



ORIGINAL ARTICLE

Frequency of low lying placenta (Placenta Previa) in previous two cesarean sections.

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ABSTRACT... Objectives: To determine frequency of low lying placenta (placenta previa) in previous two cesarean sections. **Study Design:** Descriptive, Cross-sectional study. **Setting:** Department of Obstetrics and Gynaecology, KRL Hospital, Islamabad. **Period:** October 2020 February 2021. **Material & Methods:** Total 157 pregnant population of gestational age >28wks with history of two cesarean sections of age group 18 to 40 years had been selected. **Results:** The general public of patients 56.05% had been among 18 to 30 years of age, mean gestational age located in the study was 31.50weeks. The frequency of low lying placenta (placenta previa) in the previous two cesarean sections is pretty excessive 38 (24.20%) patients. **Conclusion:** Frequency of low lying placenta (placenta previa) in previous cesarean sections is quite high.

Key words: Cesarean Section, Frequency, Low Lying Placenta.

INTRODUCTION

Placenta previa contributes in predominant obstetrical complications effects in severe antenatal, intrapartum, and postpartum hemorrhage.^{1,2} Previa divided into major and minor stages depending upon insertion of the placenta both partially or absolutely masking lower uterine segment.² It appears to be one of the leading causes of vaginal bleeding after fetal viability age be led to unfavorable fetomaternal consequences.^{3,5} According to Trophoblastic theory, the placenta will constantly implant in a well-vascularized part of the uterus in general related to fundal wall², because of growing range of surgical tactics and infections like pelvic inflammatory diseases leads to endometrial scarring and fibrosis, causing abnormal placental implantation because of default vascularization and results in low-lying, morbid adherent placenta.^{4,5}

The rate of cesarean section is increasing worldwide end effects visible in subsequent upcoming pregnancies.¹ Cesarean section determined to be an essential independent risk

factor for endometrial insult, placenta previa and morbid adherent placentas.^{2,3} Cesarean sections associated with 1.5 to 6 times increased danger of placenta previa in a subsequent pregnancies comparing to vaginal delivery.³

Average occurrence of placenta previa ranges 0.3 to 0.5%, increased because of prior cesarean deliveries, advanced maternal age, accelerated parity, smoking, pregnancy termination, and intrauterine surgical procedures.⁸ Their complications seen in 1 in 200 deliveries.^{1,3} Three major complications include massive hemorrhage, blood transfusions, and the need of obstetrical hysterectomies. Maternal mortality is mentioned to be around 7%.^{3,10,12} Ultrasound scans in the 2nd trimester alarm most of the obstetricians approximately the possibility of low-lying placenta and affiliation with maternal-fetal morbidity and mortality. Majority of the research showed increasing frequency of placenta previa with increasing range of cesareans.^{6,7} Surgical handling and disruption of the uterine cavity is a potential chance issue for placenta previa.^{9,10,4} In a study have a look at, the low lying placenta was

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determined in 20.4% patients with previous two cesarean sections at the same time as in another take a look at, observed as 11.75%.¹⁰ In one of the local study, low lying placenta becomes determined in only 2.0% of sufferers with previous two cesarean sections.^{11,14,15}

This study deliberates to decide the frequency of low-lying placenta (placenta previa) in previous two cesarean sections in our society, as the cesarean section rate has been increasing among local population in the last few years and adversely affecting maternal and neonatal outcomes in preceding pregnancies. This study will not only help in resolving previous variabilities in results of locally conducted studies in comparison to international studies but also inspire clinicians to make few important management plans in women with previous cesarean sections for higher future outcomes and reducing adverse maternal-perinatal outcomes.

MATERIAL & METHODS

That is a descriptive, cross-sectional study performed within the department of obstetrics and gynecology, KRL tertiary care hospital, Islamabad for October 2020 February 2021. The pattern size was decided by the WHO sample size calculator with aid of formula; $n = Z^2P(1-P) / d^2$. When $z = 1.96$, $p = 11.54\%$, 15 and $d = 5\%$. Therefore, sample size $n = 157$ patients. After approval from the moral evaluation ethical committee (ERC17-08-02), a total of 157 pregnant ladies who fulfilled the inclusion standards presented to the Outpatient Department for a visit or admission had been consecutively recruited. Informed consent was acquired from all patients and motive of the study defined to them.

Inclusion criteria consists of multiparous pregnant women who have been both either booked or unbooked ages of 18 and 40 years and with records of previous two cesarean sections. The gestational age greater than 28 weeks (assessed on LMP and earliest dating scan) was taken. The exclusion criteria include primigravida, patients with current placenta previa pregnancy with none preceding surgical operation, antepartum hemorrhage due to local nearby cause (assessed

on medical examination), history of previous placenta previa, history of previous uterine surgical procedure (myomectomy, dilatation & curettage, uterine repair).

Demographic profile include name, age, parity, quantity, and records of previous cesarean sections, history of smoking, weight and height for BMI calculation. The first clinical examination had been carried out with the aid of the gynecologist and after that, ultrasonography and the presence/absence of the low lying placenta was noted. The placenta was located via grayscale imaging. Previa described as low lying placenta either reaching or covering the internal cervical os whole or in parts.¹⁵ All data were recorded through special designed Performa.

Statistical analysis was performed using SPSS version 22.0, Participant age, maternal gestational age, parity, and BMI was presented as mean and standard deviation. Frequency and possibilities were calculated for smoking (yes/no), low-lying placenta (present/absent). Impact modifiers like age, gestational age, parity, BMI and smoking (yes/no) were controlled through stratifications. The post-stratification chi-square used to decide their effect at the placenta and the p -value ≤ 0.05 became considered significant.

RESULTS

A total of 157 patients have been covered in our study. The baseline characteristics of participants confirmed that mean age range was 28.62 ± 6.46 years, majority number of patients 88(56.05%) ranges between ages of 18 and 30 and 69 (43.95%) were over 30 years of age. The mean gestational age in our study was 31.50 ± 1.77 weeks proven in Figure-1 with a majority of patients (70.6%) between 29 and 32 weeks of gestation age. The mean parity was 2.77 ± 0.81 . About 120 patients (76.43%) obese with $BMI > 27 \text{ kg / m}^2$, with mean BMI was $29.61 \pm 2.49 \text{ kg / m}^2$. Only 29 patients (18.47%) had a records of smoking.

The frequency of low-lying placenta (placenta previa) in previous two cesarean sections was observed in 38 patients (24.20%) as proven in Figure-2.

No considerable relationship observed between advancing age, higher BMI, early or late gestational age, presence of smoking in contributing placenta previa as proven in Table-II, but placenta previa appears to be greater common having parity 2 or 3 with a p value = 0.016. The stratification of the placenta previa in phrases of age groups, gestational age, parity, BMI and smoking as shown in Table-I.

	Low Lying Placenta (Placenta Previa)		P-Value
	Present	Absent	
Age (years)			
15-30	22	66	0.793
31-45	16	53	
Gestational age (weeks)			
29-32 weeks	25	85	0.509
>32 weeks	13	34	
parity			
2-3	30	106	0.016
4-5	08	13	
BMI (kg/m2)			
≤27	12	25	0.165
>27	26	96	
Smoking			
Yes	08	20	0.552
No	30	99	

Table-II. Stratification of low lying placenta (placenta previa) with appreciate to age groups, gestational ages, smoking, BMI and parity

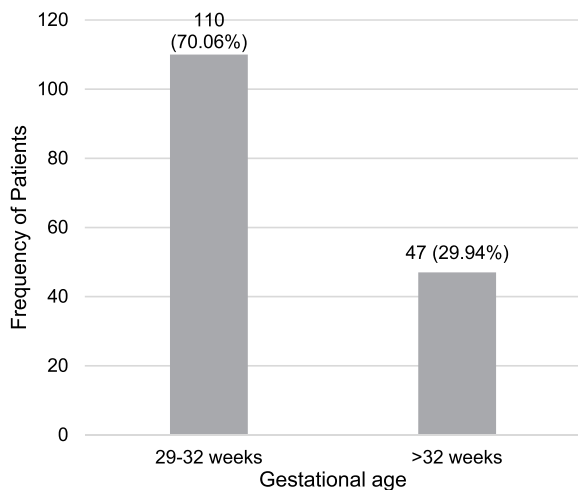


Figure-1. Distribution of participants according to gestational age (n=157).

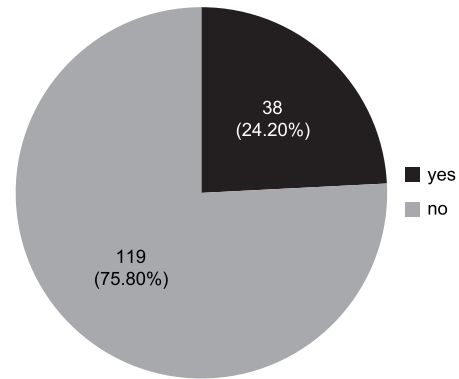


Figure-2. Frequency of low lying placenta (placenta previa) in previous two cesarean sections (n=157).

DISCUSSION

Placenta Previa categorized into three principal categories total, partial and marginal based on placental localization in lower uterine segment^{1,7}, sonographically identified via 2nd trimester scans, ranges from 6% to 46%, but this range decreases as low as 0.5 % till time of fetal delivery reached.⁷ As emerging advances in obstetrical emergencies, blood transfusion strategies, distinct surgical procedures; bizarre placentation still stays a hard challenge for most of the senior obstetricians. Intrapartum maternal hemorrhages, need of emergency cesarean sections or hysterectomy are major causes of growing maternal-fetal morbidity and mortality.^{2,4,5}

Our observation showed extended occurrence in patients with a median age of 28.62 ± 6.46 years (88 patients (56.05%) were among 18 to 30 years of age), this variety comparable as observed in study Z Parvin et al³, in which maximum patients range 25 to 29 years with suggest range of 27.25+3.43 years.

In our study, frequency of the low-lying placenta (placenta previa) in previous two cesarean sections was observed in 38 (24.20%) patients, outcomes akin to Mohamed et.al observation¹⁴, placenta previa was found in 20.4% of patients with previous two cesarean sections, at the same time in another study¹⁵, it was observed as 11.75%. Low lying placenta was found in only

2.0% of patients having two cesarean sections, in a locally conducted study.¹¹

Study¹⁶, conducted at the Department of Obstetrics and Gynecology Unit B, Ayub Teaching tertiary Hospital, Abbottabad, 100 ladies had been included in the study, 50 in Group A had preceding caesarean deliveries, and 50 in Group B having normal vaginal deliveries. Placenta previa were observed in 1 (2%) woman in Group A, and in 2 women (4%) in Group B, It was not located in para 4 or much less in both groups. One woman in Group A and two women in Group B with parity 4 or more having placenta previa ($p < 0.05$). None of the participant with record of previous one scar had placenta previa, while with previous 2 scars one had placenta previa ($p < 0.05$). One woman with placenta previa in Group A and both women with placenta previa in Group B were more than 25 years old. Placenta previa were not observed in women below 25 years of age.¹⁶

Another study¹⁹ showed comparable consequences with our observed study having considerable affiliation (p -value < 0.005) between previous scar, parity, and previa. Several studies had concluded that caesarean sections grow the risk of placenta previa by 2 to 5 folds.

Hossain et al¹⁷, suggested that previous caesarean section does no longer increase probability of development of placenta previa in a subsequent pregnancy, determined an affiliation of Previa with increasing parity and advanced maternal age, comparable consequences had been mentioned by Cieminski et al.¹⁸ Meta-analysis by Faiz et.al determined that advancing maternal age, multiparty, previous caesarean delivery, abortion, smoking, cocaine use during pregnancy, and male fetuses contributes to placenta previa.¹⁸

Morbid adherent placenta, previous cesarean sections has medical importance because of growing cesarean sections all over the world. Control of morbid adherent placenta previa is challenging hard now and normally calls for a multi-team approach and need of emergency cesarean hysterectomy.

CONCLUSION

This study concluded that the frequency of the low-lying placenta (placenta previa) in previous two cesarean sections was pretty high. We recommend that special attention should be given to every case of placenta previa with previous cesarean scar. Early recognition and right monitoring could limit the opportunity of poor maternal-fetal outcomes.



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AUTHORSHIP AND CONTRIBUTION DECLARATION

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2	Irum Sohail	Reviewer.	
3	Hasina Sadiq	Helped in data collection & Analysis.	