Medical Science Journal for Advance Research

Vol. 3 , No. 3 , September 2022
e-ISSN: 2774-4892

Prevalence Of Placenta Previa In Pregnant Women With Previous Self Selected Caesarean

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ABSTRACT

Background: *with the increasing numbers of elected caesarean the cases of abnormal placental implantation such as previa is also increasing. Mortality and morbidity of mother increase with placenta previa due to increase in the incidence of bleeding during pregnancy.*

Objective: *this study was performed to evaluate the prevalence between repeated elective caesarean section and abnormal implantation of plancenta / previa.*

Material and Patients: *It is a cross-sectional study conducted over a period of 4 months from February 2022 to May 2022. A sample size of 35 patients was collected using purposive sampling technique. Data was collected from Lady Atchison Hospital Lahore and Christian Memorial Hospital. Patients with history of elected caesarean without any medical emergency were included in the current study. Patients with multiple gestations, patients with placental abruption, female with gestational age less than 28 weeks, smoker, diabetic patients and hypertensive patients were excluded. Data was analyzed using SPSS 20*

Results: *In the present study 35 patients were selected .Out of total 35 participants females aged 30yrs were more prevalent.. Regarding gestational age most femalesin this study had gestational age 28weeks In total 35 participants Placenta Previa was seen in 20 participates. Most cases of placenta Previa are seen in females who are gravida4 and para3.*

Conclusion: The study concluded that elected C-section and placenta previa are closely linked. It showed that pregnancies at the gestational age of 28 – 29 weeks have high privilege of placenta previa.

Keywords: Elected caesarean section, placenta previa, sonography, previous curettage, maternal morbidity, prevalence, maternal age.

Article Information
Received: July 14, 2022; Revised: Auguest 30, 2022; Online: September 4, 2022

INTRODUCTION

In Pakistan, one out of every five newborns is born via caesarean section (C-Section). According to the most recent Pakistan Demographic and Health Survey (PDHS), the rate of C-Section deliveries has increased dramatically, from 14 percent in 2012-13 to 22 percent in 2017-18.[1]

There are four main causes behind this. For starters, many C-sections can increase the risk of serious physical and mental effects on both the mother and the kid. Furthermore.[2]A vaginal delivery after the C-Section trial becomes dangerous due to the lack of health records for earlier births. If the mother has had a previous C-Section, she is more likely to have another one in the future. The current study is unnecessarily subjecting women to serious surgery several times due to the country's high C-Section rates. Third, Pakistan is a country with few natural resources. Patients seeking public health care are sometimes unable to

https://doi.org/10.46966/msjar.v3i3.51

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obtain common medications from hospital dispensaries. Health authorities, managers, and practitioners should be concerned about spending money on a surgical operation for nonmedical reasons. Fourth, high C-Section rates in any country could be attributable to one of two factors: either the maternal health care sector is inflating C-Section rates for financial gain, or medically unnecessary C-Sections are being performed on women's request.[3]In many nations with widespread access to health facilities, the number of caesarean sections is rising, yet this trend is unrelated to reductions in maternal and infant mortality or morbidity. Numerous articles in the medical journals and media contend that consumer demand plays a substantial role in the global increase in deliveries by caesarean section.[4]

The placenta appears to be the least well-known human organ, despite the fact that it is unquestionably one of the most important, both for the health of the mother and her unborn child during pregnancy and for their long-term wellbeing. The placenta functions as the fetus's renal, respiratory, hepatic, gastrointestinal, endocrine, and immune systems during development, as well as a special human symbiotic agent. However, we have very little knowledge about the human placenta.[5]

When the placenta is entirely or partially positioned in the lower segment, it is said to have placenta previa. The likelihood of placenta previa is increased by significant gravidity, slightly elevated parity, and prior caesarean procedures. Along with the risks of massive blood transfusions, sepsis, and hysterectomy, it is also associated with antenatal period, intrapartum, and postpartum problems.[6]

Investigations have been done into the relationship between placenta previa development and prior caesarean sections. Bender first suggested that uterine scarring might put a woman at risk for placenta previa in subsequent pregnancies. Recent research by Clark et al. and Rose & Chapman has confirmed the significant link between placenta previa and prior caesarean section. This link between placenta previa and previous caesarean section is affecting, especially in our environment, where the rate of caesarean sections is going up due to inpatient admissions in critical condition, and this link has increased the risk of caesarean hysterectomy, which has catastrophic morbidity and mortality. In Pakistan, where social preference is for a big family, the sequence of previous caesarean section, placenta previa, placenta accreta, and potential hysterectomy is of major concern. This situation is exacerbated by Pakistan's rising caesarean section rate, which stands at 64.7 percent according to a research in 2009 by Haider et al.[7,8]

A placenta previa, as to if diagnosed by ultrasound or as a consequence of a clinical emergency such as maternal bleeding, poses a severe risk to both the mother and the fetus. Preterm birth, low apgar scores, anemia, and infant mortality are all neonatal complications caused with placenta previa. Early diagnosis of placenta previa, identification of risk factors such as previous caesarean section, D&C, smoking, multiparty, abnormal implantation, expected management, and sufficient blood availability may aid in a better outcome by reducing FM complications.

Low placenta implantation in the uterus can be caused by endometrial and myometrium lining damage, hence a link with placenta previa and past caesarean delivery is scientifically probable. Scar of the uterus after an abortion can also cause considerable damage to the endometrium and uterine cavity, raising the risk of previa.[9,10]

MATERIAL AND PATIENTS

It is a cross-sectional study conducted over a period of four months. A sample size of 35 patients was taken using a purposive sampling technique. Data was collected from Lady Atchison Hospital, Lahore and Christian Memorial Hospital, Sialkot. A consent form was signed by the patients.

The gynecological examination of the patient was performed in a supine position using a Mindry 3. 5 ultrasound machine. Patients with placenta previa due to elected caesarean section were included in the current study. Patients with gestational age less than

28wks, multiple gestations, hypertension, diabetes mellitus, smoking were excluded. Data was analyzed using SPSS 20.

RESULTS

The study highlighted significance of ultrasound in evaluating the placenta previa with elected C-section. In the present study 35 patients were selected.

Table 1 Out of total 35 participants only one female was of age 26yr, three females were of age 27 yrs, five females were of age 28 yrs, five females were of age 29 years, nine females were of age 30, one female was of age 32, three females were of age 33, six females were of age 34, one female was of age 35 and one of age 36. Regarding gestational age of these females four had gestational age of 27weeks, fifteen had gestational age of 28weeks, six had gestational age of 29w, one had gestational age of 30w, two had gestational age 31w, other two had gestations of 32w, another two had gestation of 34w,one had gestation of 35w and two had gestation of 36wks.

Table 2 cross tabulation between frequency of placenta previa at different gestational age in weeks, according to which 4 females were presented at the gestational age of 27weeks out of which 3 had placenta previa. 15 females were presented at the gestational age of 28week out of which 10 had placenta previa. 6 females presented at the gestational age of 29week out of which 5 had placenta previa. A single female was presented at 30th week of pregnancy and she was diagnosed with placenta previa. out of 2 females at 34th week of pregnancy 1 had placenta previa whereas females of 31, 32, 33,35 and 36 had normal placental implantation.

Table 3 table of individual maternal age shows the frequency and percentage, according to which in total of 35 females of different age group were ranging from 26 to 36 years. The age group of 26, 32, 35 and 36 had 1 female respectively. There were 3 females of 27 and 33 years each. The percentage of 28- and 29-years old female were 14.3% with 5 females each and 6 females of 34 years. Whereas higher frequency was seen in the age group of 30.

Table 4: shows the frequency of placenta previa in females with different gravidity, according to which there were 10 females which are gravida 2 out of which 6 had placenta previa. 14 females were gravida 3 out of which 6 had abnormal placental implantation. There were higher frequency of gravida 4 with 8 females diagnosed with placenta previa.

Table 5: shows the frequency of placenta previa in females at different parity, according to which there 15 females each of parity 2 and 3 but females of parity 2 showed high percentage shows the percentage of placenta previa among the patients with elected caesarean section which indicates the 20(57.1%) of the females out of 35 with elected caesarean section were diagnosed with placenta previa.

Table 6 No case of placenta previa was seen in female with age 26yrs, two cases of placenta previa were seen in females of age 27yr, three cases of placenta previa were seen in females of age 28yrs,four cases of placenta previa were seen in females of age 29yr, six cases of placenta previa were seen in females of age 30yrs, no case of placenta previa was seen in female of age 32yr, two cases of placenta previa were seen in females of age 33yrs, three cases of placenta previa were seen in females of age 34yrs, no case of placenta previa was seen in females of age 35 and 36yr.

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Table 1: Table of frequency of different gestational age groups at different maternal age shows higher frequency of females at the age of 30.

Maternal age	Gestational Age in weeks									Total
	27.00	28.00	29.00	30.00	31.00	32.00	34.00	35.00	36.00	
26.00	0	1	0	0	0	0	0	0	0	1
27.00	0	2	0	0	0	0	1	0	0	3
28.00	1	3	0	0	1	0	0	0	0	5
29.00	1	2	2	0	0	0	0	0	0	5
30.00	1	4	2	0	0	2	0	0	0	9
32.00	0	0	0	0	0	0	0	0	1	1
33.00	0	2	0	0	0	0	0	0	1	3
34.00	1	0	1	1	1	0	1	1	0	6
35.00	0	0	1	0	0	0	0	0	0	1
36.00	0	1	0	0	0	0	0	0	0	1
Total	4	15	6	1	2	2	2	1	2	35

Table 2: Cross tabulation between frequencies of placenta Previa at different gestational age in weeks.

Gestational Age weeks	Placenta Previa		Total no of females
	ABSENT	PRESENT	
27.00	1	3	4
28.00	5	10	15
29.00	1	5	6
30.00	0	1	1
31.00	2	0	2
32.00	2	0	2
34.00	1	1	2
35.00	1	0	1
36.00	2	0	2
	15	20	35

Table 3: Maternal Age.

Maternal age	Frequency of females	Percent
26.00	1	2.9
27.00	3	8.6
28.00	5	14.3
29.00	5	14.3
30.00	9	25.7
32.00	1	2.9
33.00	3	8.6
34.00	6	17.1
35.00	1	2.9
36.00	1	2.9
Total	35	100.0

https://doi.org/10.46966/msjar.v3i3.51

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Table 4: Cross tabulation showing frequency of placenta Previa in relation to female gravidity.

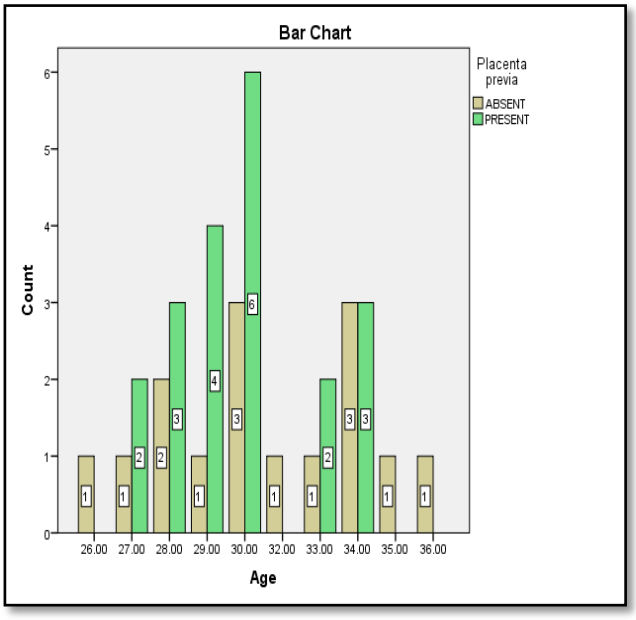
Gravidity of females	Placenta Previa		Total
	ABSENT	PRESENT	
2.00	4	6	10
3.00	8	6	14
4.00	1	8	9
5.00	2	0	2
Total	15	20	35

Table 5: Cross tabulation showing frequency of placenta Previa in relation to female parity.

Parity of females	Placenta Previa		Total no of females
	ABSENT	PRESENT	
2.00	6	9	15
3.00	7	8	15
4.00	1	3	4
5.00	1	0	1
Total	15	20	35

Table 6: Cross tabulation representing association of placenta previa at different age groups, most patient behold the age group of 30 years

Maternal age	Placenta previa		Total
	ABSENT	PRESENT	
26.00	1	0	1
27.00	1	2	3
28.00	2	3	5
29.00	1	4	5
30.00	3	6	9
32.00	1	0	1
33.00	1	2	3
34.00	3	3	6
35.00	1	0	1
36.00	1	0	1
Total	15	20	35



Graph : Cross tabulation showing relation between individual maternal age and Placenta previa

DISCUSSION:

In a study conducted between January and March 2021 at the AL- Fallujah Teaching Hospital in AL Fallujah, Iraq, Eman Gadban Saleh and colleagues looked at the impact of risk variables on the frequency of placenta previa. The population of pregnant women in Fallujah City was found to have a placenta previa prevalence of 0.21 percent. Placenta previa was found to be substantially correlated with prior uterine curettage, prior caesarean section, maternal age, and multiparity.[11]

When compared to previous vaginal births, Safak Ozdemirci et al. from the Department of Obstetrics and Gynecology at the Etlik Zubeyde Hanim Women's Health and Teaching Hospital in Ankara, Turkey, explained in their study that previous caesarean births are more frequently linked to increased massive haemorrhage and placental adhesion anomalies in subsequent pregnancies with placenta previa. All subgroups of previous caesarean births had statistically greater rates of placental adhesion abnormalities than those of prior vaginal births (12.4 versus 32.7%.[12.] The study, "Association of Placenta Previa with a History of Prior Cesarean Deliveries and Evidence suggesting for a Possible Role of a Genetic Component," by Dr. M. Matalliotakis et al. was published in

the Balkan Journal of Medical Genetics in December 2017 and showed that genetic factors may play a role. All pregnant women over the age of 30, those who have had one or more C-sections in the past, those carrying a male foetus, and those with an anterior placenta should be closely examined since they may be more likely to develop placenta previa and placenta acreta or percreta. We discovered 50 cases (66.0 percent) of previous C-sections in the 76 women we looked at, and 49 male offspring (65.0 percent).[13] In April 2016, Saria Hassan Yousef Dafallah at the Obstetrics and Gynecology Unit of Maternity

Hospital (Omdurman), Iran, came to the conclusion that women who had had a past cesarean delivery are at an increased risk of placenta previa. Additionally, this risk rises sharply as maternal age and the number of past cesarean deliveries rises. A frequent obstetrical issue called placenta previa is linked to high rates of mother and neonatal morbidity and mortality. Out from total of 48 deliveries with a history of cesarean delivery, 12 (25 percent) had one, 14 (29.2 percent) had two, 10 (21 percent) had three, 10 (21 percent) had four, and 2 (4.2 percent) had five.[14]

According to the findings of a study conducted by Anisodowleh Nankali et al. from Kermanshah University of Medical Sciences, Kermanshah, Iran, on the frequency of placenta previa and maternal morbidity established in previous caesarean delivery, 3.63 percent of patients with a history of previous caesarean delivery experienced placenta previa. 74.5 percent of patients having placenta previa had previously undergone a C-section, and 47.6 percent of them required a hysterectomy.[15].

CONCLUSION:

The study concluded that high number of caesarean section as in according to our study elective caesarean are closely linked to placenta previa. Females with the history of g4p3 has shown the highest percentage of placenta previa. According to this study maternal age along with increasing c-sections also plays a vital role in this regard. Placenta despite of its crucial role in the health of both fetus and mother, is the least understood organ as the development of fetus completely depends upon it and with the increasing trend of elective caesarean sections the possibilities of abnormal placental implantation is increasing worldwide which eventually results in life threatening conditions for the conceiving mother. Such studies that identify the effect of elected caesarean sections can aid in raising awareness and combating the causes in a timely and effective manner.

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