Original Research Paper

Volume-9 | Issue-3 | March-2019 | PRINT ISSN - 2249-555X

Gynecology

FETO MATERNAL OUTCOME IN PLACENTA PREVIA

Dr. A. Mamatha Senior Resident Of Obstetrics And Gynaecology, Kurnool Medical College, Kurnool.

Dr. G. Apuroopa* Junior Resident Of Obstetrics And Gynaecology, Kurnool Medical College, Kurnool.
*Corresponding Author

KEYWORDS :

INTRODUCTION

Placenta previa is defined as placenta that lies wholly or partially within the lower uterine segment of the uterus at or after 28 wks of gestation and before delivery of fetus.[1]The prevalence of placenta previa has been recently estimated to be approximately 0.5% of all pregnancies.[2] Clinically presents as painless, causeless, recurrent bleeding of variable amount. Routine ultrasound examination allows for diagnosis and timely management thus reducing the perinatal and maternal morbidity and mortality.

The major causes of maternal morbidity and mortality with placenta previa are hemorrhage (both antepartum and postpartum), pre-existing anaemia, sepsis, and morbidly adherent placenta.[3] A history of previous caesarean section and complete placenta previa increase maternal morbidity and mortality due to increased risk of massive hemorrhage, placenta accreta and chances of obstetric hysterectomy.[4,5] The reduced maternal mortality in recent years is mainly attributable to the increased availability of blood transfusion, effective antibiotic therapy and better understanding of management of shock and renal failure. These cases are to be managed only in centres where there are facilities for blood transfusion, immediate operative interventions, obstetric ICU and NICU facilities round the clock for good maternal and perinatal outcome.

Regular antenatal care with iron prophylaxis and correction of anaemia, routine second trimester scan, better referral system, transport and more hospitals with 24 hours blood bank facility are the need of the hour. The increased use of caesarean section preceded by expectant management has been universally adopted in cases of placenta previa, which has reduced maternal mortality to an acceptable minimum and fetal mortality to less than 4-8%.[3]

Placenta previa is one of the major causes for maternal and perinatal morbidity and mortality. This study is conducted to know the incidence, risk factors and feto maternal outcome in cases of placenta previa in a tertiary care centre.

AIM OF THE STUDY

1. To determine the incidence of placenta previa.
2. To study the risk factors for placenta previa.
3. To study maternal outcome.
4. To study fetal outcome.

PATIENTS AND METHODS

The present study was conducted in department of OBG, Government general hospital, from Aug 2016 to July 2017.It is a prospective study in which a total of 50 cases of placenta previa with antepartum hemorrhage were studied and maternal and fetal outcome was analysed.

Inclusion Criteria:

Pregnant women with painless vaginal bleeding diagnosed as placenta previa by ultrasonography and with gestational age more than 28 weeks were selected irrespective of their parity, type of placenta previa and fetal condition at admission.

Exclusion Criteria:

Patients with other causes of antepartum hemorrhage are excluded.

Methodology:

The Ethical Committee of the Hospital approved the study. Informed consent was taken from the patient attendants and the patient herself.

At admission, relevant history was taken, followed by general physical examination.

In the history, the details were collected regarding the age, parity, gestational age and also the gestational age at first bout of bleeding, number of previous bouts of warning hemorrhages. The amount of blood loss (number of diapers soaked, passage of clots) was assessed. Leading questions were put to identify risk factors for placenta previa.

On examination, a clinical note was made about the nutritional status, pallor, edema, signs and symptoms of shock.

Management of the cases was based on maternal hemodynamic status, presence or absence of uterine contractions, gestational age, fetal condition at time of admission.

Expectant line of management was initiated in those cases of placenta previa, both major and minor degree which are remote from term, hemodynamically stable and not in labour. Meanwhile, antenatal corticosteroids were administered when gestational age was less than 34 weeks and anaemia was corrected.

Onset of regular uterine contractions or two or more episodes of significant vaginal bleeding mandated emergency LSCS

All caesarean sections were lower segment caesarean section choice of type of anesthesia was left to the discretion of the attending anesthesiologist.In central placenta previa and anterior type of placenta previa, fetus was delivered by reaching beyond the lower edge of placenta to reach the membranes or by cutting through placenta. The babies were attended by neonatologist at birth. They all received due care and few required admission to NICU. 3 cases had PPH which was due to placental site bleeding controlled with multiple hemostatic sutures. 4 cases of placenta previa had intraoperative atonic PPH, which was controlled with vertical hemostatic suturing i.e., Haymans sutures.

Postpartum blood loss during vaginal deliveries was measured by collecting the blood into a tray, placed at the edge of delivery table. This collected blood was measured and bleeding was estimated as 1 gm of clots equivalent to 4 ml of blood loss. Intraoperatively, number of mops used was weighed. Here 1 gm was equivalent to 1 ml of blood loss. Anaemia was corrected with blood transfusion.

The feto maternal outcome, and complications were recorded in each case. Mother and baby reassessed at the time of discharge.

Analysis of maternal morbidity and mortality was done with respect to development of shock, severe anaemia, PPH, UTI, fever, LRTI, DIC, Wound infection, septicemia and maternal deaths.

For newborn, gestational age at delivery, APGAR score, birth weight, need for NICU admission, still birth, neonatal death are noted.

STATISTICALANALYSIS

The collected data was entered in Microsoft excel sheet and was

analysed by using SPSS (Statistical Package for Social Sciences) 20 version. They were presented as frequencies, mean and standard deviation.

Association between the variables were analysed by using chi-square test. P-value less than 0.05 was considered significant and less than 0.01 was as highly significant.

OBSERVATION AND RESULTS

The total number of deliveries in the study period, Aug 2016 to 2017 were 10,208, out of which 58 cases of placenta previa were observed, giving an incidence of 0.56%.

Total number of deliveries10,208
Total number of cases of placenta previa58
Incidence of placenta previa0.56%

Out of 58 cases of placenta previa enrolled, 8 cases were lost to follow up, Out of the remaining 50 cases, 21 cases had minor degree of placenta previa and 29 cases had major degree of placenta previa.

1) Out of 50 cases 20(40%) were booked,30(60%) were unbooked.
2) Majority are between age group 20-29(41), 8 women with age group 31-35., 1 women with age more than 35.

3) Placenta previa – Parity.

Parity	No. of cases (n=50)	Percentage
Primi	6	12
Multi (2-4)	41	82
Grand multi (≥5)	3	6

Mean parity= 2.7±1.15

4) Placenta Previa – Risk Factors

Risk factors	No. of cases	Percentage
Previous Caesarean section	12	24
Check curettage	8	16
Twin gestation	1	2

5) Placenta Previa - Hemodynamic status at admission

	Minor		Major		X^2 – value p-value
	No.	Percentage	No.	Percentage	
Patients in shock	1	4.8	6	20.7	X2 =1.414 P=0.234
Patients not in shock	20	95.2	23	79.3	

6) Placenta previa - Gestational age at first episode of bleeding

Gestational age(weeks)	No. of patients	Percentage
28-30 wks	9	18
30-34 wks	33	66
34-38 wks	8	16
38-40 wks	0	0

Mean gestational age at first episode of bleeding= 32.2±2.29 weeks

7) Placenta previa - Maternal Hemoglobin at Admission

Maternal Hemoglobin (gms%)	No. of patients	Percentage
≤7	8	16
7.1-10	40	80
10.1-10.9	2	4

Mean hemoglobin percent= 8.4±1.13 gms

8) Of 50 cases 21 cases are with minor degree placenta previa,29 cases are with major degree placenta previa.

9) Placenta previa - Management Protocol

Management	No.of cases	Percentage
Active	28	56
Expectant	22	44

10) Placenta previa - Mode of delivery

Mode of delivery	No. of cases	Percentage
Emergency caesarean	32	64
Elective caesarean	14	28
Vaginal	4	8

11) Placenta previa - Blood Transfusions

No. of Units	No. of patients
1	22
2	13
3	10
≥4	5

12) Placenta previa –Antenatal complications in the present study

Complications	No. of cases(n=50)	Percentage
Severe Anaemia	8	16
Malpresentations	6	12
IUFD	3	6

13) Placenta previa- Postoperative morbidity

Postoperative morbidity	No. of cases(n=50)	Percentage
Fever	4	8
UTI	4	8
LRTI	3	6
DIC	1	2
Wound infection	1	2
Septicemia	1	2

14) Placenta previa - Gestational age at first episode of bleeding and perinatal mortality

Gestational Age (wks)	No. of Patients	Perinatal mortality	Percentage
28-30 wks	9	7	78
30-34 wks	33	3	9
34-38 wks	8	-	-
38-40 wks	-	-	-

X^2= 18.708
p<0.001 (Highly significant)

15) Placenta previa - Correlation of maternal hemoglobin with perinatal outcome

Hb in grams	No. of Patients	Perinatal mortality	Percentage
≤7	8	5	63
7.1-10	40	5	13
10.1-10.9	2	0	-

X^2= 7.822
p=0.005 (significant)

16) Placenta previa – Correlation between degree of placenta previa and perinatal mortality

Type of placenta previa	Perinatal mortality		X^2 value p-value
	Number	Percentage	
Minor (N=21)	3	14	X2 value = 0.739 P=0.390
Major (N=29)	7	24	
Total	10	20	

There is no significant difference in occurrence of perinatal mortality in minor and major type of placenta previa. (p=0.390)

17) Placenta previa - Correlation of hemodynamic status at admission and perinatal mortality

	Minor type of placenta previa			Major type of placenta previa			Total	Perinatal mortality	%
	No	Perinatal mortality	%	No	Perinatal mortality	%			
Patients in shock	1	-	-	6	5	83	7	5	71
Patients not in shock	20	3	15	23	2	9	43	5	12

X^2 = 9.977
p=0.001 (significant)

18) Placenta previa - Correlation between gestational age at birth and perinatal mortality.

Gestational age(weeks)	No.of cases	Perinatal mortality	Percentage
28-33	16	7	43.8
34-36	22	2	9.5
37 & above	13	1	7.7
Total	50	10	20

X^2 = 8.312
p = 0.015 (significant)

19) Placenta previa - Correlation between birth weight and perinatal mortality

Birth Weight (Grams)	Total No.	Perinatal mortality	%
1000 – 1499	6	4	67
1500 – 2499	22	5	23
>2500	23	1	4

X2 = 11.96 p = 0.003 (significant)
Mean birth weight was 2.22±0.63 kilogram

20) Placenta previa - Causes of Perinatal mortality

Cause	Gestational age(weeks)			Total	Percentage
	28-33 (n=16)	34-36 (n=22)	37 & above (n=13)		
Prematurity (RDS)	4 (57.1%)			4	8
Prematurity (NEC)	2 (28.6%)			2	4
Prematurity (IVH)		1 (50%)		1	2
Asphyxia	1 (14.3%)	1 (50%)	1 (100%)	3	6
Total	7 (43.75%)	2 (9.1%)	1 (7.7%)	10	20

21) Placenta previa - Neonatal outcome in the live born fetuses

Neonatal Outcome	Term	Preterm	Total	Percentage
No. of neonates requiring routine care	12 (100%)	18 (50%)	30	59
No. of neonates requiring resuscitation	-	18 (50%)	18	35
No.of neonates requiring NICU admissions	-	14 (38.9%)	14	27
Expired within 7 days	-	7 (19.4%)	7	14
Recovered	-	7 (19.4%)	7	14

DISCUSSION

The present study is analysis of maternal and neonatal outcome in cases of placenta previa enrolled over a period of 1 yr from Aug 2016 to July 2017 at teritiary care hospital. This study comprises of 50 cases of placenta previa. The incidence of placenta previa in this study was 0.56%, which was similar to the studies conducted by Elizabeth Eliet Senkoro et al (2017)[5], sarojini et al (2016)[12], Lavanya Kumari et al (2014)[8] 0.6%, 0.6%, 0.6% respectively. The incidence in other studies were 1.3%, 1.5%, 1.3%, 1.8% and 2% conducted by Anand D Bhatt et al (2014)[7], Maimoona Hafeez et al (2014)[9], Rajendra Wakankar et a (2015)[10], Meenakshi Devamani et al (2016)[11] and Shruthi prasanth et al(2016)[13].

1) Incidence of placenta previa according to various studies

Name of Institute	Incidence (%)
Lavanya kumari et al(2014)[8]	0.6
Meenakshi Devarmani et al (2016)[11]	1.8
Sarojini et al (2016)[12]	0.6
Present Study	0.5

2) ANC status among various studies

Study		ANC Status	
		Booked (percentage)	Unbooked (percentage)
Lavanya kumari et al(2014)[8]	23	77	
Kiran trivedi et al(2017)[14]	23	77	
Present study	40	60	

3) Maternal age and placenta previa among various studies

Study	Age group 20-29years (percentage)
Lavanya kumari et al(2014)[8]	86
Meenakshi Devarmani et al(2016)[11]	70
Kiran trivedi et al(2017) [6]	85
Present Study	82

4) Parity and placenta previa among various studies

Study	Multipara (percentage)
Lavanya Kumari et al (2014)[8]	65.57
Meenakshi Devarmani et al(2016)[11]	80
Kiran trivedi et al(2017)[6]	73
Present Study	88

5) Previous LSCS and placenta previa among various studies

Study	Previous LSCS (percentage)
Lavanya kumari et al(2014) [8]	40
Meenakshi Devarmani et al (2016)[11]	12
Kiran trivedi et al(2017)[6]	39
Present study	24

6) Previous Check curettage and placenta previa among various studies

Study	Previous check curettage (percentage)
Lavanya kumari et al(2014)[8]	10
Meenakshi Devarmani et al (2016)[11]	18
Kiran trivedi et al(2017)[6]	11
Present study	16

7) Placenta previa and twin gestation among various studies

Study	Percentage of twin gestation
Savita Rani(2008) [6]	6
Anand D.Bhatt et al(2014) [7]	8
Meenakshi Devarmani et al(2016)[11]	2
Present study	2

8) Gestational age at first episode of bleeding among various studies

Study	Gestational age at first episode of bleeding
Lavanya kumari et al(2014)[8]	28-34 weeks (52%)
Meenakshi Devarmani et al(2016)[11]	30-34 weeks (72%)
Present study	30-34 weeks (66%)

9) Malpresentation and placenta previa among various studies

Study	Malpresentation (percentage)
Lavanya kumari et al(2014)[8]	18
Meenakshi Devarmani et al(2016)[11]	14
Present study	12

10) IUFD and placenta previa among various studies

Study	IUFD (Percentage)
Lavanya Kumari et al (2014)[8]	6.6
Meenakshi Devarmani et al (2016)[11]	22
Present study	6

11) PPH and placenta previa among various studies

Study	PPH(Percentage)
Lavanya Kumari et al (2014)[8]	28
Meenakshi Devarmani et al (2016)[11]	10
Kiran Trivedi et al (2017)[6]	31
Present study	14

12) Wound infection and placenta previa among various studies

Study	Wound infection(Percentage)
Maimoona Hafeez et al (2014)[9]	2.7
Kiran Trivedi et al (2017)[6]	7.4
Present study	2

13) Septicemia and placenta previa among various studies

Study	Septicemia(Percentage)
Maimoona Hafeez et al (2014)[9]	2.7
Meenakshi Devarmani et al (2016)[11]	6
Present study	2

14) NICU admissions among various studies

Study	NICU admissions (percentage)
Meenakshi Devarmani et al(2016)[11]	24

Kiran trivedi et al(2017)[6]	28
Present study	27

15) Perinatal mortality among various studies

Study	Perinatal Mortality(percentage)
Lavanya Kumari et al(2014)[8]	6.6
Meenakshi Devarmani et al (2016)[11]	28
Kiran trivedi et al(2017)[6]	19
Present study	20

CONCLUSION

The prevalence of placenta previa is rising with increasing caesarean section rate. All women with identifiable risk factors should be screened for placenta previa. In the present study, the incidence of placenta previa was 0.56% cases. The risk factors in the present study were, history of previous caesarean section which was noted in 24% cases, history of previous check curettage in 16% cases, twin gestation in 2% cases. The maternal mortality due to placenta previa in present study was nil but maternal morbidity was 34% which included antenatal, intranatal and/ or postnatal complications and anaemia worsened the clinical state of the patients. The perinatal mortality was 20% in the present study.

As the maternal and perinatal morbidity and mortality due to placenta previa is preventable, efforts should be made to bring down these rates. This can be achieved by judicious use of primary caesarean sections, better spacing in between pregnancies, limitation of family size, antenatal registration of all pregnant women, routine use of USG in pregnancy and early referral of high risk pregnant women to tertiary care centres where 24 hours blood banking services, multidisciplinary approach and neonatal backup are available, can prevent the maternal and perinatal morbidity and mortality associated with this condition. Awareness should be brought about in the urban slums and rural public to avail the facilities provided by the government.

These measures will definitely help in a better outcome for both mother and fetus in all high-risk pregnancies.

REFERENCES

1. Myerscough PR. Munrokerr's operative obstetrics. 10th Edition.
2. Bhide A,Thilanganathan B.Recent advances in the management of placenta previa.Curr Opin Obstet Gynecol.2004;16;447-451.
3. Ian Donald Practical Obstetric Problems seventh edition Antepartum haemorrhage BI publications 2015.
4. Mc Shane PM, Heyl PS. Epstein MF. Maternal and perinatal morbidity resulting from placenta previa Obstet Gynaecol 1985 Feb; 65 (2):176-82.
5. Crane JM, Vanden Hof MC, Dodds L, Armson BA, Liston R. Maternal complications with placenta previa. Amj Perinatal 2000; 17 (2) 101-5.
6. Savita Rani, Singhal, Nymphaea, Smitinanda. Maternal and perinatal outcome in APH. Intl J Obstet & Gynecol. 2008; 9(2).
7. Anand D.Bhatt,Aarti Meena,Malini R.Desai,et al.Maternal and perinatal outcome in cases of placenta previa.IJSR.Jan.2014;3(1):299-301.
8. Sarella L,Chinta A et al.A Study On maternal and perinatal outcome in Placenta Previa.SJAMS,2014;2(5A):1555-1558.
9. Hafeez M,Badar N,Akram N et al.Placenta Previa;Prevalence,Risk Factor and Outcome.PJMHS,Vol.8,No.1,JAN-MAR 2014.
10. Rajendra Wakankar et al.Maternal and Perinatal Outcome in Pregnancies Complicated by Placenta Previa.JEMDS 2015;Vol 4,Issue 46,June 08;Page:7986-7994.
11. Devarmani M,Tallur PS.Placenta previa;maternal and fetal outcome.JEMDS 2016;5(40):2477-2480.
12. Sarojini et al.Clinical study of placenta previa and it effect on maternal health and fetal outcome.ijrcog.2016 Oct;5(10):3496-3499
13. Prasanth S et al.Maternal and fetal outcome of placenta previa in a tertiary care institute:a prospective two year study.IJOGR 2016;3(3):274-278.
14. Trivedi K,Singh SB,Bhagat M,et al.Maternal and perinatal outcome in cae of placenta previa..JEMDS.2017;6(44):3411-3414.
15. Elizabeth Eliet Senkoro et al.Frequency,Risk factors and Adverse Fetomaternal Outcomes of Placenta Previa in Northern Tanazia. Journal of Pregnancy,vol 2017. http://doi.org/10.1155/2017/5936309.