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Original research article

Demographic characteristics, risk factors, maternal and foetal outcome in placenta praevia - a retrospective study

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Abstract

Background: Placenta praevia is associated with increased maternal and foetal mortality and morbidity.
Aim: This study aimed to analyse demographic factors, maternal and foetal outcome in placenta praevia.
Methods: This was a retrospective observational study conducted in the Department of Obstetrics and Gynaecology in our Government General Hospital from November 2019 to October 2021.
Results: The incidence of placenta praevia was 1.37% with majority (37.5%) of patients in age group of 25 to 29 years, 40.6% were gravida-2. Previous history of caesarean was noted in 92 cases (35.93%). Twenty eight patients (10.93%) required caesarean hysterectomy. Seven (2.7%) maternal deaths occurred and ninety six (37.5%) babies born required NICU admission.
Conclusion: Placenta praevia is associated with adverse maternal and foetal outcome necessitating delivery in a tertiary care hospital with availability of blood bank and NICU for better outcome.
Keywords: Placenta praevia, previous caesarean section, caesarean hysterectomy, maternal outcome

Introduction

Placenta praevia is defined as implantation of placenta in lower uterine segment overlying or approaching internal cervical os [1]. It constitutes around one third of all cases of antepartum haemorrhage [2]. Incidence of placenta praevia is increasing over previous decades with reported incidence in India ranging from 0.3 to 1.8% [3]. Placenta Praevia is associated with antepartum haemorrhage, increased incidence of operative interventions, postpartum haemorrhage leading to adverse maternal and foetal outcome [4].

In this study, we attempted to study the incidence of placenta praevia in patients who underwent caesarean delivery, identify risk factors, in order to ensure favourable maternal and foetal outcome.

Materials and methods

This was a retrospective study conducted in the Department of Obstetrics and Gynaecology in Government General Hospital, a tertiary care centre from November 2019 to October 2021.

Hospital records of antenatal women who underwent caesarean delivery for placenta praevia between the specified period were reviewed. Patients with placental lower margin below 2cm from internal os were considered minor and those with placenta covering internal os partially or completely were considered major placenta praevia.

Data on characteristics such as age, parity, gestational age at admission, history of previous caesarean section, history of abortions, type of placenta praevia, malpresentations, any other associated complications, surgical interventions like caesarean hysterectomy, ICU admissions and foetal outcome was collected.

Statistical analysis: Categorical variables were presented in numbers and percentage. Data was entered in MS EXCEL spreadsheet and analysis was done using SPSS version 21.0.

Results

There were 18563 deliveries during the study period of which 256 had placenta praevia, the incidence being 1.37 per 100 maternities. The demographic and obstetric characteristics collected are presented below.

Table 1: Demographic and obstetric characteristics

S. No.	Variable	Years	No of Patients	Percentage%
1	Age	<20 years	8	3.125

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		20-24 years	92	35.93
		25-29 years	96	37.5
		30-34 years	56	21.87
		>34 years	4	1.56
		Total	256	100
2	Parity	Primi	56	21.87
		G2	104	40.62
		G3	48	18.75
		>G3	48	18.75
		Total	256	100
3	Associated Risk Factors	Previous caesarean	92	35.93
		Previous abortion	44	17.18
		Previous hysterotomy	4	1.56
		Multiple gestation	8	3.125
		Mal presentations	36	14.06

Majority (37.5%) of patients belonged to age group of 25 to 29 years and 40.62% were gravid-2. History of caesarean delivery was noted in 35.93% and abortion history in 17.18%.

Table 2: Clinical Presentation and gestational age at caesarean section

	Gestational age at first episode of APH	**Number of Patients**	**Percentage**
1	28-32 weeks	48	18.75
	33-36 weeks	100	39.06
	37-38 weeks	96	37.5
	>38 weeks	4	1.5
	NO APH	8	3.125
2	Type of placenta Praevia	Number of Patients	Percentage
	Minor	140	54.68
	Major	116	45.31
3	Gestational age at caesarean section	Number of Patients	Percentage
	28-32 weeks	40	15.62
	33-36 weeks	80	31.25
	37-38 weeks	128	50
	>38 weeks	8	3.125

The gestational age at which maximum number of cases experienced first episode of antepartum haemorrhage was between 33 to 36 weeks. Eight (3.12%) patients did not have antepartum haemorrhage. Placenta praevia – major was noted in 45.31% of patients. Majority (50%) of patients had caesarean section at 37 to 38 weeks.

Table 3: Intra operative blood loss and no of units of blood required

S. no	**Volume**	**Number**	**Percentage%**
Blood Loss	1L to 2L	160	62.5
	2L to 3L	72	28.12
	>3L	24	9.37
No of units of blood required	1 unit	152	59.37
	2 units	76	29.6
	More than or equal to 3units	28	10.93

Almost all patients required blood transfusion. Majority (59.37%) of patients required atleast one unit blood transfusion. Massive blood transfusion was required in 10.93% of patients.

Table 4: Treatment modalities

Interventions	**Number**	**Percentage%**
Balloon tamponade	36	14.06
Internal iliac artery ligation	40	15.62
Caesarean hysterectomy	28	10.93

Postpartum haemorrhage was noted in 40.62% of patients. Caesarean hysterectomy was done in 28 patients (10.93%). Adherent placenta was noted in 15 (5.85%) patients. Twenty (7.81%) maternities required ICU admission. Seven (2.73%) maternal deaths occurred in our study.

Table 5: Foetal outcome

Birth weight (kg)	**n**	**Percentage%**
<1.5	28	10.93

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1.5 to 2.5	132	51.56
2.6 to 3	72	28.12
>3	24	9.37
Total	256	100
IUD	16	6.25
NICU	96	37.5
Preterm	112	43.75
Perinatal death	48	18.75

NICU admission was required for 96 (37.5%) babies, 43.75% were preterm and perinatal death was noted in 18.75%.

Discussion

Placenta praevia emerged as a major challenge to obstetricians over past years owing to its association with obstetric haemorrhage. In our study, the incidence of placenta praevia was 1.37%. Metaanalysis conducted by Cresswell JA *et al*., reported incidence of placenta praevia in Asian population as 1.2% which is similar to our study [5].

In our study maximum number of patients (37.5%) belonged to the age group of 25 to 30 years similar to 43.2% in study by Shakuntala PN *et al* [6].

Majority (40.62%) were gravida-2 in our study similar to study by kavita *et al* [7]. History of previous caesarean was an important risk factor seen in 35.93% in our study consistent with study by Shakuntala *et al* in which 37.8% had history of previous caesarean [6]. In our study, previous history of abortion was noted in 17.18% similar to 13.5% noted in study by Salim *et al* [8].

Major placenta praevia was noted in 45.31% in our study. In a study by Nojha *et al*, major placenta praevia constituted 35.7% of all placenta praevia cases [9].

Approximately 46.8% were sectioned before 36 weeks gestational age contributing to neonatal mortality and morbidity due to prematurity. Majority required at least one unit of blood transfusion.

Postpartum haemorrhage was noted in 40.62% patients which was similar to that noted in study by Shah PT *et al*., in which 44% had postpartum haemorrhage [10]. Adherent placenta was noted in 5.85% patients in our study which was similar to that noted in study by Sarojini K *et al*., in which adherent placenta was noted in 4.7% of patients [11]. Because of uncontrolled postpartum haemorrhage, 9.26% required caesarean hysterectomy in our study. Maternal mortality noted in our study was 2.73% which was similar to that noted in study by Kumari S *et al* [12]. In their study maternal death was noted in 2.85% of patients.

As majority were sectioned before 36 weeks, prematurity was observed in 43.75% babies with 37.5% babies requiring NICU admission. Neonatal morbidity in our study was mostly due to preterm delivery. Study by Ananth CV *et al*., showed that neonatal morbidity in placenta praevia was mostly due to preterm delivery [12]. This was also supported by study by Rosenberg T *et al* [13].

Conclusion

Patients with placenta praevia are at higher risk of obstetric haemorrhage, need for blood transfusion, prolonged hospital study, adverse maternal and foetal outcome. Increase in rate of caesarean sections in turn increasing risk of placenta praevia obviates the need of proper counselling to patients with placenta praevia stressing the importance of delivery at a tertiary care centre with blood bank, NICU, multidisciplinary team support to ensure good maternal and foetal outcome.

Conflict of Interest: None

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