

## ORIGINAL ARTICLE

# Contributing Factors for Placenta Accreta in Patients Presenting in a Tertiary Care Hospital

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## ABSTRACT

**Objective:** determine the frequency of contributing factors for placenta accreta in patients presenting in a tertiary care hospital

**Methodology:** The study was conducted on all the pregnant patients diagnosed with placenta previa on ultrasound that were admitted through emergency and outpatient department of Lady Willingdon Hospital Lahore. A total of 180 patients fulfilling the inclusion/exclusion criteria coming to the Emergency Department were recruited in study. Contributing risk factors i.e. placenta previa, number of previous caesarean sections, and Dilatation & Curettage were recorded by the researcher herself on a pre-designed proforma attached. Data was collected and analyzed by single researcher to overcome the bias.

**Results:** In our study, out of 180 cases, 73.33%(n=132) were between 20-30 years of age while 26.67%(n=48) had >30 years of age, mean±sd was calculated as 27.89±4.14 years, 73.33%(n=132) were between 20-30 years of age while 26.67%(n=48) had >30 years of age, mean±sd was calculated as 27.89±4.14 years, contributing factors of placenta accreta shows that 87.22%(n=157) had placenta previa, 51.67%(n=93) had <2 previous cesarean section, 48.33%(n=87) had 3 previous cesarean section and 27.22%(n=49) had D&C.

**Conclusion:** We concluded that Placenta previa is a leading contributing factor followed by 2 and 3 cesarean sections and D&C for placenta accreta.

**Keywords:** Placenta accreta, contributing factors, placenta previa, previous cesarean section, dilatation & curettage

## INTRODUCTION

Placenta accreta is a general term used to describe the clinical condition in which all or part of the placenta is adherent to uterine wall. It includes both placenta increta and placenta percreta. When the chorionic villi invade only the myometrium the term increta is used whereas in placenta percreta the villous invasion extends to (or through) the serosa covering of the uterus.<sup>1</sup> Maternal morbidity had been reported to occur in up to 60% and mortality in up to 7% of women with placenta accreta.<sup>2</sup> Placenta accreta occurs in up to 15% of women with placenta previa.<sup>1</sup>

There are a number of known risk factors for placenta accreta, some of which include a history of caesarean delivery, placenta previa, and a growing number of preceding caesarean deliveries, which exponentially increases the risk of placenta accreta. Other risk factors include a history of vaginal delivery, placenta accreta, and a history of vaginal delivery. Along with a history of caesarean delivery, other risk factors that should be evaluated include submucous myoma, curettage, advanced maternal age, grand multiparity, smoking, and chronic hypertension.<sup>3</sup>

Placenta accreta has a mysterious origin in terms of its aetiology. Possible causes are improper decidua development, an overabundance of trophoblastic invasion, or both.<sup>4</sup>

Diagnostic imaging techniques like ultrasound and MRI are commonly used to detect placenta accreta before delivery. Diagnosis is typically made through antenatal ultrasonography. The diagnostic accuracy of Doppler sonography for placenta accreta was 89.1%, with a specificity of 98.0%.<sup>5</sup> After delivery, a hysterectomy specimen is typically examined to provide a conclusive diagnosis of placenta accreta.<sup>6</sup>

In high risk cases of placenta accreta planned delivery is done at 36-37 weeks of gestation with corticosteroid cover.<sup>7</sup> With a known placenta accreta there is almost always time to make arrangement for the best possible circumstances for controlled delivery and management of potential hemorrhage. Delivery by multidisciplinary care team resulted in a more than 50% risk reduction among all cases of placenta accreta.<sup>8</sup>

In a recent study by Nargis Iqbal and co-workers<sup>9</sup> recorded 77% placenta previa, 15.5% dilatation and curettage, 46.5% with 2 cesarean sections and 38.5% with previous 3 cesarean sections, while another study<sup>10</sup> recorded 93% placenta previa, 11% with 2 cesarean sections and 40% with 3 previous cesarean sections,

which shows a significant difference in frequency.

I want to conduct this study because the incidence of placenta previa and accreta is increasing day by day due to increasing rate of caesarean sections while the above two local studies are also showing variation in their findings. However, another study is required to confirm these findings in population coming to our hospital. While additional benefit of early detection of risk factors of placenta previa and accreta will help in decreasing maternal and perinatal morbidity and mortality and consequently result in safe fetomaternal outcome.

## METHODOLOGY

The study was conducted on all the pregnant patients diagnosed with placenta previa on ultrasound that were admitted through emergency and outpatient department of Lady Willingdon Hospital Lahore. A total of 180 pregnant women with reproductive age group, singleton pregnancy, Gestational age between 30-41 weeks, all diagnosed cases of placenta accreta, and any parity were included in the study, whereas those cases not willing to participate in study were excluded. Contributing risk factors i.e. placenta previa, number of previous caesarean sections, and Dilatation & Curettage were recorded by the researcher herself on a pre-designed proforma attached. Data was collected and analyzed by single researcher to overcome the bias.

## RESULTS

The contributing factor shows that out of 157 cases of placenta previa 112 were between 20-30 years and 45 had >30 years of age, p value was 0.11, out of 93 cases of <2 previous cesarean section, 63 were between 20-30 years and 30 had >30 years of age, p value was 0.07, out of 87 cases of 3 previous cesarean section, 69 were between 20-30 years and 18 had >30 years of age, p value was 0.07 while out of 49 D&C 42 were between 20-30 years and 7 had >30 years of age, p value was 0.18. (Table No. 1)

These cases according to parity shows that out of 157 cases of placenta previa 77 were between 1-3 paras and 80 had >3 para, p value was 0.14, out of 93 cases of <2 previous cesarean section, 92 were between 1-3 paras and 1 had >3 para, p value was 0.01, out of 87 cases of 3 previous cesarean section, all cases had >3 paras, p value was 0.00 while out of 49 D&C 30 had 1-3 paras while 19 had >3 paras, p value was 0.09. (Table No. 2)

Table 1: Contributing factor according to age (n=180)

Contributing factor	Age(in years)		P value
	20-30	>30	
Placenta previa(157)	112	45	0.11
<2 previous cesarean sections(93)	63	30	0.07
3 previous cesarean sections(87)	69	18	0.07
D&C(49)	42	7	0.18

Table 2: Contributing factor according to parity (n=180)

Contributing factor (No. of patients)	Parity		P value
	1-3	>3	
Placenta previa(157)	77	80	0.14
<2 previous cesarean sections(93)	92	1	0.01
3 previous cesarean sections(87)	0	87	0.00
D&C(49)	30	19	0.09

## DISCUSSION

While c-sections are becoming more common, more research is needed to determine the effects they have on women's health in the long run, especially in regards to maternal morbidity and the possibility of future obstetric complications for women who have already undergone a c-section. Mothers with a history of uterine scarring may be at increased risk for placenta praevia in subsequent pregnancies. There is a substantial correlation between placenta praevia and placenta accreta. In our setting, where the rate of caesarean sections is rising due to the referral of patients in critical condition, this relationship has further increased the likelihood of caesarean hysterectomy, which is associated with catastrophic morbidity and mortality.

We conducted this study because additional benefit of early detection of risk factors of placenta praevia and accreta may help in decreasing maternal and perinatal morbidity and mortality and consequently result in safe fetomaternal outcome.

In our study, out of 180 cases, 73.33%(n=132) were between 20-30 years of age while 26.67%(n=48) had >30 years of age, mean±sd was calculated as 27.89±4.14 years, contributing factors of placenta accreta shows that 87.22%(n=157) had placenta praevia, 51.67%(n=93) had <2previous cesarean section, 48.33%(n=87) had 3 previous cesarean section and 27.22%(n=49) had D&C.

Our findings are in agreement with a study showing that 93% placenta praevia, while we are not agreed with 11% with 2 cesarean sections and 40% with 3 previous cesarean sections.

Another study by Nargis Iqbal and co-workers<sup>9</sup> recorded 77% placenta praevia, 15.5% dilatation and curettage, 46.5% with 2 cesarean sections and 38.5% with previous 3 cesarean sections, these findings are in agreement with our findings.

Recent reports estimate a frequency per birth of 1 in 2500 and 1 in 1100 for placenta praevia and placenta accreta, respectively.<sup>10-11</sup>

The association between prior caesarean section and placenta praevia accreta is widely established, and the risk rises with each further caesarean operation. As far as my research goes, accreta of the placenta occurs in every case where there are two or more CS. This is because the damaged portion of the uterus lacks any decidual basalis at all. In the case of placenta praevia with an unscarred uterus, and in the case of a previous caesarean section that included placenta praevia accreta, caesarean hysterectomy is a common and necessary procedure. Eighty-two percent of patients with placenta praevia accreta after prior caesarean section had hysterectomy in a series by Clark et

al<sup>2</sup>.

An unusually adherent placentation was shown to be the cause of peripartum hysterectomy in 41.2% of cases, according to a separate study by Abu-Heija et al<sup>12</sup>. A placenta that is positioned abnormally during pregnancy poses a serious threat to the mother and baby. The rising rates of maternal age, elective caesarean section, and multiple births in one pregnancy all contribute to its prevalence. Precautions should be taken in the care of these ladies who have placenta praevia. They require an elective caesarean section performed by a team of highly trained medical professionals, including a senior obstetrician, anaesthetist, and experienced surgical assistants who have worked on complex cases involving caesarean hysterectomy, pathology/hematology specialists, blood banks, and intensive care units.

The findings of our study is giving an additional benefit of early detection of risk factors of placenta praevia and accreta for help in decreasing maternal and perinatal morbidity and mortality and consequently result in safe fetomaternal outcome.

## CONCLUSION

We concluded that Placenta praevia is a leading contributing factor followed by 2 and 3 cesarean sections and D&C for placenta accreta.

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