



Fetomaternal outcome in placenta previa - a retrospective study in tertiary health care center

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ABSTRACT

Background: Prevalence of placenta previa is found to vary between 0.5% of all pregnancies. Placenta previa is one of the major cause of antepartum hemorrhage and is also important cause of maternal and perinatal morbidity and mortality in India.

Method: This is retrospective study conducted in department of OBG, G.G.G hospital, Shree M.P Shah medical college - Jamnagar for a period of 5 years from January 2016 to January 2021. All cases of placenta previa during pregnancy admitted during this period were included in the study. All case records were obtained from medical record section and carefully analysed to find out the incidence, various type of placenta previa, its clinical presentation and its outcomes in relation to mode of delivery, birthweight and maternal and perinatal morbidity.

Result: The prevalence of placenta previa of 0.27% and was more commonly present among multiparous women 73%. Most common type was type 3 placenta previa(37.6 %) in cases followed by type marginal (28 %), out of 125 cases 17 had atonic PPH (13.6%) managed by medical and surgical method, 4 cases(2.6%) had found complete placenta previa with morbidly adherent placenta(placenta accreta) with hemorrhagic shock and underwent cesarean hystrectomy. All cases of perinatal mortality were between 28 to 30 week weighting 1- 1.5kg associated with complete placenta previa in 4 cases and in type 3 (incomplete) in 3 cases. There was no maternal mortality in this study.

Conclusion: Managing a cases of placenta previa during pregnancy poses a great challenge to every obstetrician in present day obstetrics due its increased risk of maternal and perinatal complications.

Keywords: Placenta previa, Low lying, Bleeding per vagina, Antepartum hemorrhage

INTRODUCTION

Placenta previa is defined as situation of the placenta partially or wholly in the lower uterine segment of the uterus. The prevalence of placenta previa has been recently estimated approximately 0.5% of all pregnancies, and this increases correlates to the elevated caesarean section rate.¹ Placenta previa is a major cause maternal mortality and mortality because of the associated massive antepartum and intrapartum hemorrhage.²

Risk factor are old age, multiparity , previous cesarean delivery, abortion, smoking, cocaine, and Male fetus. In previa patient, post partum hemorrhage is substantial, which increases maternal complications. Risk factor for massive hemorrhage and transfusion are old age, abortion, previous cesarean section, uterine myeloma, increased BMI, increased neonatal weight, and complete previa.⁴

Placenta previa is also associated with abnormal placentration and preterm delivery. History and number of previous cesarean delivery is important to have placenta previa and abnormal placentration in subsequent pregnancies.⁵

According to the trophotropic theory, the placenta migrates to better vascularized areas. Normally, the placenta grows towards the fundus, which can provide more blood. Defective vascularization of the endometrium due to scarring or atrophy caused by previous operations or infections may result in reduced differential growth of the lower uterine segment and less of an upward shift in placental location.

Placenta percreta is a potentially lethal complication. It is a result of failure of decidua basalis after a repair of a previous uterine scar, and as a consequence, the chorionic villi invade the myometrium. Hudon et al.¹¹ stated that women who have both placenta previa and previous uterine scarring are susceptible to develop placenta accreta.

Need for the study

Placenta previa is one of the major cause for maternal and perinatal mortality accounting for 35% cases of antepartum hemorrhage. This study conducted to know the various clinical presentations and fetomaternal out come in placenta previa in a teaching hospital.

METHODS

This is a retrospective study conducted in the department of OBG, G.G.G hospital jamnagar for a period of 5 years from january 2016 to January 2021 . All cases of placenta previa diagnosed by clinical or ultrasonography were included in study. All cases records were obtained from medical record section, G.G.G Jamnagar and were carefully analyzed to find out the prevalence, risk factors, attributing to etiology of placenta previa, various clinical presentation, and type of placenta previas, intra operative finding, management, perinatal and maternal outcomes.

Inclusion criteria

- All cases of placenta previa diagnosed by clinical and ultra sonography admitted during the study period.
- Gestational age >28weeks

Exclusion criteria

- Gestational age <28 weeks
- Other causes of antepartum hemorrhage.

RESULTS

Table 1: Incidence of placenta previa according to maternal age.

Age	No.of cases(125)
<20 years	10
20-25 years	33
26-30years	65
>30 years	17

In our study 65 cases (52.0%) were found in the age group of 26-30 years and 33 cases (26.4%) were found in the age group of 20-25 years.

Table 2 : Incidence of placenta previa with respect to gravida.

Gravida	No.of cases(125)
Primi	22
Gravida 2	25
Gravida 3	42
Gravida 4	30
Gravida 5	06

In our study placenta previa was found in 42 cases (33.6%) in gravida 3 followed by gravida 4 in 30 cases (24%) and primigravida in about 22 cases(17.6%).

Table 3 : Incidence in relation to type of placenta previa.

Type of placenta previa	No.of cases(125)
Type 1(low lying)	28
Type 2 (Marginal)	35
Type 3 (incomplete)	47
Type 4 (complete)	15

Incomplete placenta (type 3) was most common type of placenta previa in 47 (37.6%) cases, followed by marginal (type2) 35 (28%) cases, central placenta previa was found in 15 (12%) cases and type 1 in 28 (22%) cases.

Table 4: Incidence of placenta previa with respect to period of gestation.

Period of gestation in week	No.of cases (125)
28-34	33
34-37	51
>38	41

Out of 125 cases, 51(40.8%) cases were present between 34- 37 weeks of gestation, 41(32.8%) cases were between >38 week of gestation, followed by 33 (26.4%) cases between 28-34 week of gestation.

Table 5 : Incidence of various type of presentation of placenta previa.

Type of presentation	No.cases(125)
Cephalic	71
Breech	24
Transverse lie	14
Oblique or unstable lie	16

Most common presentation was cephalic accounting for 71 cases(56.8%) followed by 24 (19.2%) cases of breech and 14 (11.2%) cases of transverse lie and 16 cases(12.8%) of unstable lie.

Table 6 : Relationship of mode of delivery in placenta previa.

Mode of delivery	No.cases(125)
FTVD	08
PTVD	22
LSCS	95

13 cases of type 1 placenta previa(low lying) of 30 and 32 week were delivered by spontaneous PTVD and 9 case of type 2 anterior with IUFD(intra uterine death) was delivered by vaginal route. 2 cases of type 1 low lying placenta previa delivered by spontaneous FTVD. 95 cases(76%) delivered by LSCS and majority by emergency LSCS as they present with Bleeding pre vaginal 64 (67.3%) cases and 31 (32.6%) cases were done by elective LSCS.

Table 7 : Incidence of birth weight in placenta previa

Birth weight	No.of cases (125)
<2 kg	21
2-2.5 kg	32
2.6-3 kg	46
>3 kg	26

Out of 125 cases 53 cases(42.4%) were of birthweight <2.5kg and 72 cases(57.6 %) were > 2.5kg.

Table 8: Relationship of maternal complication among placenta previa.

Atonic PPH	17
Hystrectomy	04
Hemorrhagic shock	05

Out of 125 cases atonic 17 (13.6%) cases had atonic PPH, 12 cases(16%)were major degree PPH which managed by medical and surgical (bilateral uterine artery ligation, intrauterine packing) 5 cases(6.6%) had minor degree PPH managed by medical measures and in 4 (3.2%) cases were complete placenta previa with morbidly adherent(placenta accreta) found and end up in cesarean hystrectomy.

Table 9 : No.of blood transfusion in cases of placenta previa

1 unit	20
2 units	24
3 units	19
4 units and more	12

All cases of placenta previa received blood transfusions and 12 (16%) cases received more than 4 units of blood followed by 19 (25.3%) cases requiring 3 units.

Table 10 : relation of prior LSCS with placenta pravia

No.of prior lscs	No.of cases (75)
1	32(42.6%)
2 or more	43(57.3%)

The incidence of placenta previa was higher in patients with prior C-sections. We found that 75 women had a history of previous C-sections. The percentage with one prior C-section was 42.6% (32 cases) and 57.3% (43 cases) with two or more prior C-sections. Of all these patients, four (8.0%) cases developed placenta accreta, 20 (40%) were transferred to the intensive care unit (ICU), almost all women needed blood transfusions, and only 4 (5.3%) underwent a cesarean hysterectomy.

DISCUSSIONThe present study was undertaken to evaluate the various types of placenta previa and its clinical presentation and fetomaternal outcome admitted during January 2016 to January 2021. The prevalence of placenta previa was 125 cases among 45,324 deliveries accounting for 0.27% which was similar to study by Kollmann M et al (0.3%). 75 cases were present before 30yrs which is similar to study by Kaur B (77%). Placenta previa was more commonly present among multiparous women (75.8%) which is similar to study conducted by faiz. Most common type was type 3 (37.6%) placenta previa in 47 followed by type 2 in 35 (28%) cases. 28 (22.0%) cases type 1 placenta pravia and 15 cases (12%) were of complete placenta previa which was similar to study conducted by Vaishali et al (11.7%). 41 cases (32.8%) were of term gestation and

86 cases(68.8 %) presented by preterm gestation. 30 cases (24 %) were delivered by vaginal route and 95 (76 %) were delivered by LSCS.

72 (57.6%) babies delivered were more than 2.5 kg and 53 (42.4%) babies were less than 2.5 kg. Out of 125 cases 17 (13.6%) had atonic PPH which is similar to study by Bhatt AD (19%). 24 cases were admitted to NICU due to preterm deliveries and there were 5 perinatal mortality. All cases of perinatal mortality were between 28 to 30 weeks weighing between 1-1.5kg associated with type 4 placenta previa in 3 cases and type 3 placenta previa in 2 cases. This correlates with the study conducted by Jain S.¹⁰

Several studies suggested that a previous history of C-section is the primary risk factor for developing placenta previa. Data show up to 37.5% increased risk due to previous history. In the present study, 75 out of 125 women (60 %) had a history of previous C-sections, a situation that can be explained by the fact that the endometrial cells located close to the scar are unable to differentiate properly resulting in a defective implantation mechanism. Interestingly, it has been reported that the rate of placenta previa increases proportionally with the history of previous C-sections, which is also consistent in our case

In a total of 125 patients with placenta previa, 4 of them developed placenta percreta. In this group, all women were older than 36 and had a history of more than one previous C-section. According to the literature, placenta previa is more common around age 30 years, which is in line with the data of the present study. Although, there is not any statistically difference between ultrasound and magnetic resonance imaging (MRI) for diagnosing placenta percreta, high risk cases should be carefully evaluated by MRI in order to determine the degree of the invasion to adjacent organs. It was suggested in the literature to use MRI imaging when the placenta is located in the posterior wall of the uterus [13,14]. In the evaluation of the related complications in our series, we reported that 17 cases were transferred to the ICU, almost all cases needed blood transfusions and 4 underwent hysterectomy due to placenta invasion into the bladder, which was confirmed by MRI. As far as the time of delivery is concerned, each case should be individualized depending on the patient's preferences and risks.

A planned preterm hysterectomy after 34 weeks where fetal lungs have matured is recommended, with the placenta being left in situ, to avoid massive bleeding in cases where invasion of the chorionic villi is prominent followed by single or multiple injection methotrexate and compare B HCG with baseline value and watch for spontaneous expulsion of remaining placenta and was satisfactory outcome noted in both hysterectomised patient in this study. [15]. There was no maternal mortality during the study period. However 2 patients with central placenta previa with morbidly adherent placenta (placenta accreta) had intractable atonic PPH not controlled by medical and conservative surgeries requiring cesarean hysterectomy.

CONCLUSION

All women around 30 years old, with one or more previous C-sections, anterior placenta and male fetus should be carefully monitored prenatally, as they may have a higher chance to acquire placenta previa and placenta accreta or percreta. It is necessary to consult the pregnant woman as soon as the pregnancy is confirmed. Early recognition and proper monitoring could minimize the possibility of a poor outcome. Considering a part of the findings of the current study managing a case of placenta previa during pregnancy poses a great challenge to every obstetrician in present day obstetrics due its increased risk of maternal and perinatal complication. Thus good antenatal care including more frequent antenatal check-ups, correction of anemia during antenatal period, anticipating the complications in consultation with senior obstetrician, educating the patient's regarding the complications like prematurity, need for blood transfusions and its products and rarely hysterectomy and taking the paediatrician help will definitely reduce the perinatal complications associated with it.

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