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CLINICAL STUDY OF PLACENTA PREVIA AND ITS FETAL OUTCOME IN HNB BASE HOSPITAL, SRINAGAR, UTTARAKHAND

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ABSTRACT

Background: One of the important causes of maternal and perinatal mortality in obstetrics is placenta previa. There is a very high incidence of the condition in the hilly areas of the state of Uttarakhand, India. The main aim of our study is to determine the incidence, maternal and perinatal outcomes among women with placenta previa.

Methods: Ours is a retrospective study carried out in the Department of Obstetrics and Gynecology, of HNB Base Hospital, a tertiary care hospital in the Garhwal region of Uttarakhand from Jan. 2016 to Dec. 2019. Cases of placenta previa were analyzed with respect to their age, parity, gestational age, clinical presentation and their outcomes. The newborn's APGAR score, birth weight and any neonatal mortality were noted down.

Results: A total of 9864 patients delivered in HNB Base hospital during the above period out of which 156 patients were diagnosed with placenta previa giving an incidence of 1.6%. The highest incidence of 43.6% was seen in the age group of 25-30 years. The commonest type of placenta previa observed was type II at 32.7%. 25.6% cases had previous cesarean section. 41.7% babies had gestational age of 33-36 weeks. 9.6% early neonatal mortality was observed.

Conclusion: The independent risk factors for placenta previa are advancing maternal age, prior cesarean section and multiparity. Despite advances in medical sciences, placenta previa remains an important cause of maternal and neonatal morbidity. However it can be reduced by timely referral to tertiary care hospital and their appropriate management.

KEYWORDS : Placenta previa, Prior cesarean section, Postpartum hemorrhage, Maternal Morbidity.

INTRODUCTION

Placenta previa is a condition in which the placenta is situated wholly or partially in the lower uterine segment. It accounts for about one-third of all cases of antepartum hemorrhage. It is classified according to the degree of attachment of the placenta into four types- type I, type II, type III and type IV also known as lateral, marginal, incomplete central and central respectively.The most characteristic feature of placenta previa is vaginal bleeding which is of sudden onset, painless, apparently causeless and recurrent.

In about one-third of cases, there is a history of warning hemorrhage which is usually slight[1]. But the really dangerous hemorrhage is often the one that has been provoked by ill-advised obstetric interference such as digital examination of the cervical canal and uterus at, or very shortly after,the time of warning hemorrhage. Sometimes, a very profuse and fatal hemorrhage has resulted from laceration of a single large vessel.

The incidence of placenta previa is around one in three hundred deliveries[2]. Higher incidence of placenta previa is associated with higher parity, previous cesarean deliveries[3] and previous abortions[4]. Placenta previa and its degree are early diagnosed by transabdominal ultrasound although some radiologists prefer TVS for accurate localisation[5].

Expectant management is safe only if carried out in a well organized hospital with very competent medical and nursing staff who realize the gravity of their responsibility and who are capable of dealing with any reccurrence of hemorrhage[6]. A cesarean section for placenta previa is never an operation which should be delegated to an unsupervised inexperienced surgeon[7]. Nowadays, generally the lower segment approach is preferred for all types of placenta previas. Morbid adherent placenta associated with previous cesarean section is associated with higher incidence of peripartum hysterectomy. High mortality and morbidity in placenta previa is mainly due to hemorrhagic shock and so the cesarean section should be done by an experienced surgeon who is well versed with procedure like peripartum hysterectomy, B-lynch suture, uterine artery ligation and internal iliac artery ligation.

The aim of the present study is to evaluate the incidence, demographic features, obstetric risk factors and management, maternal mortality and morbidity of placenta previa and also to evaluate perinatal outcomes in case of placenta previa in our institution.

METHODS

Ours is a retrospective study conducted at H.N.B. Base Hospital under, VCSG Govt. Institute of Medical Science and Research, Srinagar (Garhwal), Uttarakhand from January 2016 to December 2018. Data were collected from local perinatal database and patients file from medical records department in this institute. All 156 women whose gestational age is greater than 28 weeks and who are diagnosed with placenta previa at admission and during cesarean delivery are included in the study. The age of the patient, parity, gestational age,clinical presentation, detailedhistory of present and previous pregnancies,and details of previous cesarean sections were noted from the case records.The type of placenta previa were recorded from the ultrasound reports attached to the files and from the details of operation notes.Any need for blood transfusion and route of delivery(abdominal or vaginal) were recorded.Any additional surgical procedures like B-lynch sutures,uterine artery ligation,peripartum hysterectomy etc. were recorded.Any development of hypovolemic shock,DIC,renal failure and septicemia were noted.

The newborn's APGAR score,birth weight,gestational age at

delivery,congenital anomalies and need for NICU(Neonatal intensive care unit) admissions were recorded from the case files.Any stillbirths and early neonatal deaths were noted.

Statistically Analysis Collected data were entered in Microsoft Excel and analyzed using software Statistical Package for Social Sciences (SPSS) version 21.0. Descriptive statistical measures such as percentage, frequency etc. were applied.

RESULTS

In the present study, data was conducted from HNB Base hospital Srinagar, Garhwal, Uttarakhand. During this period, there were 9864 deliveries out of which 156 (1.6%) were complicated with placenta previa.

Table 1: Age and parity distribution of placenta previa cases

Age Group	Number	Percentage
<20	14	9.0
20-25	40	25.6
25-30	68	43.6
30+	34	21.8
Parity		
Primi gravida	47	30.1
Multi gravida	104	66.7
Grandmulti gravida	5	3.2
Total	156	100

Table 1 shows age and parity distribution of placenta previa cases in this study. Incidence of placenta previa case were found maximum in the maternal age group 20- 30 years and minimum incidence was found in less than 20 years age group compared to a given age group distribution respectively. In parity distribution incidence of placenta previa was found maximum 66.7% in multi gravida group compared to primigravidas.

There were four types of placenta previa depending on location i.e either placental localization by ultrasound or previa noted during cesarean delivery (Table 2).

Table 2: Types of placenta by USG and intra operative finding

Category of Placenta	Anterior		Posterior		Total	
	Cases	Percentage	Cases	Percentage	Cases	Percentage
Type I	22	14.1	19	12.2	41	26.3
Type II	30	19.2	21	13.5	51	32.7
Type III	18	11.5	13	8.3	31	19.9
Type IV	33	21.2	-	-	33	21.2
Total	**103**	**66.0**	**53**	**34.0**	**156**	**100**

Type II placenta previa (32.7%) was commonest followed byType I(26.3%). There were 85(54.5%) cases of major degree placenta previa in the present study. 102 (65.3%) cases presented with bleeding per vagina and rest of 54 (34.7%) cases were diagnosed by prior ultrasound.

In our present study 33(21.1%) cases had previous cesarean section and 7 (4.5%) cases had two prior cesarean sections. 28(17.9%) cases had postpartum hemorrhage. 153(98.1%) patients needed blood transfusion out of which 52(33.3%) received more than one unit. 9 patients (5.8%) had adherent placenta.

In this study only 11(7%) patients had vaginal delivery most of which had minor degrees of placenta previa. Rest of the 145 cases(93%) were delivered by cesarean section.

Table 3: Distribution of additional surgical procedures to control bleeding

Types of Procedure	Cases	Percentage
B- lynch stitch	5	3.2
Emergency peripartum hysterectomy	11	7.1
Uterine artery ligation followed by hysterectomy	2	1.3
Uterine artery ligation	7	4.5

Table 3 shows that altogether 25 (16%) patients needed additional procedures to control hemorrhage out of which 11(7.1%) needed emergency peripartum hysterectomy. 2(1.3%) patients needed hysterectomy following uterine artery ligation.

Table 4: Distribution of neonatal outcomes

Gestational age (Maturity) weeks	Number	Percentage
28-32	34	21.8
33-36	65	41.7
37+	57	36.5
Birth weight in k.g		
< 1.5	35	22.4
1.5 - 2.4	51	32.7
2.5 - 3.4	66	42.3
3.5 +	4	2.6
Apgar score		
0 - 4	16	10.3
5 - 7	17	10.9
8 - 10	123	78.8
Total	156	100
Early neonatal death	15	9.6
Congenital anomaly	8	5.1
Nicu admission	58	37.1

34 (21.8%) patients were delivered before 32 weeks of gestational age, 65(41.7%) patients were delivered between 33-36 weeks and 57(36.5%) patients were delivered after the completion of 37 weeks of gestational age. Maximum number of babies were in the range of birth weight 2.5-3.4 kg.(42.3%). 35(22.4%) had very low birth weight(less than 1.5 kg). 33(21.1%) had apgar score less than 8. 15(9.6%) had early neonatal deaths and 8(5.1%) babies had congenital anomalies (Table 4)

DISCUSSION

One of the most feared complications of obstetrics is placenta previa. This is because of the relatively high association of placenta previa with maternal and perinatal mortality. Increasing age and parity are associated with placenta previa. In our study, nearly 30% of patients were over the age of 30 and 69.9% were multiparous. This was comparable with the study of Kocherginsky et al[8].

In our study 33 patients (22.1%) had prior cesarean births and 7 patients (4.1%) had previous two cesarean deliveries. 22 patients had history of dilatation and curettage. These findings correlate with a study of Ananth C[9] which was a metanalysis of placenta previa studies published between 1950 to 1996.

Around 48 cases (31%) were managed by Macafee and Johnson protocol which includes absolute bed rest, periodic blood investigation and fetal surveillance, especially in cases below 34 weeks pregnancy who were not actively bleeding in order to improve the lung maturity before delivery. A study by Corrine D et al[10] elaborated the benefits of this regime in decreasing perinatal mortality.

Only 11 patients had vaginal delivery in our series, mostly minor degrees of placenta previa (type I, typeII anterior) whereas the rest 145 patients had cesarean section, either elective (for major placenta previas diagnosed by ultrasound) or emergency cesarean section when patient presented in an

exsanguinated state. Our rate of cesarean section was slightly higher than the study by Bahar A et al[11]. Most of our cesarean section for anterior placenta previa was done by giving incision through the placenta rather than by the transecting method[12].

28 cases had postpartum haemorrhage of which 12 cases were managed by conservative surgical procedures like B-Lynch suture[13] (5 cases) and uterine artery ligation (12 cases). 11 cases underwent emergency peripartum hysterectomy, most of which had adherent placenta (accreta, increta or percreta). 153 patients had blood transfusion (95%) out of which 52 patients received more than one unit.

In our study , 98 cases delivered before 37 weeks (62.8%) out of which 34 cases were delivered before 32 weeks contributing to significant neonatal morbidity. 58 newborns had to be admitted to the neonatal intensive care units (37.1%). Apgar score was less than 7 in 32 newborns (20.5%). 35 babies had birthweight < 1.5kg (22.4%). Low birthweight was mostly due to prematurity except for a few cases of fetal growth retardation. These figures were comparable to a study by Ananth CV et al[14].

Progressive decrease in neonatal morbidity and mortality was seen with increasing gestational age in our study. This was obvious in several studies including an analysis by Rosenberg T[15]. Hence it makes sense to wait till 37 weeks to terminate cases of placenta previa who are not actively bleeding.

CONCLUSION

The incidence of placenta previa in our study was relatively higher than the incidence seen in most other studies .This may have something to do with the fact that our institute is situated in a hilly terrain and serves patients mainly from hilly districts of Pauri Garhwal,Tehri Garhwal,Rudraprayag and Chamoli. There was obvious relation of placenta previa to advancing maternal age, higher parity,prior cesarean sections and prior abortions. Placenta previa remains a dreaded complication despite advancements in medical science contributing to significant maternal and perinatal mortality and morbidity.Hence timely detection of placenta previa and its appropriate management is paramount.

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