

FREQUENCY OF UTERINE CURETTAGE AS A RISK FACTOR AMONG PATIENTS WITH PLACENTA PREVIA PRESENTING AT TERTIARY CARE HOSPITAL

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Abstract: Placenta previa is the placenta lying entirely or in part in the lower uterine segment. Its incidence is about 0.28–2%. In local studies, a frequency of 0.51–3.5% has been reported. Advancing maternal age, multiparity, previous cesarean sections, miscarriages, uterine curettage cocaine use, smoking, and previous history of placenta previa have all been attributed as risk factors for placenta previa. **Objective:** To determine the frequency of uterine curettage leading to placenta previa among women presenting to tertiary care hospitals. **Methods:** This Descriptive cross-sectional study was conducted at the Department of Gynaecology and Obstetrics, Lady Reading Hospital Peshawar from 2/10/2020 to 2/4/2021. In this study, a total of 136 patients were observed. History was taken from the patient (bleeding, pain in abdomen to exclude other causes). Placenta previa was defined as placenta covering or reaching within 2 cm of internal or detected by the last trans-abdominal ultrasonography before delivery. **Results:** Our study shows that among 136 women mean age was 34 years with SD ± 8.91. 30(22%) patients were primi para while 106(78%) patients were multi para. 27(20%) patients were primi gravida while 109(80%) patients were multi gravida. More than 29(21%) patients had uterine curettage while 107(79%) patients didn't have uterine curettage. **Conclusion:** Our study concludes that the frequency of uterine curettage in patients presented with Placenta previa was 21% in our setup.

Keywords: Uterine Curettage, Risk Factor, Placenta Previa

Introduction

Placenta previa is the placenta lying entirely or in part in the lower uterine segment. Its incidence is about 0.28–2% (1). In local studies, a frequency of 0.51–3.5% has been reported. Advancing maternal age, multiparity, previous caesarean sections, miscarriages, uterine curettage cocaine use, smoking and previous history of placenta previa have all been attributed as risk factors for placenta previa. In singleton pregnancies, the most common identifiable aetiological factor is previous uterine damage due to repeated pregnancies or surgical procedures. This endometrial damage predisposes to abnormal placentation (2, 3). There is an association between previous caesarean sections and subsequent development of placenta previa, which is reported between 3 and 10% or even higher. Most of the studies show an increase in the frequency of placenta previa with an increasing number of cesareans. Some studies, however, show no increased risk of placenta previa with previous caesarean deliveries (4). Placenta previa is defined as a condition where the placenta is inserted completely or partially in the lower uterine segment. Lesser differential growth in the lower segment caused by abnormal vascularization of the endometrium due to scarring or atrophy from previous trauma has been hypothesized as aetiology, but the exact cause is still not known (4). However, the established risk factors include advanced maternal age, multiparity, previous cesarean section, multiple gestation and smoking during pregnancy (5). Other known risk factors are previous abortions,

placenta previa in a previous pregnancy, cocaine use and history of retained placenta. Several clinical and epidemiological studies have reported disparate data on the prevalence and risk factors associated with this condition (6). In one study grand multiparity was 62.06%, previous caesarean section was 41.37%, and previous abortions (uterine curettage) was 34.48 % (7). Another study included a previous history of caesarean section was 40.7 %, grand-multiparity was 28.3 %, previous history of uterine evacuation (curettage) was 20.4%, multiple pregnancies was 6.2 % and previous history of placenta previa was 4.2% (2). The exact pathogenesis of placenta previa is not clear. Several risk factors have been identified, but the mechanism by which these factors predispose to the development of placenta previa is not completely understood. Different hypotheses have been postulated.

To determine the frequency of uterine curettage leading to placenta previa among women presenting to tertiary care hospitals.

Methodology

The descriptive cross-sectional study was conducted at the Department of Gynaecology and Obstetrics, Lady Reading Hospital, Peshawar, from 2nd October 2020 to 2nd April 2021. A consecutive non-probability sampling technique was employed for sample collection. A sample size of 136 was determined using the WHO formula for sample size calculation. The prevalence of uterine curettage in patients

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with placenta previa was considered to be 34.48%, with a 95% confidence interval and a margin of error of 8%. Women aged 18-45 years, diagnosed with placenta previa via ultrasonography at the time of delivery. Patients with placental abruption based on history and ultrasound findings. Patients with unclassified antepartum haemorrhage (APH) as determined by clinical examination. Patients with coagulation disorders, based on laboratory investigations. History of previous caesarean sections. History of previous placenta previa. These conditions were excluded to prevent confounding factors that could bias the study outcome. After obtaining approval from the hospital's ethical committee and the CPSP research committee, all patients who met the inclusion criteria were enrolled. A detailed history was taken, including symptoms such as bleeding and abdominal pain, to rule out other causes. A clinical examination was performed (general physical examination and per abdomen), although per vaginal examination was contraindicated. Baseline investigations were conducted. Placenta previa was defined as the placenta either covering or lying within 2 cm of the internal os, as detected by trans-abdominal ultrasonography after 28 weeks of gestation, or by clinical findings during caesarean or vaginal delivery. Patients diagnosed with placenta previa were further assessed for a history of uterine curettage (such as in cases of abortion or evacuation of retained products of conception). The percentage of patients with a prior history of dilatation and curettage presenting with placenta previa was recorded. Additional patient information, including age, parity, gravidity, and mode of delivery, was documented in a pre-designed proforma. The exclusion criteria were strictly followed to avoid bias. The collected data was entered and analyzed using the Statistical Package for Social Sciences (SPSS), version 22. Mean and standard deviation were calculated for quantitative variables such as age. Frequencies and percentages were computed for categorical variables, including parity, gravidity, mode of delivery, and uterine curettage history. The variable 'uterine

curettage' was stratified by age, parity, gravidity, and mode of delivery to identify any effect modifiers. Post-stratification, the chi-square test was applied, and a p-value of ≤ 0.05 was considered statistically significant.

Results

In the present study age distribution among 136 patients was analyzed as 56(41%) patients were in the age range 15-30 years, and 80(59%) patients were in the age range 31-45 years. The mean age was 34 years with SD ± 8.91 . The mean age was 34 ± 8.91 years. Rapidity distribution showed that 80% were multigravida, and 20% were primigravida. Regarding the mode of delivery, 69% underwent a C-section, while 31% had a normal vaginal delivery (NVD). Uterine curettage was reported in 21% of the patients, while 79% did not have a history of uterine curettage.

The stratification of uterine curettage concerning age, parity, gravidity, and mode of delivery showed no significant association, as indicated by the p-values greater than 0.05 across all categories. Uterine curettage was slightly more common in women aged 31-45 years (22.5%) compared to those aged 15-30 years (19.64%), but this difference was not statistically significant ($p = 0.6888$). Similarly, uterine curettage occurred in 21.69% of multiparous women and 20% of primiparous women ($p = 0.8411$), while gravidity also showed no significant difference between primigravida (22.22%) and multigravida (21.10%) women ($p = 0.8986$). Finally, there was no significant association between uterine curettage and the mode of delivery, with similar percentages for normal vaginal delivery (21.42%) and C-section (21.27%) ($p = 0.9840$).

The chi-Square test was applied to analyze the relationship between uterine curettage and the stratified variables. A p-value ≤ 0.05 was considered significant.

Table 1: Patient Demographics and Clinical Characteristics (n=136)

Variable	Category	Frequency (n)	Percentage (%)
Age Distribution	15-30 years	56	41%
	31-45 years	80	59%
Parity Distribution	Primi para	30	22%
	Multi para	106	78%
	Total	136	100%
Gravidity Distribution	Primi Gravida	27	20%
	Multi Gravida	109	80%
Mode of Delivery	NVD	42	31%
	C-Section	94	69%
Uterine Curettage	Yes	29	21%

Table 2: Stratification of Uterine Curettage concerning Age, Parity, Gravidity, and Mode of Delivery (n=136)

Variable	Category	Yes (n=29)	No (n=107)	Total (n=136)	P-value
Age Distribution	15-30 years	11 (19.64%)	45 (80.35%)	56 (100%)	0.6888
	31-45 years	18 (22.5%)	62 (77.5%)	80 (100%)	
Parity Distribution	Primi Para	6 (20%)	24 (80%)	30 (100%)	0.8411
	Multi Para	23 (21.69%)	83 (78.30%)	106 (100%)	
Gravidity Distribution	Primi Gravida	6 (22.22%)	21 (77.77%)	27 (100%)	0.8986
	Multi Gravida	23 (21.10%)	86 (78.89%)	109 (100%)	
Mode of Delivery	NVD	9 (21.42%)	33 (78.57%)	42 (100%)	0.9840
	C-Section	20 (21.27%)	74 (78.72%)	94 (100%)	

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Discussion

Placenta previa is defined as a condition where the placenta is inserted completely or partially in the lower uterine segment. Lesser differential growth in the lower segment caused by abnormal vascularization of the endometrium due to scarring or atrophy from previous trauma has been hypothesized as aetiology, but the exact cause is still not known (4). However, the established risk factors include advanced maternal age, multiparity, previous cesarean section, multiple gestation and smoking during pregnancy (5). Other known risk factors are previous abortions, placenta previa in a previous pregnancy, cocaine use and history of retained placenta. Several clinical and epidemiological studies have reported disparate data on the prevalence and risk factors associated with this condition (6). Our study shows that among 136 women 56(41%) patients were in the age range of 15-30 years, and 80(59%) patients were in the age range 31-45 years. The mean age was 34 years with SD \pm 8.91. 30(22%) patients were primi para while 106(78%) patients were multi para. 27(20%) patients were primi gravida while 109(80%) patients were multi gravida. 42(31%) patients had NVD while 94(69%) patients had C section. More than 29(21%) patients had uterine curettage while 107(79%) patients didn't have uterine curettage. Previous history of dilation and curettage and dilatation and evacuation results in almost 4 fold elevated risk of Placenta Previa as per findings of Kiondo P et al. The 95% confidence interval (CI) in their study was 3.9 (1.4-11.1) and the P value was 0.01. We conclude that the risk for the development of Placenta Previa almost doubles with a history of Dilatation and Evacuation. Our study correlated with another study carried out by Rahim N et al in which the percentage of identified risk factors included grand multiparity in 62.06%, previous caesarean section in 41.37%, and previous abortions (uterine curettage) in 34.48 %. Risk factors identified in another study included previous history of caesarean section in 40.7 %, grand-multiparity in 28.3 %, previous history of uterine evacuation (curettage) in 20.4 %, multiple pregnancy in 6.2 % and previous history of placenta previa in 4.2 %. Our study correlated with another study carried out by Latif L et al (9). In which a history of dilatation and curettage (D & C) was found as a risk factor for placenta previa as in this study its p-value was calculated to be 0.014 (significant) with odds of 3.4. That means females having a history of dilation and curettage of the uterus was associated with a three times increased risk of placenta previa. Our findings are in agreement with the findings of Suknikhom et al (10) who gave an odds ratio of 1.7 for previous dilatation and curettage and concluded that placenta previa have a significant association with previous uterine operation.

Conclusion

Our study concludes that the frequency of uterine curettage in patients presented with Placenta previa was 21% in our setup.

Declarations

Data Availability statement

All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate

Approved by the department concerned. (IRBEC-TCH-044/23)

Consent for publication

Approved

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Conflict of interest

The authors declared the absence of a conflict of interest.

Author Contribution

FAIZA GUL (Medical Officer)

Coordination of collaborative efforts.

Study Design, Review of Literature.

AYESHA AFTAB (PGR)

Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.

Conception of Study, Final approval of manuscript.

MAHIN AFTAB (PGR)

Manuscript revisions, critical input.

Coordination of collaborative efforts.

HAFSA AJMAL (Medical Officer)

Data acquisition, and analysis.

Manuscript drafting.

SIDRA SARWAR (WMO)

Data entry and Data analysis, drafting article.

Data acquisition, and analysis.

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