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Original Research Article.

Outcome Analysis of Major Degree Placenta Praevia in Holy Family Red Crescent Medical College and Hospital (HFRCMCH), Dhaka, Bangladesh

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ABSTRACT

Background: Major degree placenta praevia is a serious health issue and is associated with high fetal-maternal morbidity and mortality. Especially the central placenta praevia is one of the most dangerous states in obstetrics.

Objective: The objective of the study is to investigate the outcome of central placenta praevia and to determine area of concern which requires maximum focus to decrease the incidence.

Materials and Methods: This cross sectional study was conducted over a period of two years (from January 2018 to December 2019) in the department of Obstetrics and Gynaecology at HFRCMCH, Dhaka, Bangladesh.

Results: A total numbers of 2479 antenatal patients had been examined in this study. Out of 2479 antenatal patient 1380(55.67%) were caesarean section delivery. Among them 53(2.14%) were suffering placenta praevia. Out of 53 placenta praevia, 47 were central placenta praevia. In percentage analysis it is 88.68%, which is too high. All the placenta praevia patients were delivered by caesarean section. 37 were delivered by elective caesarean section16 were delivered by emergency caesarean section. Among 16 emergency deliveries, 8 were due to Severe P/V bleeding and rest 8 for labour pain & fetal distress. Regarding the maternal outcome, no mortality occurred but 5 patients needed ICU care, 6 patients needed hysterectomy and 5 patients had bladder injury for which they needed bladder repair. Regarding the neonatal outcome, 16 babies needed NICU support. Among them 5 babies died.

Conclusion: Placenta praevia, especially central placenta praevia is a major cause of both maternal and fetal morbidity and mortality. If the patient has previous H/O caesarean section it becomes more serious. By observing the outcome of these patients in our hospital, we can also correlate it with other studies. By this way we can also take measure to decrease the incidence of maternal and fetal morbidity and mortality.

Keywords: Placenta Praevia, Central Placenta Praevia, Complications, Morbidity, Mortality.

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INTRODUCTION

Placenta praevia is a complication of pregnancy in which the organ that joins the mother with the fetus and transfers oxygen and nutrients to the fetus is implanted either near to or overlying internal os of the uterus (womb). Placenta praevia is found in approximately four out of every 1000 pregnancies beyond the 28th week of gestation. Placenta praevia complicates approximately 0.3–0.5% of pregnancies with no prior caesarean delivery.[1]

The risk of developing placenta praevia increases progressively with increase in a number of cesarean sections with ≥ 3 cesarean deliveries the chance of having praevia is 37%.[2] Other risks for placenta praevia include uterine surgery[3], increasing maternal age, high parity[4], multi-fetal gestation[5], smoking, and cocaine use.[6] Studies have shown that placenta praevia carries greater risks of surgical complications including caesarean hysterectomy

and massive haemorrhage requiring blood transfusion.[7,8] Surgical injury to the bladder, viscera, ureters and renal failure may occur.[9,10] Massive obstetrical haemorrhage in placenta praevia is associated with severe maternal morbidity and mortality worldwide which causes 30% maternal deaths in Asia.[11] There are several neonatal complications associated with placenta praevia that are often related to prematurity.[12] In high-income countries, haemorrhage from placenta praevia is not a major contributor to maternal mortality, whereas in low-income countries; it is still an important cause of maternal and neonatal morbidity and mortality. Many factors contribute to this increasing mortality including poor utilization of medical services, in addition to the unavailability of blood transfusion and delay in operative intervention due to logistical problems. To lower adverse outcomes of pregnancies complicated by placenta praevia demands an early action. To prevent serious haemorrhage of major degree placenta praevia, proper treatment should be undertaken, which is poorly existent in low-income countries. Furthermore, in these countries, there is a paucity of researches to generate clinical evidence. The aim of the present study is to determine the frequency and outcomes in women with major degree placenta praevia.

MATERIALS AND METHODS

Central placenta praevia was diagnosed when the placenta is covering the internal cervical os completely after 28 weeks gestation. The diagnosis of placenta praevia is based on ultrasonography and confirmed at cesarean delivery. Calculation of gestational age was determined by the last menstrual periods and first-trimester ultrasound. The hospital adopted the policy of admitting all patients with placenta praevia while awaiting fetal maturity or possible earlier intervention. At admission, each patient had at least 4 units of cross-matched blood ready for use. Patients who were admitted at or before 34 weeks of gestations should receive 6 mg of dexamethasone, each 12hourly for 48 hours.

The hospital policy for management of PP is an elective cesarean section at the completion of 37 weeks. Possible intervention before the presumed date is justified in cases with excessive bleeding and signs of labor. Age of antenatal mother & age of neonatal weight were recorded. The outcomes of interest were fetal and maternal complications. Maternal complications that were assessed included the cesarean hysterectomies, bowel and bladder injuries, number of units of blood to be transfused, length of hospital stay and wound infections. The reported fetal complications were fetal death, admission to NICU, and prematurity.

Statistical Study: The statistical package for the social sciences (SPSS Version 23 for Windows) has been used for data recording and statistical analysis. The descriptive analysis used included the mean, range, standard deviation, and frequency distribution.

Table 1: Antenatal Delivery Scenario (n=2479)

Variables	Frequency(n)	Percentage (%)
Caesarean Section Delivery	1380	55.67
Normal Vaginal Delivery	1099	44.33
Base	**2479**	**100.00**

Table 2: Placenta Praevia among total antenatal delivery mother (including caesarean section & normal vaginal delivery) (n=2479)

Variables	Frequency(n)	Percentage (%)
Non Placenta Praevia Among Total Antenatal Delivery	2426	97.86
Placenta Praevia	53	2.14
Base	2479	100

Table 3: Placenta Praevia Scenario among the Caesarean Section Delivery (n=1380)

Variables	Frequency(n)	Percentage (%)
Non Placenta Praevia Among Total Caesarean Section Delivery	1327	96.16
Placenta Praevia	53	3.84
Base	**1380**	**100**

Table 4: General findings of placenta praevia (n=53)

Variables	Frequency(n)	Percentage (%)	Mean- SD(±)
Age Mother	53		28.64(±5.13)
Gravida	53		2.83(±1.50)
Gestational age (wks)	53		35.04(±3.03)
Neonatal weight at delivery (kg)	53		2.41(±1.04)
VLBW	7	13.04	
LBW	28	52.17	
NBW	18	34.78	
Placenta Praevia	53	2.14	
Central Placenta Praevia	47	88.68	
Partial Placenta Praevia	4	7.55	
Marginal Placenta Praevia	2	3.77	

Table 5: Placenta Praevia Mother Associated with other Complications (n=53)

Variables	Frequency(n)	Percentage (%)
Severe P/V bleeding	8	15.09
Antepartum hemorrhage(APH)	8	15.09
Pregnancy induced hypertension(PIH)	6	11.32
Cervical fibroid	1	1.89
Respiratory tract infection(RTI)	1	1.89
Breach presentation	1	1.89
Hypothyroidism	1	1.89
Mild Oligohydramnios	1	1.89
Severe Oligohydramnios	1	1.89
Rupture lower segment	1	1.89
Pre-eclampsia	1	1.89

Table 6: Major Maternal Complications of Antenatal Deliveries (n=53)

Variables	Frequency(n)	Percentage (%)
Post-partum hemorrhage(PPH)	8	15.09
Caesarean hysterectomy	6	11.32
Bladder injury	5	9.50
Morbidity(ICU)	5	9.50
Mortality	Nil	0.00

Table- 7: Major Complications of Neonatal (n=53)

Variables	Frequency(n)	Percentage (%)
Preterm (PT)	37	70.0
Critical condition	18	33.3
Mortality	5	10.4
Intrauterine growth restriction(IUGR)	2	3.77

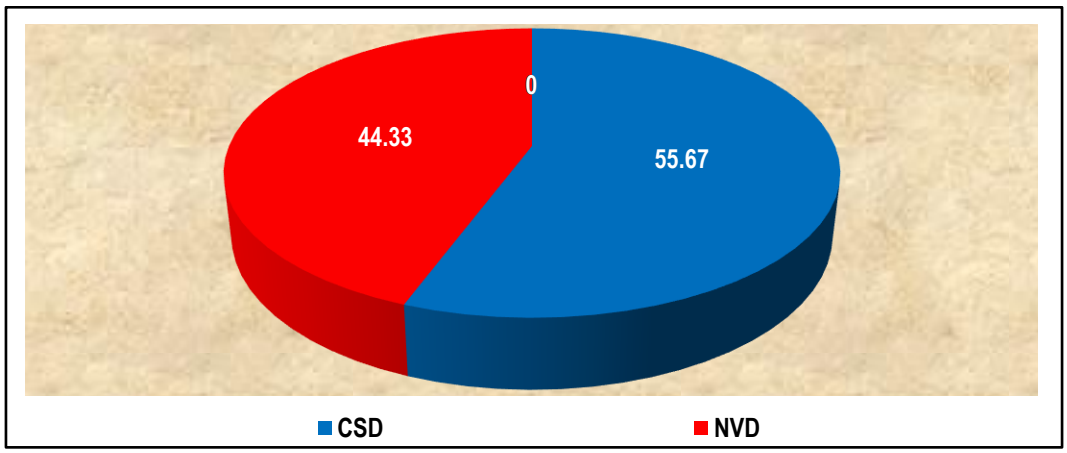

Figure 1: Antenatal Delivery Scenario.
CSD= Caesarean Section Delivery, NVD= Normal Vaginal Delivery

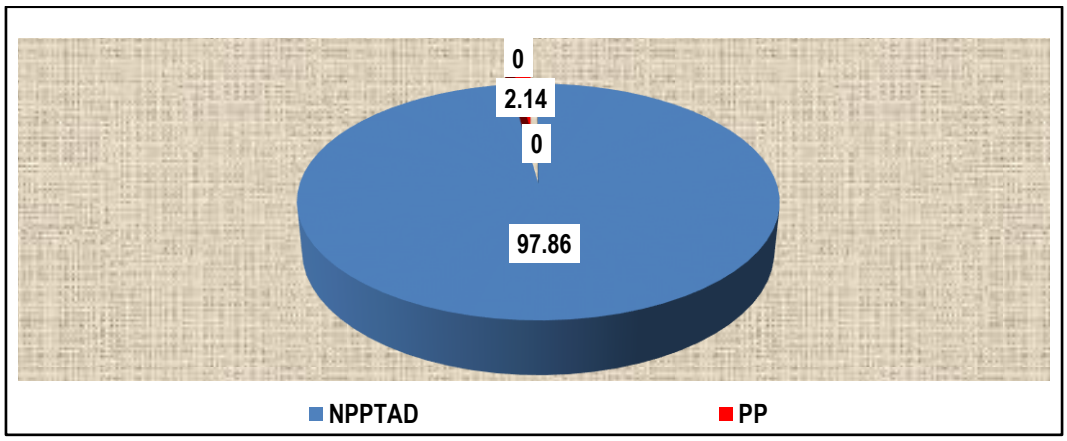

Figure 2: Incidence of Placenta Praevia among total Antenatal Delivery
NPPATD= Non Placenta Praevia among Total Antenatal Delivery, PP= Placenta Praevia

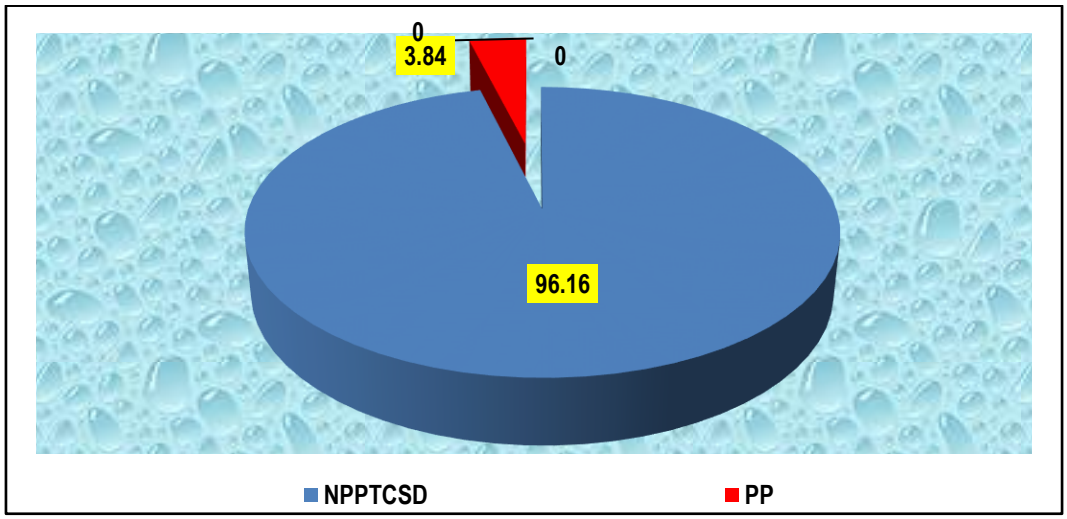

Figure 3: Incidence Placenta Praevia among total Antenatal Caesarean Section Delivery

NPPTCSD= Non Placenta Praevia among Total Caesarean Section Delivery, PP= Placenta Praevia

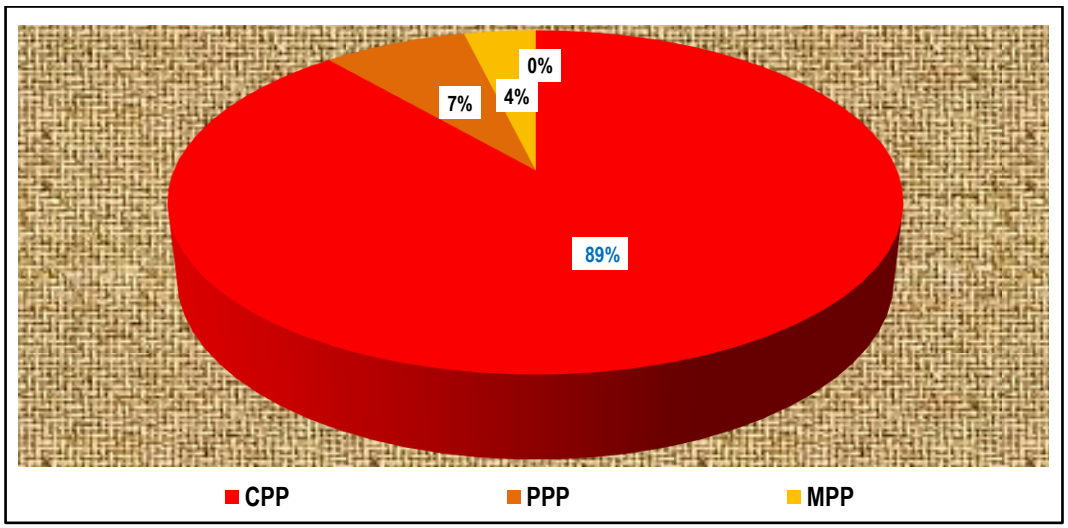

Figure 4: Classification of Placenta Praevia

CPP = Central Placenta Praevia, PPP= Partial Placenta Praevia, MPP = Marginal Placenta Praevia

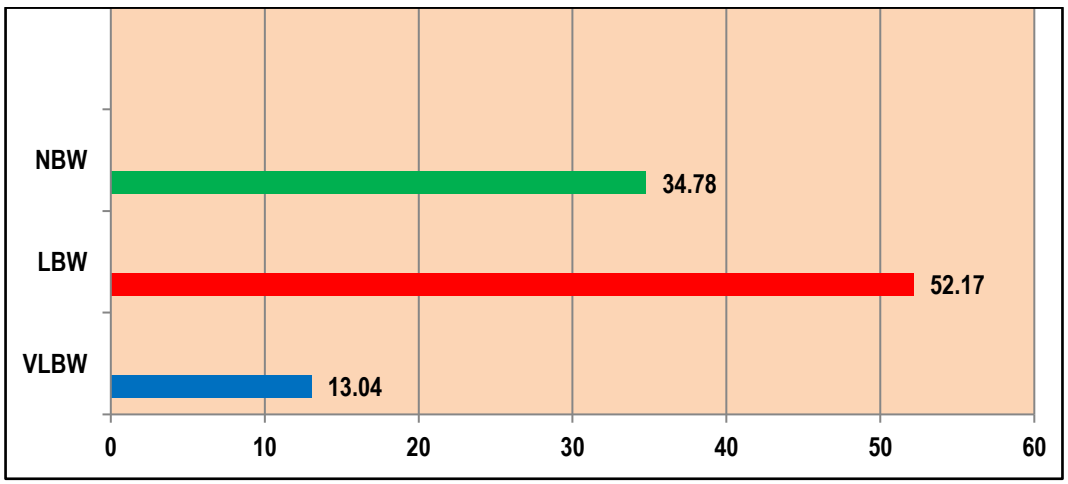

Figure 5: Neonatal Weight (kg)

NBW= Normal Birth Weight, LBW= Low Birth Weight, VLBW=Very Low Birth Weight

RESULTS

In Table-1 shown: Out of total 2479 antenatal delivery mother, 55.67% were caesarean section delivery (CSD) & 44.33% were normal vaginal delivery (NVD). In Table-2 shown: Out of total 2479 antenatal delivery mother, 97.86% were non placenta praevia of total antenatal delivery (NPPTAD) & 2.14% were placenta praevia (PP). In Table-3 shown: Out of total 1380caesarean section delivery 96.16% were non placenta praevia and 3.84% were due to placenta praevia.

In Table-4 shown: Out of 53 placenta praevia mother, mean and standard deviation of age were 28.64(±5.13), gravida 2.83 (±1.50), Gestational age at delivery 35.04 (±3.03) and neonatal weight were 2.41 (±1.04). Low Birth Weight (LBW) of the neonatal babies was highest 52.17%, following Normal Birth Weight (NBW) 34.78% and Very Low Birth Weight (VLBW) 13.04%. Total 1380 caesarean section 53 (2.14%) mothers were placenta praevia. In the classification of placenta praevia, 47 (88.68%) were central placenta praevia CPP), 4 (7.55%) were partial placenta praevia (PPP) and only 2 (3.77%) were marginal (MPP). In Table-5 shown: Severe P/V bleeding 8 (15.09%), antepartum hemorrhage were 8 (15.09%), pregnancy induced hypertension 6 (11.32%).

In Table-6 shown: Post-partum hemorrhage (PPH) 8 (15.09%), caesarean hysterectomy 6 (11.32%), bladder injury 5 (9.5%), morbidity (ICU) 5 (9.4%) and finally mortality rate were nil (0.00%).

In Table-7 shown: that, preterm delivery was 37 (70.0%) critical condition 18 (33.3%), mortality rate were 5 (10.4%) and intrauterine growth restriction (IUGR) 2 (3.77%).

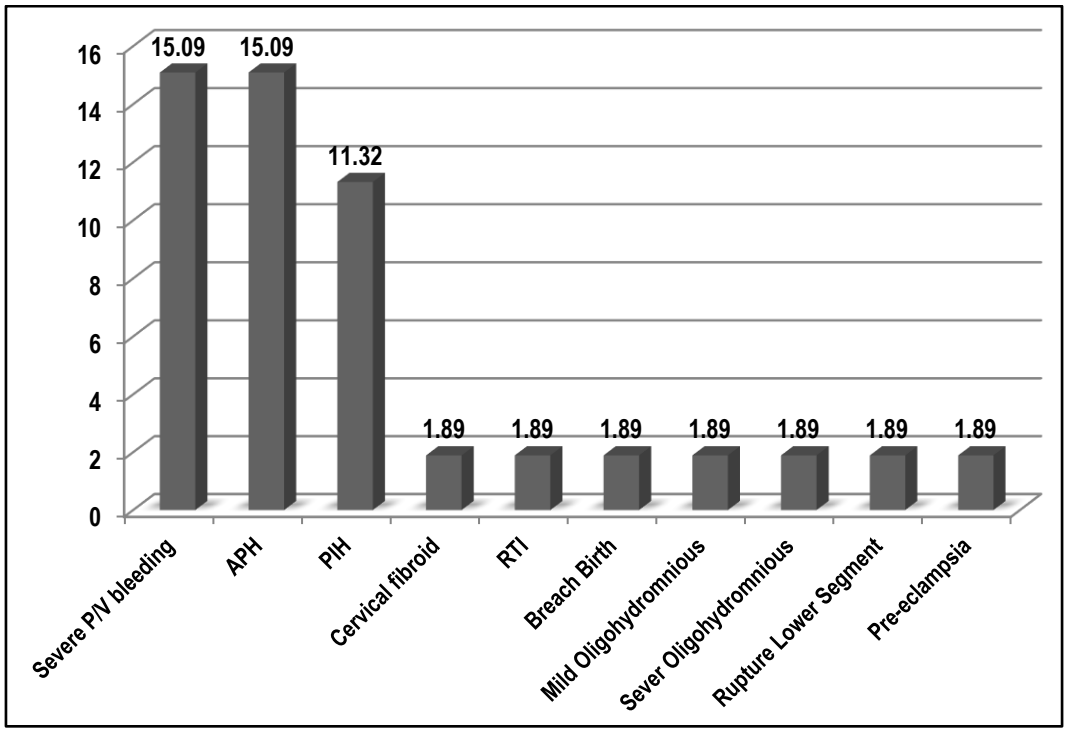

Figure 6: Associated Complications of Placenta Praevia Mother

APH= Antepartum hemorrhage, PIH= Pregnancy induced hypertension, IUGR=Intrauterine growth restriction, RTI= Respiratory tract infection

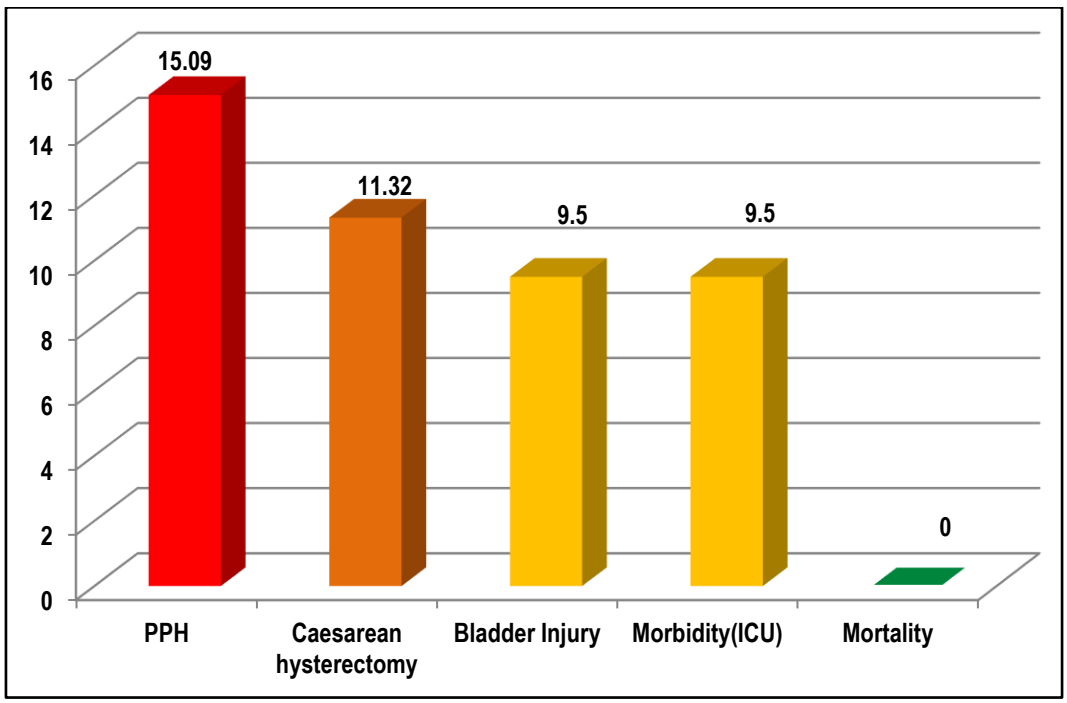

Figure 7: Major Maternal Complications of Antenatal Mothers

PPH= Post-partum hemorrhage

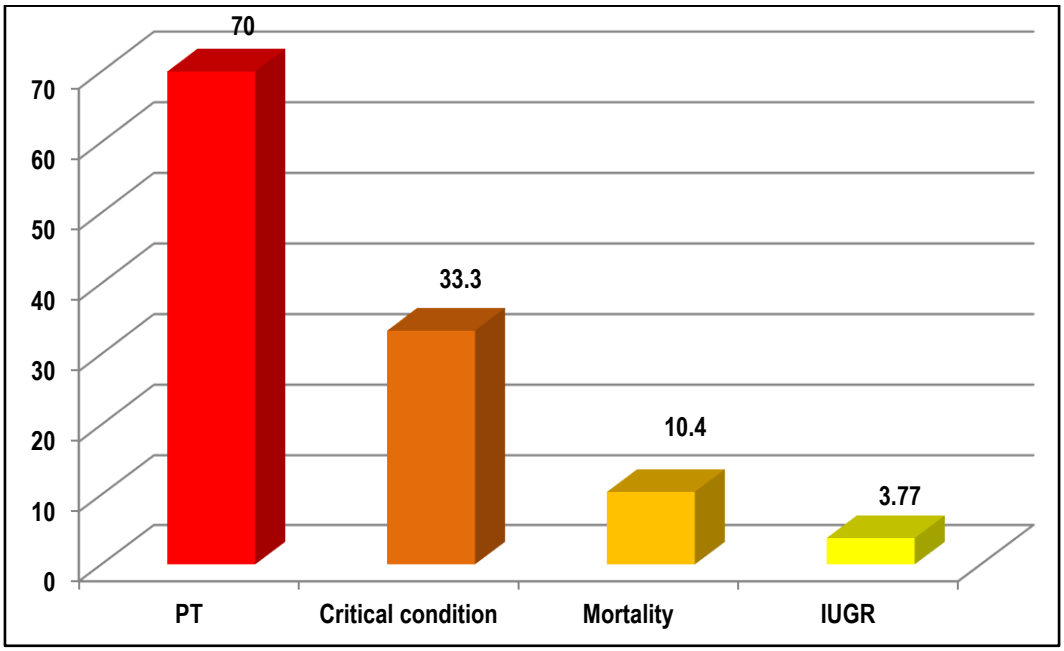

Figure 8: Major Neonatal Complications of Antenatal Mothers
PT= Preterm, IURG=Intrauterine growth restriction

DISCUSSION

The rate of placenta praevia in this study was 2.14%. The prevalence of PP complicated approximately 0.3%-0.5% of pregnancies.[13] In a large population-based study, the prevalence of PP was reported as low as 0.28 %.[14] A systematic review showed that the prevalence of PP is influenced by numbers of previous cesarean scars, with a rate of 1%, 2.8%, and 3.7% after 1, 3 and 5 cesarean deliveries respectively.[2] In this study, the rate of PP is 2.14% which is comparable to a 1.1% rate in a regional study from Cameroon.[15] This increasing rate of PP indicates that the incidence is on the rise due to changing trends in risk factors especially increasing maternal age and number of cesarean deliveries. A meta-analysis study showed that the rate of PP is influenced by regional variation being higher among Asian countries 1.22% and lower among Europe (0.36%), North America (0.29%) and Sub Saharan Africa (0.27%).[16] There was a 15.1% rate of hysterectomies to control massive haemorrhage. There were 9.5% bladder injury patients, morbidity (ICU) was 9.3% & mortality rate is "Zero". In the present study, we found the neonatal mortality rate was 10.4%.This was probably, due to pre maturity and already some fetuses were in distress inutero. The reasons behind the effect of placenta praevia on neonatal growth remain a matter of much debate among scientists; some argue that placenta praevia is not an independent risk factor for impaired neonatal growth and no significant difference in birth weight in neonates born to mothers with placenta praevia and those delivered to normal placenta locations.[17, 18]

CONCLUSION

Placenta praevia, especially central placenta praevia is a major cause of both maternal and fetal morbidity and mortality. If the patient has a previous H/O caesarean section it becomes more serious. By observing the outcome of these patients in our hospital, we can also correlate it with other studies. In this way we can also take measure to decrease the incidence of maternal and fetal morbidity and mortality.

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