

Frequency of Placenta Previa in scarred and unscarred uterus

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Abstract

Objective: to determine the frequency of placenta previa in scarred and unscarred uterus. **Methodology:** This cross sectional study was started in the department of Gynaecology, Nishtar hospital, Multan, from June 2016 to November 2016. Data was entered in a computer software SPSS version 23. Quantitative variable like age, gestational age and gravidity was calculated as mean \pm SD and qualitative variables like gender degrees of previa and placenta previa in scarred and non scarred uterus was presented as a frequency and percentages. Chi-square test was used for data analysis. Post stratification chi square test was applied to see the effect of confounders. A p value \leq 0.05 was considered as significant. **Results:** Overall there were 330 females were included in this study. The mean age, gestational age and gravidity of the patients was 25.58 ± 4.18 years, 29.85 ± 2.78 weeks and 3.58 ± 1.55 respectively. Placenta previa in scarred uterus and non-scarred uterus was observed as 70.6% (n=233) and 29.4% (n=97) respectively. Degrees of previa was observed as 80.3% (n=265) major degree and 19.7% (n=65) minor degree. Distribution of placenta Previa according to previous caesarean sections was done which showed that out of 100% (n=330) cases of placenta Previa, 23.3% (n=77) had history of previous one LSCS, 33.9% (n=112) had two LSCS, 37% (n=122) had three LSCS and 5.8% (n=19) had four LSCS. **Conclusion:** Frequency of placenta previa is higher in scarred uterus in our region than non scarred uterus.

Keywords: Placenta previa, scars, unscarred uterus, Cesarean section.

Introduction:

The placenta is a structure that develops inside your uterus during pregnancy, providing oxygen and nutrition to and removing wastes from your baby. Placenta previa occurs when a baby's placenta partially or totally covers the mother's cervix (1). Among lot of complication during and after pregnancy placenta previa is common, mostly occurs in 2nd and 3rd trimester. This complication may lead to maternal and fetal morbidity and mortality. In placental abruption and placental previa surgical disruption is risk factors; about 10% of placenta previa are linked with placenta accreta. About 0.3-0.5% of pregnancies may go to placenta previa in USA and its risk increases in cases of cesarean deliveries (2,3). We conducted this study to investigate the frequency of placenta previa in scarred and unscarred uterus.

As deliveries increases number of placenta previa also increases. Although its incidence is 3-9/1000 pregnancies but it is a leading cause of uterine bleeding during gestation and labeled as important and emergency case if presented in any health care setup (4). Placenta previa is responsible of adverse perinatal outcomes it is life threatening situation and should be managed as early as possible (5).

Patients with history of previous C-section were at higher risk of placenta previa whose myometrium was damaged and having delivery with posterior and anterior placenta previa (6). Before attending such cases health care professionals must have a multidisciplinary approach to reduce the neonatal and maternal mortality to see maximum possible limit (7).

Most of time bleeding occurs when lower uterine segments develop in 3rd trimester and its bleeding is painless. On multiple pregnancies and surgeries area of placental attachment becomes thin which compromised the current attachment. Diagnosis of placenta previa can be optimal managed with availability of all equipments and qualifies staff (8).

Bleeding or hemorrhage from placenta previa is the major cause of mortality all over the world and its incidence is rising day by day (9). So need of set protocol for its prevention should be fulfilled and a long term planning should be done. Many previous studies recommended that as caesarian sections deliveries increases incidence of placenta previa and hemorrhage also increases (10). It was also observed in past studies that lower segment C-sections are the causes of placenta previa but latest trend shows that placenta previa cases were higher in Multigravida, primigravida and unscarred uterus (11).

Methodology:

This cross sectional study was started in the department of Gynaecology, Nishtar hospital, Multan, from June 2016 to November 2016, informed consent was taken from patient's guardians before including patient's data in research and they were ensured about their confidentiality. Patient's telephonic contacts and addresses were taken. Risks and benefits of treatment were discussed with patients/parents/Guardians. Patients with history previous uterine surgery and any traumatic injury their uterus was labeled as scarred uterus and without any uterine surgery and traumatic injury was taken as unscarred uterus. Placenta lying abnormally at lower segment of uterus (diagnosed on radiological evaluation) was considered as placenta previa. Sample size was calculated from an online data source openepi.com by using following figures; CI 95%, power of study 80% and percentage of placenta previa in non scared uterus 10.67%. Non probability purpose sampling technique was used to collect the sample patients of placenta previa. Patients of placenta previa, age 18-40 years, scared or non scarred uterus, gestational age 28 week and singleton pregnancy were included in the study. Bleeding in 2nd trimester and primigravida were excluded from the study.

Data was entered in a computer software SPSS version 23. Quantitative variable like age, gestational age and gravidity was calculated as mean \pm SD and qualitative variables like gender degrees of previa and placenta previa in scared and non scared uterus was presented as a frequency and percentages. Chi-square test was used for data analysis. Post stratification chi square test was applied to see the effect of confounders. A p value \leq 0.05 was considered as significant.

Results:

Overall there were 100% (n=330) females were included in this study. The mean age, gestational age and gravidity of the patients was 25.58 \pm 4.18 years, 29.85 \pm 2.78 weeks and 3.58 \pm 1.55 respectively. There were 87.6% (n=289) patients between 18-30 years and 12.4% (n=41) patients between 31-40 years of age. There were 71.2% (n=235) patients between G4-G4, 28.2% (n=93) between G5-G7 and 0.6% (n=2) >G7. (Table. 1)

Placenta previa in scarred uterus and non-scarred uterus was observed as 70.6% (n=233) and 29.4% (n=97) respectively. Degrees of previa was observed as 80.3% (n=265) major degree and 19.7% (n=65) minor degree. (Table. 1). Distribution of placenta Previa

according to previous caesarean sections was done which showed that out of 100% (n=330) cases of placenta Previa, 23.3% (n=77) had history of previous one LSCS, 33.9% (n=112) had two LSCS, 37% (n=122) had three LSCS and 5.8% (n=19) had four LSCS. (Table. 2)

No association was found between degrees of previa (p=0.522), number of previous sections (p=0.642), stratified age (p=0.280) and gestational age (p=0.681) with placenta previa in scarred and non-scarred uterus after applying the chi-square.

Table-1: Demographic Variables

(n=330)

Characteristics	Frequency	Percentage (%)
Stratified Age		
18-30 years	289	87.6
31-40 years	41	12.4
Total	330	100.0
Gestational Age		
G2-G4	235	71.2
G5-G7	93	28.2
>G7	2	0.6
Total	330	100.0
Degrees of Previa		
Minor	65	19.7
Major	265	80.3
Total	330	100.0
Placenta Previa in scarred uterus		
Presence	233	70.6
Placenta Previa in non-scarred uterus		
Presence	97	29.4
Total	330	100.0
Descriptive Statistics		
	Mean±S.D	
Age	25.58±4.18 years	
Gestational age	29.85±2.78 weeks	
Gravidity	3.58±1.55	

Table-2: Distribution of Previous Sections

No. of previous Sections	Frequency	Percentage
1	77	23.3
2	112	33.9
3	122	37.0
4	19	5.8
Total	330	100.0

Discussion:

Many bad incidents may be happened because of placenta previa which can be fatal for both maternal and fetal life, among these consequences fetal growth restriction, intrapartum hemorrhage, antenatal hemorrhage, preterm delivery, emergency hysterectomy, massive blood transfusion and neonatal mortality were on top of the list (12, 13). Chances of placenta previa were higher in patients with history of cesarean section and previous history of uterine surgery and any bad incident to uterus (14). Minimum data of our region was available before our study on incidence of placenta previa in scarred and unscarred uterus (15, 16). Finding of our study may be helpful for future endures on frequency determination of placenta previa after C-section or spontaneous vaginal deliveries.

In our study there were 100% (n=330) females were included in this study. The mean age, gestational age and gravidity of the patients was 25.58 ± 4.18 years, 29.85 ± 2.78 weeks and 3.58 ± 1.55 respectively. There were 71.2% (n=235) patients between G4-G4, 28.2% (n=93) between G5-G7 and 0.6% (n=2) >G7. Placenta previa in scarred uterus and non-scarred uterus was observed as 70.6% (n=233) and 29.4% (n=97) respectively. Degrees of previa was observed as 80.3% (n=265) major degree and 19.7% (n=65) minor degree.

In a study conducted by Majeed T et al (17) it was observed that 114 patients were included and their age distribution was (47.36%) between 26-30 years and gestational age between 36-40 weeks was found in (70.17%) patients. most of the patients of this have gravidity between G2-4 meanwhile frequency of placenta Previa in non-scarred and scarred uterus was found in 32.45% (37) and 67.54% (77) patients. Degree of placenta previa was found in Major degree in 88 patients (77.19%) and minor degree in 26 patients (22.80%).

Placenta previa in previous C-section was found 23.3% (n=77) had history of previous one LSCS, 33.9% (n=112) had two LSCS, 37% (n=122) had three LSCS and 5.8% (n=19) had four LSCS. Findings of our study were close enough to findings of Suknikhom W et al (6) who found placenta previa in previous c/s 18.9% and in control group 16.5% of patients. In his study placenta previa was found in more patients in c-section patients then non c-section patients. In a study conducted by Yazdani T et al (18) placenta Previa was found in 19 patients (15.5%) who have history of c- section. A similar study was conducted by Akram H et al (19) and reported 23.3% placenta previa.

Main outcome variable of our study was placenta previa in scared and non scare uterus in study Bashir SG et al (20) reported placenta previa 1.19% in unscarred uterus and 98.81% in non scarred uterus. Results of his study were comparable with our results and this is also from our region. A similar study was conducted by Parveen S et al (21) and reported placenta

placenta previa type I was found in 14% of patients, type II in 40% of patients, type III in 28% cases and type IV in 18% of patients. Scarred uterus was diagnosed in 32% of patients; these results were comparable with our findings.

Umbeli T et al (22) conducted study on this topic and found placenta previa in 2.8% of cases, most of placenta were found in scarred uterus. As number of uterine scars increase chances and incidence of placenta previa also increases, he concluded that frequency of our finding comparable with this study. In a study Iqbal K et al (23) reported that high rate of placenta previa was found in with scarred uterus and previous C-sections, he concluded that family planning and care full evaluation of delivery mode should be done to reduce this complication.

Conclusion: Frequency of placenta previa is higher in scarred uterus in our region than non scarred uterus.

Limitations: In our study we didn't determine frequency of placenta previa in spontaneous deliveries and types of placenta previa as determine in some previous studies.

Funding source: Nil

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