

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20191189>

Original Research Article

A prospective study of fetomaternal outcome in cases of placenta previa

Gunvant K. Kadikar¹, Mayur R. Gandhi², Rakesh R. Kapadia³

¹Department of Obstetrics and Gynecology, Government Medical College, Bhavnagar, Gujarat, India

²Department of Obstetrics and Gynecology, GMERS Medical College, Himatnagar, Gujarat, India

³Consultant Gynaecologist, Bhavnagar, Gujarat, India

Received: 03 February 2019

Accepted: 06 March 2019

***Correspondence:**

Dr. Mayur R. Gandhi,

E-mail: maydeep2008@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: The incidence of placenta previa ranges from 0.5-1% amongst hospital deliveries. Placenta previa is major cause of antepartum haemorrhage and is potentially devastating complication. Obstetric haemorrhage is most common cause for maternal and perinatal morbidity and mortality in India. This study aimed to determine frequency, type of placenta previa, risk factors and adverse fetomaternal outcomes of placenta previa.

Methods: This was a prospective study carried out in Department of Obstetrics and Gynaecology, Government Medical College and Sir-T hospital, Bhavnagar from July 2007 to July 2009 to analyze fetomaternal outcome in cases of placenta previa. All patients of placenta previa with gestational age > 28 weeks up to full term were included in the study. All cases were confirmed by Ultrasound examination. All cases were carefully analyzed to find out the incidence, type of placenta previa, its clinical presentation and its outcome in relation to mode of delivery, birth weight, maternal and perinatal morbidity.

Results: There was total 50 cases of placenta previa out of 5636 deliveries. The prevalence of placenta previa was 0.88% and was more commonly present among multiparous women (82%). Most common type was type IV placenta previa in 23 (46%) cases followed by type III in 11 (22%) cases. Out of 50 cases, 06 (12%) cases had atonic PPH and 02 (04%) cases underwent peripartum hysterectomy. Most common predisposing factors were age >35 years (04%), multiparity (50%), previous cesarean section (16%) and previous history of abortion (12%). All cases of perinatal mortality were between 28 to 30 weeks weighing between 1-1.5 kg. There was no maternal mortality in this study.

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

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

INTRODUCTION

Vaginal bleeding at any stage of pregnancy is alarming event. Obstetrics is bloody business.¹ Even though institutional delivery, availability of blood dramatically reduced maternal mortality rate, death from haemorrhage still remains a leading cause of maternal mortality. Placenta previa literally means afterbirth first. In placenta

previa, the placenta is located over or very near the internal os. The incidence of placenta previa has been recently estimated to be 0.5-1% of all pregnancies and this increase correlates to the elevated cesarean section rate.² Placenta previa is a major cause of maternal morbidity and mortality because of the associated massive antepartum and intrapartum haemorrhage.³ Risk factors are old age, multiparity, previous caesarean

section delivery, abortion, smoking, cocaine and male fetus.⁴ In placenta previa risk of postpartum haemorrhage is substantial which increases maternal morbidity and mortality.

Risk factors for massive haemorrhage and transfusion are old age, abortion, previous cesarean section, uterine myoma, increased BMI, increased neonatal weight and complete previa.⁵

Placenta previa is also associated with abnormal placentation and preterm delivery. History and number of previous cesarean delivery is important to have placenta previa and abnormal placentation in subsequent pregnancies.⁶

The need for the study is because Placenta previa is one of the major causes for antepartum haemorrhage and is responsible for increased maternal and perinatal morbidity and mortality. This study is conducted to know the frequency, type of placenta previa, risk factors, various clinical presentations and fetomaternal outcome in cases of placenta previa in a teaching hospital.

METHODS

This is a prospective study carried out in Department of Obstetrics and Gynaecology, Government Medical College and Sir-T hospital, Bhavnagar from July 2007 to July 2009 to analyses fetomaternal outcome in case of placenta previa. All patients of placenta previa with gestational age > 28 weeks up to full term were included in the study. All cases were confirmed by Ultrasound. All cases were carefully analyzed to find out the incidence, type of placenta previa, its clinical presentation and its outcome in relation to mode of delivery, birth weight, maternal and perinatal morbidity.

Inclusion criteria

- All patients admitted with placenta previa > 28 weeks up to the full-term pregnancy.
- Ultrasound confirmed diagnosis of placenta previa was done.

Exclusion criteria

- Pregnancy < 28 weeks gestation.
- Bleeding due to trauma.
- Bleeding due to abruption placenta.
- Mixed variety.

At the time of admission all patients were examined in detail.

RESULTS

In present study 50 cases of placenta previa were found out of total 5636 deliveries. During the study period incidence of placenta previa is 0.88% or 1:112 as our

hospital is a tertiary center and because of lack of facilities at rural area (Table 1).

Table 1: Incidence of placenta previa.

Period	Total no. of delivery	Cases of placenta previa	%	Ratio
July 2007- July 2008	2798	20	0.72	1:139
August 2008- August 2009	2838	30	1.05	1:94
Total	5636	50	0.88	1:112

In present study, 41 cases (82%) were multiparous followed by 09 cases (18%) were primipara. It shows that multiparity increases the risk of placenta previa (Table 2).

Table 2: Incidence of placenta previa in respect to parity.

Parity	Study group N=50	
	No.	%
Primipara	09	18
Para 2	18	36
Para 3	13	26
Para > 4	10	20
Total	50	100
Mean parity=2.58		

Out of 50 cases, 35 cases (70%) were between 28-36 weeks gestation whereas 15 cases (30%) were between 37-40 weeks of gestation. 70% cases were preterm in present study and prematurity is a major factor for increased perinatal morbidity and mortality in cases of placenta previa (Table 3).

Table 3: Gestational age at the time of admission.

Gestational age (weeks)	Study group N=50	
	No.	%
28-31	13	26
32-36	22	44
37-40	15	30
Total	50	100

Table 4: Severity of bleeding.

Amount	Study group N=50	
	No.	%
No	01	02
Mild	18	36
Moderate	15	30
Severe	16	32
Total	50	100

In present study, 16 cases (32%) presented with severe bleeding per vagina whereas 33 cases (66%) presented with mild to moderate bleeding per vagina which

increases both fetomaternal morbidity and mortality (Table 4).

Out of 50 cases, 25 cases (50%) were multiparous followed by 08 cases (16%) with previous cesarean section and 06 cases (12%) with previous history of abortion. This suggests that both multiparity and advanced age are aetiological factors in placenta previa. Probability of placenta previa increases 4-5 times in patients with previous cesarean section. Endometrial damage in previous history of abortion is a predisposing factor for placenta previa (Table 5).

Table 5: Conditions associated with placenta previa.

Conditions	Study group N=50	
	No.	%
Age >50 years	02	04
Multiparity	25	50
Previous LSCS	08	16
Previous H/O abortion	06	12
Previous H/O placenta previa	00	00
Twins gestation	00	00

Most common presentation was cephalic accounting for 38 cases (76%), followed by 07 cases (14%) of breech presentation and 05 cases (10%) of transverse lie. It shows that malpresentation is more common in cases of placenta previa (Table 6).

Table 6: Presentation in placenta previa.

Presentation	Study Group N=50	
	No.	%
Cephalic	38	76
Breech	07	14
Transverse	05	10
Total	50	100

Out of 50 cases, 38 cases (76%) had major degree placenta previa whereas 12 cases (24%) had minor degree of placenta previa (Table 7).

Table 7: Degree of placenta praevia.

Degree	Study group N=50	
	No.	%
I	05	10
II Anterior	07	14
II Posterior	04	08
III	11	22
IV	23	46
Total	50	100

45 cases (90%) were delivered by cesarean section whereas 05 cases (10%) were delivered by vaginal route. This shows that there is high incidence of cesarean section in cases of placenta previa (Table 8). Out of 38 cases of major degree placenta previa, 30 cases were

transfused more than 01 unit of blood whereas out of 12 cases of minor degree of placenta previa, 06 cases required more than 01 unit of blood.

Table 8: Mode of delivery.

Mode of delivery	Study group N=50		Other than placenta previa	
	No.	%	No.	%
LSCS	45	90	1090	19.51
Vaginal	05	10	4496	80.49
Total	50	100	5586	100

Maximum 06 units of blood were given to a patient of grade IV placenta previa, who was delivered by cesarean section developed atonic PPH and required obstetric hysterectomy (Table 9).

Table 9: Blood transfusion and type of placenta previa.

Degree	No. of cases	No. of units of blood		
		00	01	>01
I	05	03	00	02
II Anterior	07	01	02	04
II Posterior	04	00	03	01
III	11	00	02	09
IV	23	00	03	20

06 cases (12%) had PPH, 02 cases (04%) required obstetric hysterectomy due to intractable haemorrhage (Table 10).

Table 10: Maternal morbidity.

Morbidity	Study group N=50	
	No.	%
Post-partum haemorrhage	06	12
Obstetric hysterectomy	02	04
Wound gap	02	04
Post op fever	01	02
DIC due to PPH	01	02

35 cases (70%) had live birth followed by 11 cases (22%) had stillbirth and 04 cases (08%) had neonatal death. Out of 30%, total 8% of neonatal deaths were due to prematurity, birth asphyxia and septicemia (Table 11).

Table 11: Perinatal outcome.

Perinatal outcome	No. of cases	%
Live birth	35	70
Still birth	11	22
Neonatal death	04	08

Table 12 shows that perinatal mortality was high in study conducted by Das B.⁷ Table 13 shows that 27 (54%) babies were delivered before 37 weeks and out of them 14 (28%) were still birth and neonatal death which was

mostly because of prematurity, whereas 23 (46%) babies were delivered after 37 weeks and out of them only 1 (2%) was stillbirth (Table 13).

Table 12: Comparison of perinatal mortality.

Author	Year	%
Das B ⁷	1941-1970	34.3
Present study	2007-2009	30

Table 13: Perinatal outcome in relation to maturity.

Maturity (weeks)	Live birth (N=39)		Still birth and neonatal death (N=15)		Total (N=50)	
	No.	%	No.	%	No.	%
<37 Weeks	17	34	14	28	27	54
>37 Weeks	22	44	01	02	23	46
Total	39	78	15	30	50	100

Table 14 shows that perinatal outcome was better in cases of cesarean delivery (73.33% of live birth).

Table 14: Perinatal outcome and mode of delivery.

Mode of delivery	No. of babies born	Still birth	Neonatal Death	Total live birth	% of live birth
LSCS	45	08	04	33	73.33
Vaginal	05	03	00	02	40
Total	50	11	04	35	

DISCUSSION

The present study was carried out to know the incidence of placenta previa, to evaluate the various types of placenta previa and its clinical presentation and fetomaternal outcome in patients admitted during July 2007 to July 2009 in teaching hospital.

The prevalence of placenta previa was 50 cases among 5636 deliveries accounting for 0.88% which was similar to study by Das B (0.72%).⁷

In present study, mean age of patient was 26 years which was similar to the study by Richard Silver.⁸ Placenta previa was more commonly present among multiparous women (82%) which was similar to the study conducted by Faiz.⁴

In present study 70% patients were admitted before 37 weeks of gestation which is in agreement with study conducted by Bhaskar Rao.⁹

In present study abnormal presentations were present in 76% of patients which was similar to the study conducted by Bhaskar Rao.⁹ Major degree placenta previa was

present in 76% of patients in present study which was similar to the study conducted by Bhaskar Rao (69.5%).⁹

In present study 90% of patients were delivered by cesarean section which was 68.2% in study conducted by Bhaskar Rao as most of the patients in present study belongs to major degree placenta previa.⁹

Perinatal mortality was present in 30% of present study which was similar to the study conducted by Bhaskar Rao (34.3%).⁹

Out of 50 cases, 06 (12%) cases had PPH which was similar to the study by Bhatt AP (15%).¹⁰

CONCLUSION

Managing a case of placenta previa poses a great challenge to every obstetrician in present day obstetrics due to its increased risk of maternal and perinatal complications. Placenta previa has multifactorial etiology.

Regular antenatal check-ups with antenatal diagnosis of placenta previa, correction of anemia, timely referral and management at tertiary level equipped with blood and blood products, availability of senior obstetrician, NICU facility will definitely help in reducing the maternal and perinatal complications. Obstetric ICU/HDU facility will further help in better management of such cases.

Funding: No funding sources

Conflict of interest: None declared

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

REFERENCES

- Williams obstetrics study guide. Hoffman, Barbara L; Horsager, Robyn; Roberts, Scott, (Professor of Obstetrics and Gynecology). 24th edition. New York: McGraw-Hill Education, 2014.
- Crane JM, Van den Hof MC, Dodds L, Armson BA, Liston R. Maternal complications with placenta previa. Am J Perinatol. 2000;17(2):101-5.
- Sekiguchi A, Nakai A, Kawabata I, Hayashi M, Takeshita T. Type and location of placenta previa affect preterm delivery risk related to antepartum hemorrhage. Int J Med Sci. 2013; 0(12):1683-8.
- Faiz AS, Ananth CV. Etiology and risk factors for placenta previa: An overview and metaanalysis of observational studies. J Maternal Fetal Neonatal Med. 2003;13(3):175-90.
- Jang DG, We JS, Shin JU, Choi YJ, Ko HS. Maternal outcomes according to placental position in placenta previa. Int J Med Sci. 2011; 8(5):439-44.
- Nankali A, Keshavarzi F, Shajari A, Daeichin S. Frequency of placenta previa and maternal morbidity associated with previous cesarean delivery. Open J Obstet Gynecol. 2014;4(14):903.

7. Das B. Antepartum haemorrhage in three decades. *J Obstet Gynecol India.* 1975;25:636-7.
8. Silver R, Depp R, Sabbagha RE, Dooley SL, Socol ML, Tamura RK. Placenta previa: aggressive expectant management. *Am J Obstet Gynecol.* 1984;150(1):15-22.
9. Bhaskar RK, Manorama S, Maternal prognosis in placenta previa. *J Obstet Gynecol India.* 1975;25:642-46.
10. Bhatt AD, Meena A, Desai MR, Maternal and perinatal outcome in cases of placenta previa. *Int J of Sci and Res (IJSR).* 2014;3(1):299-301.

Cite this article as: Kadikar GK, Gandhi MR, Kapadia RR. A prospective study of fetomaternal outcome in cases of placenta previa. *Int J Reprod Contracept Obstet Gynecol* 2019;8:1403-7.