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Original Research Article

Placenta previa and its effect on maternal and fetal outcome: retrospective observational study

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ABSTRACT

Background: Placenta previa is a condition in which placenta get implanted in the lower uterine segment or cervix, which is a major risk factor for postpartum haemorrhage and morbidity and mortality of the mother and neonate used to increase. Based on literature survey we have designed with an objective to study the risk factors for placenta previa and fetomaternal outcome in cases of placenta previa.

Methods: Based on selection criteria 100 singleton deliveries with placenta previa that took place in the department of obstetrics from December 2017 to December 2020 were enrolled and their medical records were considered for analysis. From medical record details of patients like age, duration of gestation, parity, clinical presentation, details of current and previous pregnancy, history of warning bleeding and gestational age of diagnosis of placenta previa.

Results: Regarding risk factor for placenta previa 48% patients have history of previous LSCS, 22% patients have history of previous abortions. Regarding antepartum complication bleeding PV was present in 24% patients, pre-term labour was present in 46% patients, PIH was present in 10% patients, and abnormal presentation was present in 14% patients.

Conclusions: From our study we can conclude that placenta previa is common in multiparous women in third decade of life and commonly detected at 36 weeks. Bleeding per vagina was most common clinical presentation and LCSC is common risk factor followed by history of previous abortions. Preterm labour was most common antepartum complication and bleeding per vagina comes next to it. Regarding neonatal outcome most of the neonate was normal without complications.

Keywords: Fetomaternal outcome, Placenta previa, Risk factor

INTRODUCTION

Placenta previa is a condition in which placenta get implanted in the lower uterine segment or cervix, which is a major risk factor for postpartum haemorrhage and morbidity and mortality of the mother and neonate used to increase. Jauniaux et al from London UK has reported based on their systematic review and meta-analysis that the median prevalence of placenta previa was 0.56% (iqr 0.39-1.24) whereas the median prevalence of placenta previa with pas was 0.07% (iqr 0.05-0.16).¹⁻³ Etiology of placenta

previa is unknown and multifactorial. Among various risk factors advancing age of mother, previous surgical procedure involving uterine cavity, Prior miscarriage with operative management, Prior placenta previa and assisted reproductive technology.^{4,5} It is associated with adverse maternal and neonatal outcome.

Placenta previa is associated with neonatal complications like lower APGAR scores, low birth weight, preterm birth, duration of hospitalization increased and increased risk for respiratory distress syndrome. It is also associated with

maternal complication like postpartum haemorrhage, septicaemia, and hysterectomy and maternal death.^{6,7}

After going through literature search we have observed that there are multiple view regarding outcome and risk factor of placenta previa. Sheiner et al has concluded that although an abnormal implantation per se was not an independent risk factor for perinatal mortality, placenta previa should be considered as a marker for possible obstetric complications. Hence, the detection of placenta previa should encourage a careful evaluation with timely delivery in order to reduce the associated maternal and perinatal complications.⁸ Feng et al has concluded that Maternal age ≥ 35 years and prior uterine operation ≥ 3 increase the risk of complete previa in mid-pregnancy.⁹ Daskalakis et al has concluded that A history of multiple cesarean deliveries increased the risk for obstetric hysterectomy in women with PP. The type of PP had no effect on maternal and neonatal outcome, with exception of the fact that neonates in the incomplete PP group had lower Apgar scores than neonates in the complete PP group.¹⁰

Based on the literature survey we have designed with an objective to study the risk factors for placenta previa and foeto- maternal outcome in cases of placenta previa.

METHODS

A retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, Konaseema Institute of Medical Science, Amalapuram, Andhra Pradesh, India conducted from December 2017 to December 2020.

The study was approved by the Institutional Ethics Committee of Konaseema Institute of Medical Science, Amalapuram. As the study involved the retrospective evaluation of existing data obtained from the patient case sheet informed consent of the study participants was not obtained with the approval of IEC. All patients diagnosed to placenta previa and admitted in the department of obstetrics were enrolled for this study based on following selection criteria.

Inclusion criteria

Pregnant women with history of painless bleeding per vagina after 28 weeks of gestation, ultrasonographically confirmed cases of placenta previa were selected as inclusion criteria.

Exclusion criteria

Multiple pregnancies, Abruptio placenta, bleeding below 28 weeks of gestation were excluded from the study.

Based on selection criteria 100 singleton deliveries with placenta previa that took place in the department of obstetrics from December 2017 to December 2020 were

enrolled and there medical records were considered for analysis.

Method

From medical record details of patients like age, duration of gestation, parity, clinical presentation, details of current and previous pregnancy, history of warning bleeding and gestational age of diagnosis of placenta previa. Maternal outcome parameters in terms of age of gestation at time of delivery, duration of hospital stay, history of blood transfusion, mode of delivery, need of surgical procedure, postpartum hysterectomy and intensive care treatment. Neonatal outcome was recorded in the form of preterm, meconium aspiration; still born and intrauterine death was recorded.

Statistical analysis

Data were recorded in excel sheet and statistical Analysis was done with software SPSS-14 version. Data were calculated as percentage and proportions.

RESULTS

During our study period of three years 100 patients singleton deliveries with placenta previa that took place in the department of obstetrics were enrolled and there medical records were analysed.

Table 1: Demography and obstetric profile of patients.

Variable	Number	Percentage
Age (years)	Below 25	15
	26 to 30	45
Mean age 28.65±5.24 years	31 to 35	22
	More than 35	18
Parity	Nulli	24
	Multi	76
Age of gestation	28 to 32	14
	32 to 36	34
	More than 36	52
Type of placenta previa	I	12
	II	41
	III	38
	IV	9
Degree of placenta previa	Minor	38
	major	62

As per Table 1, Mean age 28.65±5.24 years and most of the patients were between 26 to 30 years of age (45%), which followed by 31 to 35 years that was 22%, number of patients above 35 years were 18% and below 20 years were 15%. Regarding parity of patients, 76% patients were multi and remaining were primi. Age of gestation was between 28 to 32 weeks in 14 patients, 32 to 36 weeks in 34% patients and more than 36 weeks in 53%

patients. Regarding type of placenta previa type I was present in 12% patients type II was present in 41% patients type III was present in 38% patients and type IV was present in 9% patients. The major degree of placenta previa was common and present in 62% patients and remaining was minor degree.

Table 2: Distribution of clinical presentation of patients.

Variable	Number	Percentage
Pain abdomen	40	40
Bleeding per vagina	56	56
Pain abdomen and PV bleeding	32	32
Absent fetal movements	6	6
shock	3	3
Asymptomatic	14	14

As per Table 2 regarding distribution of clinical presentation pain abdomen were present in 40% patients, bleeding per vagina was present in 56% patients, Pain abdomen and bleeding per vagina was present in 32% patients, absent fetal movement was present in 6% patients, shock was present in 3% patients and 14% patients were asymptomatic.

Table 3: Distribution of risk factor for placenta previa.

Variable	Number	Percentage
Previous H/O LSCS	48	48
Previous abortions	22	22
previous surgical procedure involving uterine cavity	6	6
Twin pregnancy	2	2
Anomaly of placenta	4	4
None	28	28

Regarding risk factor for placenta previa 48% patients have history of previous LSCS, 22% patients have history of previous abortions, 6% patients have history of previous surgical procedure involving uterine cavity, 2% patients presented with twin pregnancy, 4% patients have anomaly of placenta and 28% patients have no risk factor.

Regarding anti partum complication bleeding PV was present in 24% patients, pre term labour was present in 46% patients, PIH was present in 10% patients, abnormal presentation was present in 14 % patients, IUD was present in 2% patients and shock was detected in 4% patients. Regarding post-partum complication PPH was present in 18% patients, placental adherence in 3% patients and 2 patients developed shock.

Regarding neonatal outcome 89% were normal without complications, 6% neonate were preterm, 2 neonate have IUD, Meconium aspiration syndrome was present in 2 patients and 1 neonate was still born.

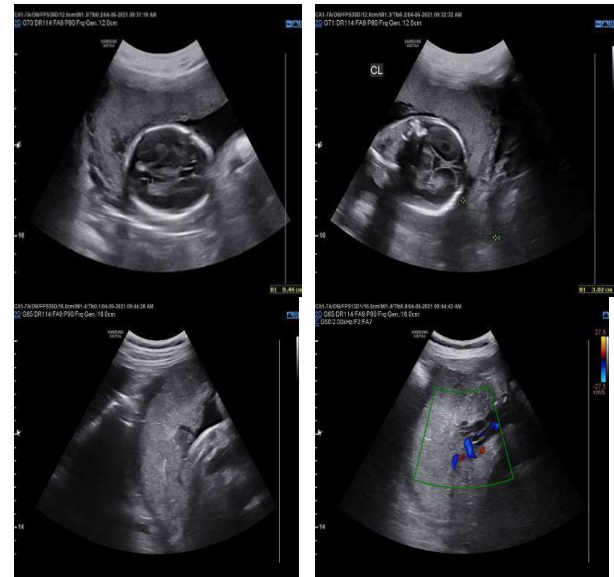


Figure 1: Ultrasonography of placenta previa (various grades).

Table 4: Anti partum and post-partum complications.

Variable	Number	Percentage	
Anti-partum complications	Bleeding PV	24	24
	Pre term labour	46	46
	PIH	10	10
	Abnormal presentation	14	14
	IUD	2	2
	Shock	4	4
Post-partum complications	PPH	18	78.26
	Placental adherence	3	13.04
	Injury to bowel and bladder	0	0
	shock	2	8.69
	Maternal mortality	0	0

Table 5: Neonatal outcome in placenta previa.

Variable	Number	Percentage
Normal	89	89
Preterm	6	6
IUD	2	2
Meconium aspiration syndrome	2	2
Still born	1	1

DISCUSSION

In present study we have analysed 100 patients with placenta previa for risk factor and fetomaternal outcome.

In present study mean age 28.65 ± 5.24 years and most of the patients were between 26 to 30 years of age. Elizabeth et al has reported that women with placenta previa had a significantly higher mean age (29.07, SD = 6.12 (years)) than their unaffected counterparts (27.47, SD = 6.05 (years)), this finding support our study but most common age were below 20 years which doesn't support our study.¹¹ Hossain et al has concluded that incidence of placenta previa is common in third decade and increases with parity which support our study.¹² Most common gestational age for diagnosis was 36 weeks this finding is supported by study of Dashe et al.¹³ Regarding type and degree of placenta previa type II and III are common and major degree are common than minor. This finding is supported by the work of Wasan et al.^{14,15}

In our study regarding clinical presentation, pain abdomen were present in 40% patients, bleeding per vagina was present in 56% patients, Pain abdomen and bleeding per vagina was present in 32% patients and 14% patients were asymptomatic which corroborates with the study of Ikechebelu et al.¹⁶

In present study previous LCSC is common risk factor followed by history of previous abortions. Kiondo et al has reported that patients who had previous delivery by caesarean section were associated with an increased risk of placenta praevia. Ananth et al has reported that there is a strong association between having a previous cesarean delivery, spontaneous or induced abortion, and the subsequent development of placenta previa. These two study finding support our study.^{17,18}

Preterm labour was most common ante partum complication and bleeding per vagina comes next to it. Shock and IUD are present in 2% and 4% patients' respectively. PPH was most common post-partum complication. This finding is supported by the work of Adere et al.¹⁹

Regarding neonatal outcome most of the neonate were normal without complications, 6% neonate were preterm, 2 neonate have IUD, Meconium aspiration syndrome was present in 2 patients and 1 neonate was still born. This finding is supported by the work of Crane et al.²⁰

CONCLUSION

From our study we can conclude that placenta previa is common in multiparous women in third decade of life and commonly detected at 36 weeks. Major degree of placenta previa is most common. Bleeding per vagina was most common clinical presentation and LCSC is common risk factor followed by history of previous abortions. Preterm labour was most common ante partum complication and bleeding per vagina comes next to it. Regarding neonatal outcome most of the neonate was normal without complications.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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