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Original Research Article

Perinatal mortality of placenta previa: a 1-year retrospective study

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ABSTRACT

Background: Antepartum haemorrhage is one of the important causes of perinatal mortality and morbidity in India. The increased risk of perinatal morbidity and mortality in placenta praevia is due to preterm birth, low birth weight, birth asphyxia and neonatal sepsis. This is a retrospective study done over a period of 5years to determine the incidence, demographic features, risk factors, obstetric management, maternal mortality and morbidity, and perinatal outcome in women presenting with placenta praevia.
Methods: This was a retrospective study done at Nil Ratan Sircar Medical College and Hospital over a period of five years starting from January 2016 to December 2017. Antenatal women with more than 28 weeks of gestational age with a complaint of painless vaginal bleeding or those diagnosed as having placenta praevia on routine ultrasound examination were included in this study and hospitalised. Among them cases of placenta praevia were 21.
Results: There were21 cases of placenta praevia registered amounting to 0.23% incidence. The various antenatal complications seen associated with placenta praevia were severe anaemia (14.28%), coexisting PIH (4.76%), IUD (4.76%), IUGR/Oligohydraminos (4.76%). All the patients in the study had undergone caesarean deliveries. Perinatal morbidity studied as percentage of new-borns requiring resuscitation followed by NICU admission was 33.3%. Among the delivered patients of placenta praevia incidence of perinatal mortality was 23.8%. Prematurity (42.85%) contributed to most cases of perinatal mortality, followed by RDS (14.28%) and asphyxia (14.28%).
Conclusions: In this study placenta praevia is seen more commonly in 28-34 weeks of gestation and patients mainly presented with a bout of bleeding eventually had preterm deliveries. Although vaginal deliveries are appropriate in selected cases of placenta paevia liberal use of caesarean section in well-equipped hospitals with availability of blood transfusion services have helped to lower complications.

Keywords: Antepartum haemorrhage, Asphyxia, Perinatal mortality, Placenta praevia, Prematurity

INTRODUCTION

Placenta praevia is the localisation of a placenta in the lower segment of uterus, over or near the internal cervical os.[1] The reported incidence for placenta praevia is 1 case per 300-400 deliveries.[2] Antepartum haemorrhage complicates 3-5% of pregnancies and is a leading cause of perinatal and maternal mortality worldwide.[3] Risk factors include high parity, advancing maternal age, previous caesarean section and uterine surgery.[4]

Antepartum haemorrhage is one of the important causes of perinatal mortality and morbidity in India.[5] Placenta praevia is an abnormal placentation where the placenta is

situated in the lower uterine segment either covering the internal os or just touching it. It is one of the major causes of antepartum haemorrhage, complicating 2-5% of pregnancies.[6]

The increased risk of perinatal morbidity and mortality in placenta praevia is due to preterm birth, low birth weight, birth asphyxia and neonatal sepsis.

Risk factors of placenta praevia are advancing maternal age, multiparity, previous caesarean section, curettage for previous abortion, increased incidence of multiple pregnancies (with big placenta) because of increased ART.

The prevalence of placenta praevia has been rising in parallel with the increasing rate of caesarean delivery and it has become a serious public health problem worldwide.[7,8]

This is a retrospective study done over a period of 5years to determine the incidence, demographic features, risk factors, obstetric management, maternal mortality and morbidity, and perinatal outcome in women presenting with placenta praevia.

METHODS

This was a retrospective study done at Nil Ratan Sircar Medical College and Hospital over a period of five years starting from January 2016 to December 2017. Total number of deliveries was 8,776 during this period.

Inclusion criteria

- Antenatal women with more than 28 weeks of gestational age with a complaint of painless vaginal bleeding or those diagnosed as having placenta praevia on routing ultrasound examination were included in this study and hospitalized.

Among these cases the cases of placenta praevia were 21. Records of all those women who had caesarean deliveries for placenta praevia including both emergency and planned operations were reviewed and findings were noted.

RESULTS

There were a total of 8,776 deliveries from January 2016 to December 2017.

Among them 21 cases of placenta praevia were registered amounting to the incidence of 0.23%.

As mentioned in table 1 majority of the patients were unbooked (76.19%). Placenta praevia cases were highest in the age group 20-30 years (85.71%) in multiparous patients (76.19%).

Table 1: Demographic profile.

		Number of patients	Percentage
Booking status	Booked	5	23.8
	Unbooked	16	76.19
Age	19	2	9.52
	20-30	18	85.71
	31-40	1	4.76
Parity	Primigravida	5	23.80
	Multigravida	16	76.19

In Table 2 the most common gestational age at the time of presentation was 28-34 weeks (52.38%). In 66.66% of cases presenting symptom was antepartum haemorrhage.

Table2: Obstetric evaluation.

		No. of patients	%
Gestational age at the time of presentation	28-34 weeks	11	52.38
	35 weeks to term	10	47.61
Antepartum haemorrhage	Present	14	66.66
	Absent	7	33.33
Presentation of foetus	Cephalic	18	85.71
	Breech	2	9.52
	Transverse	1	4.76
Previous obstetric performance	Primigravida	7	33.33
	Vaginal delivery	5	23.80
	Caesarean delivery	7	33.33
	Abortion	2	9.52

In 85.71% patients the presenting part of the foetus was cephalic and the most common placental location by radio diagnosis or intraoperatively was type 2 (38.09%), according to table 3. The most common obstetric risk factor for placenta praevia was primigravida (33.33%) and previous caesarean deliveries (33.33%).

Table 3: Location of placenta by USG and intraoperative findings.

Types	Number	(%)
Type1	3	14.28
Type2	8	38.09
Type3	6	28.57
Type4	4	19.04

According to table 4 the various antenatal complications seen associated with placenta praevia were severe anaemia (14.28%), coexisting PIH (4.76%), IUD (4.76%), IUGR/Oligohydraminos (4.76%). All the patients in the study had undergone caesarean deliveries. Intraoperative complications seen were post-partum haemorrhage (23.8%) and shock/ Hypotension (4.76%).

Table 4: Antenatal, intraoperative and post-operative complications.

Complications		No. of patients	%
Antenatal	Severe anaemia	3	14.28
	Coexisting PIH	1	4.76
	IUD	1	4.76
	IUGR/ Oligohydraminos	1	4.76
Intraoperative and post-operative	Shock/ Hypotension	1	4.76
	PPH	5	23.8

There were no cases of associated gestational diabetes mellitus and complications such as sepsis, febrile morbidity, adherent placenta or acute kidney injury seen. There was no maternal mortality in this study.

Table 5 shows that perinatal morbidity studied as percentage of newborns requiring resuscitation followed by NICU admission was 33.3%. Among the delivered patients of placenta praevia incidence of perinatal mortality was 23.8%. Prematurity (42.85%) contributed to most cases of perinatal mortality, followed by RDS (14.28%) and asphyxia (14.28%). Perinatal deaths were observed more in 27.27% of 11 premature deliveries that took place in 28-34 weeks of gestation. New-born with weight above 2kg had very good survival rates, whereas with weight 1 kg had poor survival rates.

Table 5: Neonatal outcome.

Parameters		No. of patients	Percentage
NICU Admission		7	33.33
Neonatal mortality	Asphyxia	1	14.28
	Prematurity	3	42.85
	IVH	0	0
	RDS	1	14.28
	Total	5	23.80

DISCUSSION

The incidence was amounting to 0.23% which is similar to various other studies that shown incidence of placenta praevia to vary from 0.33% to 0.38%.[9,10] Most of the patients in this study (76.19%) are unbooked and include those patients who do not have regular antenatal check-ups and those that are referred. Increasing age and number of pregnancies have been shown to be an important risk factor for placenta praevia. This study had majority of patients in the age group 20-30 years (85.71%) and almost three fourths of the patients were multigravidas (76.91%) which is similar to the study done by Rajeshwari RR et al with 79.9% patients belonging to 20-30 years age group and 75% of patients as multigravidas.[11]

Regarding previous obstetric history, 33.33% had previous LSCS and 33.33% were primigravidae, 23.8% had previous vaginal deliveries while 9.52% had history of abortion. This is similar to study done by Lavanyakumari Sarella et al with risk factors such as previous LSCS (40%), primigravida (34.42%) previous vaginal deliveries (29.5%) and previous abortions (9.83%). Previous history of abortions have been significantly associated with up to three times risk of placenta praevia.[12] Majority of the patients were multigravidas (76.19%) as seen in study done by Lavanyakumari Sarella et al (65.57%) and Rajeshwari RR et al (75.5%).[12]

In this study placenta praevia is seen more commonly in 28-34 weeks of gestation (52.38%) which is similar to other studies.[12,13] Among them they mainly presented with a bout of bleeding (66.66%) followed by preterm delivery on several occasions.

Complications that occurred in the antenatal period such as severe anaemia (14.28%), pregnancy induced hypertension (4.76%), intrauterine death (4.76%), intrauterine growth retardation or oligohydraminos (4.76%) were similar to the study done by Rajeshwari RR et al with but the intraoperative and post-operative complications included only postpartum haemorrhage (23.8%), shock and hypotension (4.76%).[11]

Neonatal morbidity was significant in present study and more before 34 weeks of gestation as 33.33% patients required NICU admission. A population based retrospective cohort study among singleton mother-infant pairs (n=544,734) showed that the association between low birth weight and placenta praevia is chiefly due to preterm delivery and to a lesser extent because of foetal growth restriction.[6]

In present study perinatal mortality was 23.80% which was similar to the study done by S Singhal et al (23.7%) but less than the study done by Arora et al (61.5%) and Khosla et al (53.5%).[14,5,15]

CONCLUSION

Although placenta praevia cannot be prevented the extent of maternal and perinatal morbidity and mortality can be reduced by spacing pregnancies, limiting family size, antenatal registration of all pregnancies, routine ultrasonography in pregnancies and early referral of high-risk pregnancies to tertiary care centres. In this study majority of the patients were from rural areas and were unaware of the importance of antenatal visits. Advancing maternal age, multiparity, prior caesarean section, and prior abortions are independent risk factors for placenta praevia. An increase in the incidence of these risk factors probably contributes to a rise in the number of pregnancies complicated with placenta praevia.

In this study placenta praevia is seen more commonly in 28-34 weeks of gestation and patients mainly presented with a bout of bleeding eventually leading to preterm deliveries. Although vaginal deliveries are appropriate in selected cases of placenta praevia liberal use of caesarean section in well-equipped hospitals with availability of blood transfusion services have helped to lower complications.

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