²², particularly the increase risk of PPH¹⁸. Regarding the maternal complications, our study showed that 69.7% of women with previa had complications of which PPH ranked highest that is, 36.3%. According to previous research in women with placenta previa is the fetal outcome.

All the fetal outcomes except male female ratio are in contradiction to this previous study. The interesting association of increase male baby incidence with placenta previa has been found in our study which is in accordance with previous studies^{4,10,18}, but no reason so far has been found yet.

CONCLUSION

The results of present study indicate that previous c-section is a risk factor for the development of placenta previa and there is increasing frequency of placenta previa with increasing number of previous c-section. In addition to previous c-section other factor such as age >35 years, gravida >5, previous history of D&C and abortion are also important predisposing factors for the development of placenta previa and is associated with adverse fetomaternal outcome.

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