

Prevalence of Placenta Previa and its Risk Factors in Pregnant Women Attending Tertiary Care Hospital

Placenta Previa and Its Risk Factors in Pregnant

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ABSTRACT

Objective: The aim of this study is to determine the incidence of placenta previa along with its risk factors in Gynecology/obstetrics unit of Ayub teaching hospital, Abbottabad.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the The study was conducted in Gynaecology / Obstetrics department ATH, Abbottabad, KPK from November 2018 to November 2019.

Materials and Methods: All pregnant women having POG \geq 28 weeks were included in the study; those unsure of dates or diagnosed with eclampsia were excluded. Sample size was 426 and data was analyzed using SPSS version 23. A p-value of \leq 0.05 was considered statistically significant for association between categorical variables.

Results: The frequency of placenta previa was found to be 6.3%. The mean age was 26.33 ± 5.36 years. Mean parity was 1.44 ± 1.57 and mean gravida was 2.92 ± 2.13 . 22.2% of the pregnant women with placenta previa had a history of previously diagnosed placenta previa (p-value=0.047). 33.3 % of patients diagnosed with placenta previa had a history of abortion (p-value=0.51). 55.6% of the patients diagnosed with placenta previa were grand multigravida followed by multigravida (44.4%) whereas there were no primigravida (p-value=0.01). 77.8% of the patients diagnosed with placenta previa were multiparous followed by primiparous (22.2%), whereas there were no nulliparous women patients (p-value= 0.029).

Conclusion: The frequency of placenta previa was 6.3% which is abnormally high. History of previous placenta previa, gravida and parity were found to be major risk factors for placenta previa. History of previous caesarean section and age were also associated with placenta previa but were statistically insignificant.

Key Words: Placenta previa, previous caesarean section

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INTRODUCTION

Placenta previa is an obstetrical emergency which usually occurs in 2nd and 3rd trimester of pregnancy. In this condition the placenta abnormally lies lower and near the cervical os. It poses a serious threat to the health of mother as well as the baby and is associated with an increased maternal morbidity and mortality.¹

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Therefore, knowing its occurrence and major risk factor in a developing country like Pakistan is very important. The incidence of placenta previa has been variously reported to range from 0.1% to 0.5%.² In Pakistan, the frequency of placenta previa has been reported to be in between 0.51-3.5%.³ The maternal mortality rate secondary to placenta previa is 0.03%. The incidence of placenta previa increases with previous cesarean section i.e. 1.87% with previous one cesarean section, 2.4% for two cesarean section, 2.8% for three and 10% for four or more caesarean sections.⁴

The etiology still remains controversial, but the generally accepted theories revolve around endometrial and myometrial damage along with genetic abnormalities. Blastocyst completely embeds in the endometrium in a normal pregnancy, failure of proper vascularization of endometrium, delayed ovulation and previous trauma to endometrium due to any cause increases probability for placenta previa.^{5,6}

The risk factors for placenta previa are smoking, previous cesarean sections, advanced maternal age, multiparity and conception by invetero-fertilization (IVF), previous abortion and placenta previa in a previous pregnancy.^{7,8,9,10,11} Twin pregnancy and

substance abuse among mothers is also associated with placenta previa. The usual presentation of placenta previa is painless bright red vaginal bleeding most in late 2nd trimester or 3rd trimester. As the uterus grows, it, sometimes resolves. However, the more it remain over the cervix-os, less chances are there for its resolving. Its diagnosis is confirmed through an ultrasound (USG) and sometimes is discovered incidentally in an operation.^{12,13}

The most profound maternal risks associated with placenta previa are anesthesia and surgical complications, postpartum sepsis and placenta accrete. post-partum heavy bleeding deteriorates mother health instantly and results in increased mortality. Placenta previa increases the risk of neonatal mortality by 3 times which is primarily due to preterm birth of the baby. Perinatal mortality is currently 4-8%, due to consequences of prematurity.

Fetal and neonatal complications associated with placenta previa are congenital anomalies, respiratory distress syndrome, still birth and anemia.¹⁴ Availability of blood transfusion can significantly reduce the maternal morbidity and mortality as all complications are a sequel of blood loss, better neonatal intensive care (NICU) can reduce the perinatal mortality and morbidity. Early diagnosis by antenatal USG even before the first episode of bleeding can be significant in deciding the fate of mother and child. Once the condition is diagnosed, the case should be carefully managed and all steps required should be taken to treat the complications associated with such cases.^{15, 16}

Occurrence of placenta previa in Northern areas of Pakistan is not yet studied. Moreover, finding its incidence and major risk factor is sought important. Therefore, this study aims to determine the incidence of placenta previa along with its risk factors in Gynecology/obstetrics unit of Ayub Teaching Hospital, Abbottabad.

MATERIALS AND METHODS

This is a cross-sectional study carried out on pregnant women in gynaecology/obstetrics department Ayub Teaching Hospital, Abbottabad for 1-year i.e. November 2018 to November 2019. All pregnant women having gestational period ≥ 28 weeks were included in the study. Those unsure of dates or diagnosed with eclampsia were excluded. Sample size was 426 and sampling technique was non-probability convenient sampling. Data was recorded on a structured self-made questionnaire. Participants were informed about the purpose of study and they were assuring for confidentiality of their data. Informed consent was obtained from all the women included in the study. The study was approved from the mother institutional review board. Data was analyzed using SPSS version 23. Continuous variables were measured by mean and standard deviation whereas categorical were presented

as frequencies and percentages in tables. Chi square test was applied for finding a significant relation between placenta previa and other independent variables. A p-value of ≤ 0.05 was considered statistically significant for association between categorical variables.

RESULTS

Total 426 pregnant women with mean age of 26.33 ± 5.368years and mean gestational age 36.87±3.120weeks participated in current study. Majority of the women were multigravida (n=216, (50.7%)), 168 (39.4%) were multiparous and 123(28.9%) women (28.9%) had a history of abortion. **Table 1.**

Table No.1: Demographic variables of participants

Variables	Frequency (%)	
Age (years)	26.33 ± 5.368	
Gestational Age (weeks)	36.87±3.120	
Gravidity	Primigravida	126 (29.6%)
	Multigravida	216(50.7%)
	Grand Multigravida	84 (19.7%)
Parity	Nulliparous	153(35.9%)
	Primiparous	105(24.6%)
	Multiparous	168 (39.4%)
History of Abortion	Yes	123 (28.9%)
Placenta Previa	Yes	27 (6.3%)

Table No.2: Association of Placenta Previa with Previous Caesarean Section of the Patient

Variables		Status of Placenta Previa		Total (%)	p-value
		Yes (%)	No (%)		
Previous Caesarean Section	Yes	18 (66.7)	150 (37.6)	168 (39.4)	0.086
	No	9 (33.3)	249 (62.4)	258 (60.60)	
Previously diagnosed Placenta Praevia	Yes	6 (22.2)	12 (3)	18 (4.2)	0.047
	No	21 (77.8)	387 (97)	408 (95.88)	
History of abortion	Yes	9 (33.3)	114 (28.6)	123 (28.9)	0.510
	No	18 (66.7)	285 (71.4)	303 (71.1)	
Categories of Gravida	Primigravida (%)	0 (0)	126 (31.6)	126 (29.6)	0.010
	Multigravida (%)	12 (44.4)	204 (51.1)	216 (50.7)	
	Grand Multigravida (%)	15 (55.6)	69 (17.3)	28 (19.7)	
Category of Parity	Nulliparous (%)	0 (0)	153 (38.3)	151 (35.9)	0.029
	Primiparous (%)	6 (22.2)	99 (24.8)	105 (24.6)	
	Multiparous (%)	21 (77.8)	147 (36.8)	168 (39.4)	
Total		27 (100)	399 (100)	426 (100)	

Among 27 (6.3%) who had placenta previa, 18 (66.7%) of the patients had a history of previous Cesarean section, 6(22.2%) had a history of previously diagnosed placenta previa. The former had insignificant p-value of 0.086 while the later shows significant relation with previous history of placenta previa, p=0.047.

Only 9(33.3%) women of placenta previa had history of abortion with insignificant p value, 0.51. However, 15 (55.6%) grand multigravida and 21(77.7%) multiparous women show cases of placenta previa with significant relation, p=0.010 and 0.029 respectively **Table 2**.

DISCUSSION

This study focused to find the frequency of placenta previa and its association with obstetric variables. This way, it gave a good insight into occurrence of placenta previa in developing country like Pakistan especially in Northern-Hilly areas. The frequency of placenta previa was found to be 6.3% which is higher as compared to other studies conducted previously. In Nigeria, it was found to be 2%, in Tanzania it was 0.6% and in Iran 0.7%.^{2,12,17} This could be due to difference in demographic factors.

In our study 66.7% of the patients diagnosed with placenta previa had history of previous Cesarean section. This is in conjunction with previous studies in which it was found to be 56.5%, 58.1% and 61.7% respectively.^{8,9,17} However the association was statistically insignificant in our study (p value=0.086). In our study, 22.2% of the pregnant women with placenta previa, had a history of previously diagnosed placenta previa. This is in approximate conjunction with a study conducted in Saudi Arabia (KSA) in which it was found to be 26.1%.⁹ The p-value was also significant with a value of 0.047. Hence history of previous placenta previa can be regarded as a risk factor for placenta previa. In current study, 33.3% of patients diagnosed with placenta previa had history of abortion which is higher as compared to those who did not have placenta previa (28.6%). In a study conducted in Croatia, it was found to be 45.5% in patients with placenta previa and 23% who did not have placenta previa.¹⁸ However, our association was found to be statistically insignificant (p-value=0.51).

Majority of the patients (55.6%) diagnosed with placenta previa were grand multigravida followed by multigravida (44.4%). However, there were no primigravida. This is comparable to a study conducted in Pakistan in which majority of the patients were grand multigravida (58.7%) followed by multigravida (36.8), and no primigravida (0%).¹ The association was found to be statistically significant (p value=0.01). Hence, gravida of patient can be regarded as an important risk factor for placenta previa.

According to our study majority of the patients (77.8%) diagnosed with placenta previa were multiparous followed by primiparous (22.2%). Whereas there were

no nulliparous women with placenta previa. This is in conjunction to several studies conducted internationally in which the frequency of placenta previa increases with increasing parity.^{4,8,9,16,18,19,20} Our results were statistically significant with a p-value of 0.029. Thus, parity of patient can be regarded as an important risk factor for placenta previa in our setting.

CONCLUSION

The frequency of placenta previa was 6.3% which is abnormally high. History of previous placenta previa, gravida and parity were found to be major risk factors for placenta previa. History of previous cesarean section and age were also associated with placenta previa but were statistically insignificant.

Recommendations: MCHC should be improved with proper awareness among women of the region. Family planning should be promoted. Mothers with more than one risk factor for placenta previa should be counselled.

Author's Contribution:

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