Original Article

Risk Factors and Fetomaternal Out Come of Placenta Previa at Teaching Hospital Khairpur

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ABSTRACT

Objectives: To explore the relative risk factors for placenta previa and to measure the maternal and perinatal complications with placenta previa at teaching hospital, so that a preventive strategy can be made to optimize fetomaternal outcome.

Study Design: Prospective descriptive study.

Place and Duration of Study: This study was conducted at the Department of Obstetrics and Gynecology, Ghulam Mohammad Maher Medical College Hospital, Khairpur, Sindh, Pakistan from 1st January to 31st December 2011.

Materials and Methods: All Patients who presented with antepartum hemorrhage and diagnosed on ultrasound as placenta previa were included in this study. A total of 161dignosed cases of placenta previa were included in the study. The data was collected on predesigned proforma and analyzed on SPSS version 15.

Results: Total obstetric admission was 2796 during study period and frequency of placenta previa was 161 (5.7%), Mean maternal age was 31.09±5.38. Mean were 3.4 for parity and 4.8 for gravidity. The ratio between unbooked and booked cases was 3:1. Maternal and perinatal morbidity was very high with increased rate of caesarean section 110(83.9%), 20 patients received in shock at the time of admission, 145 (90%) needed blood transfusion. Post partum hemorrhage was seen in 25(19%), Maternal death 5(3.8%) was seen in study population. Regarding perinatal outcome preterm delivery was seen in 73(55.7%), low APGAR score <7 at birth 41(31%), low birth weight 60(45.8%) and perinatal mortality rate was 35(26.7%).

Conclusion: It was concluded that Placenta previa is a serious condition with manifestation of significant maternal & perinatal morbidity and mortality. These complications can be reduced by provision of adequate antenatal care to every women and ultrasound examination for early diagnosis of placenta previa before symptoms arrival, reduce rate of caesarean section and provision of family planning services to reduce family size.

Key Words: Placenta previa, maternal morbidity, Perinatal mortality, Risk factors.

INTRODUCTION

Placenta previa is an infrequent type of impaired placental localization in the lower segment of uterus over or near the internal cervical os[1]. Placenta previa complicates 0.3% to 0.5% of the pregnancies[2].

Its incidence is higher among Asian women as compared to white women.[3] Notably 1.2% of the total 37.702 pregnancies analyzed in an Asian population had placenta previa.[4] While an incidence of 3.5% in Pakistani population and 65% pregnancies associated with a previous cesarean section in Pakistan. Significant maternal and perinatal morbidity and mortality can be attributed to this condition.[5]

Etiology of placenta previa is unknown but it is thought to be caused by repeated trauma to the endometrial tissue which leads to endometrial scarring resulting in requirement of greater area and abnormal position for placentation.[6]

Other risk factors including cesarean section[7], high parity,[8] history of previous spontaneous or induced abortions,[9] Previous uterine operation, Previous placenta previa,[10] Multiple gestation,[11] male sex of the fetus.[12] All of these risk factors have been found in the western population. Risk factors in Pakistani women according to studies done to date in Pakistan include increasing maternal age,[13] increasing parity, previous Caesarean section,[9] Smoking,[14] low socio-economic status , residence in urban areas, working during pregnancy were the risk factors associated in an Asian population. Although the risk factors associated with placenta previa in both the Eastern and the Western population are comparable but there are certain risk factors,[15] which are unique to Asian population.

Maternal complication of placenta previa are APH, mal presentation, shock, the risk of massive hemorrhage is 12 times more likely with placenta previa.[20] It also includes higher rate of cesarean section, peripartum hysterectomies,[21] coagulation failure or even death.

Fetal complications are preterm birth, low birth weight, IUGR and intrauterine death. The rate of birth defects is 2.5 times more often in pregnancies affected by placenta previa; the cause is unclear.[16] Birth asphyxia is also high[17]. The rate of admission of neonates to NICU and duration of stay in hospital were increased in pregnancies complicated with placenta previa.[18]

Lack of antenatal care is associated with increased fetal and maternal mortality, and is a matter of great concern as antenatal is not given the due consideration as it demands in underdeveloped countries of the world such as Pakistan.

Women with placenta previa mostly need to deliver the baby by cesarean section; this prevents the death of the mother and the baby. Most complications can be avoided by hospitalizing a mother who is having symptoms, and delivering her by planned C-Section.[19]

The Objective of our study is to evaluate the Potential role of risk factors for placenta previa and to measuse the maternal and perinatal morbidity and mortality associated with placenta previa and to develop proposal to reduce maternal and fetal complications in these cases.

MATERIALS AND METHODS

It was a prospective study carried out at department of Obstetrics and Gynecology, Ghulam Mohammad Maher Medical College Hospital Khairpur, over a one year period. All patients who presented with antepartum hemorrhage and diagnosed on ultrasound as placenta previa were included in the study, after obtaining informed consent. Exclusion criteria were antepartum hemorrhage with normally situated placenta, placenta abruption, and placenta previa with multiple gestations.

The study group included the 161 cases diagnosed as placenta previa contributing the 7.5% of total obstetric admission. Data was collected including age, parity, booking status, severity of hemorrhage and the risk factors for placenta previa were noted on predesigned pro-forma. Maternal outcome measures with number of blood transfusion mode of delivery, postpartum hemorrhage and maternal deaths. Our primary variables for the neonatal outcomes were gestational age in weeks, birth weight, live birth, stillbirth, Apgar score at one minute, admission in Neonatal Intensive Care Unit, neonatal death and take home baby (discharge from hospital).

Data was analyzed on SPSS version 15.0 by frequencies, means with standard deviations and ratios. P-value < 05 was considered significant.

RESULTS

During the study period total obstetric admissions were 2796 and number of placenta previa cases was 161 (5.7%), only 23% patients were booked and 77.4 were unbooked. Mean maternal age was 31.0.9±5.38, minimum 18 and maximum 42 years. Mean were 3.4 for parity and 4.8 for gravidity.

Out of 161 placenta previa cases 131 delivered in ward and 30 cases that presented with mild bleeding were managed expectantly and discharged when bleeding settled down. Out of 131, 21 patients delivered by vaginal route and 110 (83.9%) by caesarean section.

It was further observed that maximum patients presented at 33-36 weeks of gestation 120(74.5%)

Regarding risk factor (Table:1) multiparity was found in 103 (63.9%) of cases, history of previous caesarean section in 40 (24.8%), placenta previa in previous pregnancies 30 (18.6%), history of Dilatation and Currettage was found in 35 (21.7%) cases, No risk factor was found in 40 (24.8%) of placenta previa cases.

Table No.1: Risk factors of placenta previa

Risk Factors	No of Patients	%age
Multiparity	103	63.9%
Previous c/s	40	24.8%
Past history of pp	30	18.6%
History of d&c	35	21.7%
No risk factor	40	24.8%

c/s=caesarean section, pp= placenta previa, d&c= dilatation and curettage.

Studying maternal complications (Table:2), 145(90%) patients needed blood transfusion and 6% needed massive transfusion 8-10 units, Rate of caesarean was very high 110(83.9%), Postpartum hemorrhage were seen in 25 (18%) patients, 4 (3%) patients ended on Peripartum hysterectomy, maternal mortality 5 (3.8%) was seen in study population.

Table No.2: Maternal morbidity and mortality

Maternal Complications	No of Patients	%age
Blood transfusion	145	90%
Caesarean section	110	83.9%
Postpartum hemorrhage	25	19%
Peripartum hysterectomy	4	3%
Shock	20	15.2%
Maternal Death	5	3.8%

Perinatal outcome data revealed that out of 131 babies born, 73(55.7%) were preterm, 26(19.8%) were fresh stillborn, neonatal death were seen in 18 (13.7%), Neonatal Nursery admission were seen in 45 (34.3%) babies and 87 (66.4%) were discharged from hospital alive (Table:3).

Table No.3: Fetal out come in cases of placenta previa

Variables	No of cCases	%age
Live birth	105	80%
Prematurity	95	72.5%
Still birth	26	19.8%
Neonatal deaths	18	13.1%
Low birth weight	60	45.8%
NNICU	45	34.3%
Take baby home	87	66.4%

NNICU= Neonatal intensive care unit.

DISCUSSION

Bleeding in late pregnancy is important cause of fatal and maternal morbidity and mortality. According to WHO estimates 25% of all maternal deaths are due to hemorrhage. Study from other countries indicates that life threatening hemorrhage occurs 1 in 1000 deliveries. The reported frequency of placenta previa varies from 0.6-1.65%[22] that is 1 in 200 births. The incidence of

placenta previa in our study is quiet high that is 5.7%, while it is quoted to be 2-5%, 3.01% and 2.53% in other studies from other parts of the world. The reason of high incidence of placenta previa in our study may be because of large number of referred cases to a tertiary care hospital, but still this may be an underestimate of actual figure as many patients with hemorrhage fail to reach to hospital. In present study highest number of patients, 90 (55.9%) were of 31- 40 years. This is supported by a study were placenta previa was 54.6% in a wide range of 26- 35 years.[22] The booking status in the current study is only 22.3%, similar to a study done in Saudi Arabia. Out of the rest 77.6%, most had not received antenatal care from anywhere. This clearly shows the importance and necessity of antenatal care in prevention and early detection of placenta previa to reduce morbidity and mortality.

In a study conducted at university of Oslo, age was studied as a significant risk factor with mothers over the age of 40 years being significantly more likely to have severe hemorrhage. But in our study, mean age of the patients is 33.6 years, similar to the study done in another tertiary care hospital of sindh. The reason may be practice of early marriages in our society as compare to other part of the world. the incidence of placenta previa is more in multipara(95%) as compared to nulipara (4.9%). So being a problem of multiparity, reduction in family size and the issues of contraception are highly applicable. Study from Brazzaville University Hospital on 126 cases of placenta previa also reported that 73.6% women had more than two previous deliveries.[22] High rate of blood transfusion in this study and other studies as well.[23]which increases the risk of transfusion reaction and contacting infectious disease such as hepatitis B.

There is high incidence of cesarean section among patients with placenta previa[24] 85.2% in some studies this is close to our study where 110 (83.9%) underwent cesarean section. The incidence of postpartum hemorrhage is 18%, which is almost the same as mentioned by crane et al. Commonest cause of PPH was uterine atony, placenta acreta, followed by coagulation failure. Maternal mortality in this study is 3.8%, contributing to 20.3% of the total maternal deaths in the ward, while mortality quoted by another study due to hemorrhage is (20%).[25]

Considering the perinatal outcome, 95(72.5%) women had preterm deliveries, which is almost the same as found in various other studies. In most of the cases delivery was iatrogenic in maternal interest.

Perinatal mortality was 29%, while other studies from Sindh have quoted 41.6% and 20% perinatal mortality in cases of antepartum hemorrhage, 19.8% were fresh stillborns indicating that severe hemorrhage and hypovolemic shock on arrival exposed the fetuses to hypoxia and ultimately death and this again proves the importance of early and rigourous management of placenta previa.

CONCLUSION

Based upon observations made during this study, it is concluded that placenta previa is as a serious condition with significant maternal & perinatal morbidity and mortality. Factors increasing lost of babies are lack of antenatal care prematurity and low birth weight.

Recommendation:

These placenta previa related complications can be reduced by provision of antenatal care to every woman at their doorstep. Family planning should also be emphasized as a strategy towards reductions of parity and there by the incidence of placenta previa. Considering very high perinatal morbidity and mortality, neonatal care units should further be improved.

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