

Incidence of placenta previa in Southern Punjab and maternal outcome

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ABSTRACT

Background: Placenta previa is a worldwide problem associated with many pregnancy related complications. However, the information regarding placenta previa and its effect on pregnancy outcome are lacking in this area of Pakistan. This study aims to find out incidence of placenta previa in pregnant females, its consequences and outcome of pregnancy in the local population of Southern Punjab admitted to tertiary care public sector hospital at Rahim Yar Khan region.

Patients and Methods: This observational cross sectional study was conducted in the department of Obstetrics and Gynaecology, Sheikh Zayed Hospital, Rahim Yar Khan from March to November 2017 on 4658 pregnant females. Gravid females with vaginal bleeding after 28 weeks gestation underwent ultrasonography to assess placenta previa. Findings of placenta previa were noted and females were followed-up till they were discharged and complications, including obstetrical hysterectomy, anemia, disseminated intravascular coagulation (DIC), multi-organ dysfunction or failure, blood transfusion requirement and maternal death, were recorded.

Results: Mean age of the patients was 33.2±5 years and mean gestational age at presentation was 35.38±3 weeks. Out of the 4658 females, 2402 (51.6%) underwent spontaneous vaginal delivery and 2256 (48.4%) underwent cesarean section. Among 2256 females who underwent cesarean section, 210 (9.3%) had placenta previa. Among them, 38 (18%) had obstetrical hysterectomy, 4 developed DIC, 2 had multi-organ failure and 2 (0.95%) died, whereas 198 patients received multiple blood transfusion.

Conclusion: The frequency of placenta previa was lower in local female population presenting at a tertiary care hospital for delivery. However, the complications were high in females with placenta previa and hysterectomy was one of the major complications of pregnancy with placenta previa.

Keywords:

Placenta previa; cesarean section; obstetrical hysterectomy; morbidly adherent placenta; fresh frozen plasma.

INTRODUCTION

Placenta previa is a pregnancy-related problem, develops when placenta implants into the lower segment of uterus, covering the whole cervix (called as major degree placenta previa) or covers part of cervix (called as minor degree previa).¹ It is reported in 0.4% of pregnancies at term.² Usually in cases of placenta previa, painless vaginal bleeding is common presentation between 20 to 34 weeks of gestation. It can be predicted clinically but diagnosis is confirmed through ultrasonography at the time of presentation or during cesarean section incidentally.^{3,4} Partial or

placental abruption leading to concealed or revealed hemorrhage required more blood transfusions and also results in poor fetal outcome due to premature separation of placenta.⁶ Morbidly adherent placenta (MAP) is defined as; abnormal adherence either of whole or part of placenta to uterine linings. Classified according to degree of adherence and by amount of placental involved into three types as placenta accreta; chorionic villi invading deep into endometrium, placenta increta; chorionic villi involving myometrium, placenta percreta; chorionic villi penetrating to serosa.⁷ In such high risk cases, postpartum hemorrhage can be a life-threatening complication. Cesarean hysterectomy is usually undertaken as a last resort for maternal safety.⁸ According to American College of Obstetrics and Gynaecology, incidence of placenta previa is 1:2500 per deliveries.⁷

This study aims to find the incidence of placenta previa in pregnant females, its consequences and outcome of pregnancy in the local population of Southern Punjab admitted to tertiary care hospital at Rahim Yar Khan region.

Competing interest: The authors have declared no competing interests exist.

Citation: Najam M, Javed S, Rasheed N. Incidence of placenta previa in Southern Punjab and maternal outcome. *J Fatima Jinnah Med Univ* 2018; 12(1): 33-36.

complete placenta previa are responsible for higher maternal complications than marginal placenta previa.⁵ Symptomatic placenta previa can cause high chances of placental mal-perfusion lesions indicating a relationship of maternal mal-perfusion with abnormal placental separation. In 10% of placenta previa, there is associated

PATIENTS AND METHODS

This cross-sectional study was conducted in Sheikh Zyaed Hospital Rahim Yar Khan for 9 months from March to November 2017. During this period, 4658 pregnant females underwent delivery in the hospital. Patients were included through non-probability consecutive sampling. Females of age 25-42 years at gestational age >34weeks according to LMP and by dating scan (for those who were not sure of dates) were included in the study. Demographic data (age, gestational age, parity, previous mode of delivery) was obtained. Females with antepartum hemorrhage were evaluated for placenta previa by history (previous scar uterus, painless vaginal bleeding, abdominal examination) may reveal abnormal lie, abnormal presentation and unengaged fetal presenting part. Suspected cases were evaluated by abdominal ultrasound scan for diagnosis of placenta previa and final confirmation was intra operatively during cesarean section or during vaginal delivery. Females were followed-up in labor room till they were discharged. Mode of delivery was noted. Complications during and after delivery were noted including obstetrical hysterectomy, anemia, number of blood transfusions, DIC, multi-organ failure or maternal death. Major and minor degree placenta was identified by ultrasonography and confirmed after normal delivery and cesarean section. MAP (morbidly adherent placenta) was suspected by ultrasound findings suggestive of anterior placenta previa with previous history of lower segment cesarean section and diagnosis was made by Doppler ultrasound scan suggestive of vascular lacunae, myometrial thinning, loss of retro placental clear space and interruption of bladder/uterine interface. Final confirmation was made intra operatively. Multi organ failure was identified with patient condition (shortness of breath, need of inotropic cardiac support) and diagnosed with deranged liver, renal functions tests, abnormal coagulation profile, decreased hemoglobin and platelets count. Disseminated intravascular coagulation (DIC) was confirmed with deranged coagulation profile or bleeding from nose, mouth, stitch line, vaginal bleeding not responding to conservative measures and no other obvious bleeding disorder. All the collected information was stored and analyzed in SPSS 22. Mean and SD were calculated for quantitative variables. Frequency and percentages were also calculated for categorical variables.

RESULTS

The mean age of the patients was 33.2±5 years. The mean gestational age was 35.38±3 weeks. Out of the 4658 females, 2402 (51.6%) underwent spontaneous vaginal delivery and 2256 (48.4%) underwent cesarean section (Table 1). Among 2402 female, who underwent vaginal delivery, 09 (0.3%) had minor degree placenta previa (type I/II). In females, who underwent cesarean section 210

(9.3%) had placenta previa. All were having major degree placenta previa type III/IV. Among them, 38 (18.1%) had MAP followed by obstetrical hysterectomy due to postpartum hemorrhage, 18 (47.3%) had placenta accreta, 15 (39.4%) had placenta increta, and 5 (13.1%) had placenta percreta. Out of 38 females, 4 (1.9%) had DIC, 2 (1.0%) developed multi-organ failure (MOF), and 2 (1.0%) died. Among 4 patients who developed DIC also had MOF leading to death while rest of two females recovered. Among 210 patients, 198 (94.2%) patients had blood transfusion (Table 2). Average blood transfusion was 2 units of whole blood in majority of patients. While patients

Table 1. Baseline characteristics of female participants

Total number	4658
Age (years)	33.20±5.03
Gestational age (weeks)	35.38±3.00
Gravidity	
Primigravida	38 (18.1%)
Multigravida (2-4)	100 (47.6%)
Grand multigravida (>4)	72 (34.3%)
Parity	
Primiparity	38 (18.1%)
Multiparity	100 (47.6%)
Grand multiparity	72 (34.3%)
Abortions	11 (10.5%)
Previous number of cesarean sections	
0	160 (76.2%)
1	6 (2.9%)
2	4 (1.9%)
3	26 (12.4%)
4	12 (5.7%)
5	2 (1.0%)
SVD	2402 (51.6%)
LSCS	2256 (48.4%)

with DIC received 6 units of whole blood and four units of fresh frozen plasma (FFP).

DISCUSSION

Pregnancy with placenta previa is a high risk pregnancy which is a leading cause of ante-partum and post-partum hemorrhage, which causes fetomaternal complications and even leads to maternal mortality.³ In this study, the mean age of the patients was 33.20±5.03 years, while in study of Aggerwal and group mean age was 27.7±4.2 years.⁹ In an Indian study¹⁰, the prevalence of pregnancy with placenta previa was 0.7% which was much lower as compared to this study. Bahar and coauthors in a retrospective study of 306 patients reported an overall incidence of placenta previa of 0.73%.⁵ In their study, major placenta previa (complete or partial) occurred in 56.5% women and minor placenta previa in 43.5% women. There were no effect of age, parity, and previous abortions on type of placenta previa whether females have major and minor degree previa. After controlling for confounding factors, women with major placenta previa showed a significantly higher incidence of antepartum hemorrhage (OR 3.18; 95% CI 1.58-6.4, p-value = 0.001) and hysterectomy (OR 5.1; 95% CI 1.31-19.86, p-value = 0.019). Our results in relation with complications of major degree previa are comparable with this study.⁵ As in this study all cases 38 (18.1%) of major degree previa with MAP had hysterectomy and other complications in the form of DIC and multiple blood transfusions.

A study done by Chaudhari and colleagues from Indian described frequency of placenta accreta in 40% (12 patients). Placenta increta in 37% (11 cases) and placenta percreta in 13% (7) cases. While in this study 47.3% (18 patients) had placenta accreta, 39.4% (15) had placenta increta, and 13.1% (5) had placenta percreta. These results are more or less comparable.¹¹ However Sultana and coauthors in a study on 32 patients reported that frequency of PPH was 15.6% but rate of hysterectomy was much higher as 50% among females with placenta previa whereas in present study hysterectomy rate was 18%.¹² Reason might be their small sample size. Sheiner and group concluded that even an abnormal placentation was not an independent risk factor for perinatal morbidity and mortality. Placenta previa must be deliberated as indicator of many pregnancy related complications. Thus, diagnosis of placenta previa must be carefully evaluated on early basis with timely delivery with intention of reduction

in the associated maternal and perinatal morbidity and mortality.¹³ Kiondo and friends identified an association between placenta previa and post-partum hemorrhage, while in this study majority of patients presented with antepartum hemorrhages.¹⁴ In this study 38 (18.1%) females with MAP had average blood loss of >2000 mL, while in study of Chaudhari and associates increased blood loss was observed in 14 (47%) of cases. In their study, 64% received 1-4 units of blood while in current study transfusion requirement was 94.2%. Peripartum hysterectomy was reported in 33% in study by Chaudhari and group. In this study hysterectomy was done in 18.1% (38).¹¹ In same study of India DIC and MOF was developed in 20% (6) patients while in this study 1.9% (4) patients develop DIC and 1% (2) had MOF.¹¹ Massive blood loss >2.7L was prominent feature in study of Aggerwal and friends as compared to current study in which 94.2% (198) required blood transfusion on average two units and with DIC required 6 units of blood and 4 units of FFP.⁹

CONCLUSIONS

Women with placenta previa are considered high risk pregnancies. Previous cesarean section is associated risk factor for increasing cases of placenta previa and MAP. Therefore, there is a need to keep the primary cesarean section rates down. Antenatal diagnosis of placenta previa and morbidly adherent placenta with multidisciplinary team approach is the key to save women's life.

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Table 2. Outcome in females having placenta previa (N= 210)

Outcome	Frequency (%)
Blood transfusion	198 (94.2)
Obstetrical hysterectomy	38 (18.1)
DIC	4 (1.9)
Multi organ failure	2 (1.0)
Death	2 (1.0)

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