



Original Article

Pregnancy Outcome in Patients with Placenta Praevia with Delayed Child Bearing Age

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Abstract

This is a hospital-based cross sectional descriptive study was carried out during January 2015 to June 2015 in the Department of Obstetrics and Gynaecology of Rajshahi Medical College Hospital to determine pregnancy outcome in placenta praevia cases with delayed child bearing age.

Total 8107 patients were admitted during the study period and among them 82 patients were diagnosed as placenta praevia. Patients were categorized into two groups as above 35 years & below 35 years and relationship between advanced maternal age and placenta praevia was seen. Socio-demographic condition, clinical condition, course of management, maternal and perinatal outcome were observed and recorded.

Proportion of placenta praevia was 1.01% during the study time. Among 82 patients of placenta praevia, 25 were advanced maternal age group (30.49%). Prevalence of placenta praevia in advanced maternal age group in comparison to below 35 years among total admitted patient was seen 9.73% and 0.73% respectively. So, incidence is more in advanced maternal age group which is statistically significant ($p < 0.05$). Most of the patients of placenta praevia came from middle class family 42(51.21%) and most women were multi gravida 75(91.5%). 42.68% patient had history of caesarean section and 47.56% patients had history of menstrual regulation (MR), abortion & dilatation, evacuation & curettage (DE & C). Major placenta praevia was more in advanced maternal age group (64%) which is statistically significant (< 0.05) and mode of delivery was caesarean section 62(75.60%). Maternal and perinatal complications were more in advanced maternal age group. Maternal mortality rate 9(10.97%) and perinatal mortality rate 14(17.07%).

Advanced maternal age has a relation with placenta praevia and associated with more adverse maternal and perinatal outcome. So, pregnancy in advanced age should be considered as a risk factor for developing placenta praevia.

Key words: placenta praevia, advanced maternal age.

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Introduction

Around the world, each year approximately, half a million women die from pregnancy related causes, 99% of them occurring in the developing countries.¹ 70-80% of all maternal deaths resulting

from complication of pregnancy and they include haemorrhage, toxemia of pregnancy, obstructed labour, rupture uterus, sepsis and induced abortion.²

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Placenta praevia is a major cause of third trimester haemorrhage. It is defined as placenta lying entirely or in part in the lower uterine segment. Placenta praevia complicates about 0.2- 2% of all deliveries³ and accounting for significant maternal and perinatal morbidity and mortality.^{4,5} Its prevalence in Asian has been shown to be significantly higher than other races and ethnicities.⁶

The etiology of placenta praevia is sometimes unclear.⁷ There are several factors, especially obstetrical which has been found to be associated with placenta praevia. These are- advanced maternal age, multiparity, previous caesarean delivery, multiple gestation and smoking during pregnancy.^{7,8} Other known risk factors are previous abortions, uterine curettage, smoking and previous history of placenta praevia have all been attributed as risk factors for placenta praevia.^{9,10} Advanced maternal age is defined as age 35 years and above at estimated date of delivery.¹¹ From the year 1970 to 2007, live birth among women with advanced maternal age in United States have increased from 5% to approximately 15%.^{12,13} Effective birth control, advances in assisted reproductive technology (ART), delayed marriage, increasing rates of divorce followed by remarriage and women's pursuit of higher education and career advancement all contribute to this trend.¹⁴

However in developing country like Bangladesh, pregnancy at advance age is mostly due to lack of knowledge and interest in family planning methods, eagerness for a male child and in small number of cases due to carrier choice or infertilities.¹⁵

It has been widely documented that advanced maternal age confers risk to both mother and child's health. A mother with advanced age is higher risk of developing certain complications during pregnancy such as gestational diabetes, pre eclampsia, placental abruption, placenta praevia, preterm labour, malpresentation and caesarean delivery.¹⁶⁻¹⁸ Placenta praevia is most life threatening condition of them. As the number of advanced maternal age pregnancy continues to

grow, so I want to find out the association of maternal age with placenta praevia in our settings.

Materials and Methods

This cross sectional descriptive study was carried out in the Department of Obstetrics and Gynaecology of Rajshahi Medical College Hospital from January 2015 to June 2015. During this study period women with placenta praevia after 28 weeks of gestation were selected for study.

APH other than placenta praevia were excluded. Patients were informed about the purpose and procedure of the study and verbal consent was taken. Detailed history including age, parity, period of gestation, last menstrual period, previous caesarean section, miscarriage, smoking and vaginal bleeding were recorded.

General physical examination and per abdominal examination was done. Regarding pelvic examination, only inspection of vulva, vagina and perineum for assessment of bleeding was performed. Diagnosis of placenta praevia was established by transabdominal ultrasonographic imaging. Furthermore, the diagnosis was confirmed by direct inspection of placental location at the time of caesarean section or in the rare cases of vaginal delivery by palpating the edge of placenta adjacent to the internal cervical orifice in the presence of complete cervical dilatation by double set up examination at OT.

To find out the relation of placenta praevia with advanced maternal age, I collect total number of admitted patients in antenatal ward from hospital records. Then we divided them into two age groups as above ≥ 35 years and below 35 years.

Total collected placenta praevia patients sample was also divided into two these age groups and relation of maternal age with placenta praevia was seen. Pregnancy outcome of placenta praevia patients was also determined. Data was collected of all placenta praevia patients irrespective of parity in a pre-designed questionnaire.

Results

During the study period 8107 patients were admitted in obstetric ward in RMCH, Rajshahi. Among them, there were 82 patients of placenta praevia. So, rate of placenta praevia was 1.01%.

Table 1: Proportion of placenta praevia cases during the study period

Total no of admitted patients	No. of placenta praevia patients	Percentage
8107	82	1.01

Incidence of placenta praevia was more in advanced maternal age group than below 35 years age group which was 9.73% and 0.73% respectively. The difference was statistically significant ($p < 0.05$)

Table 2: Relationship between maternal age and placenta praevia

Age	Total no of Admitted patient (n=8107)	Patient of placenta praevia(n=82)	Percentage	X ² value	P value
<35 years	7850	57	0.73	202.6	<0.05
>35 years	257	25	9.73		

Out of 82 patients, 42(51.21%) patients were in middle socio-economic group; 27(32.93%) were from low socio-economic group and 13(15.85%) were in upper socio-economic group.

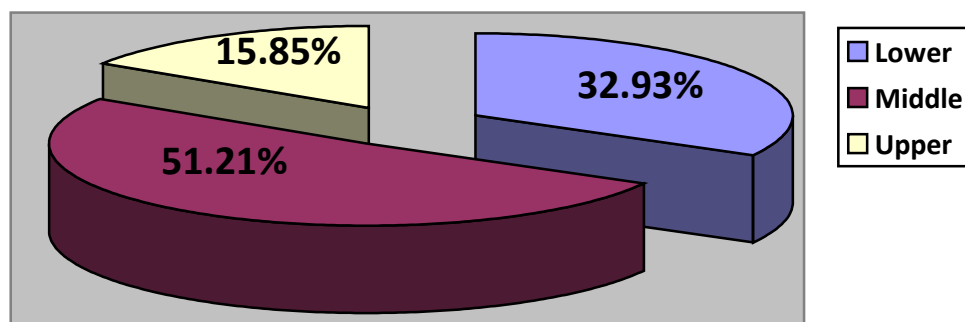


Fig 1: Pie Diagram showing Socio-economic status of the patients (n=82)

In this study, most of the patients were multigravida 75(91.5%); Only 7(8.5%) were primi gravida.

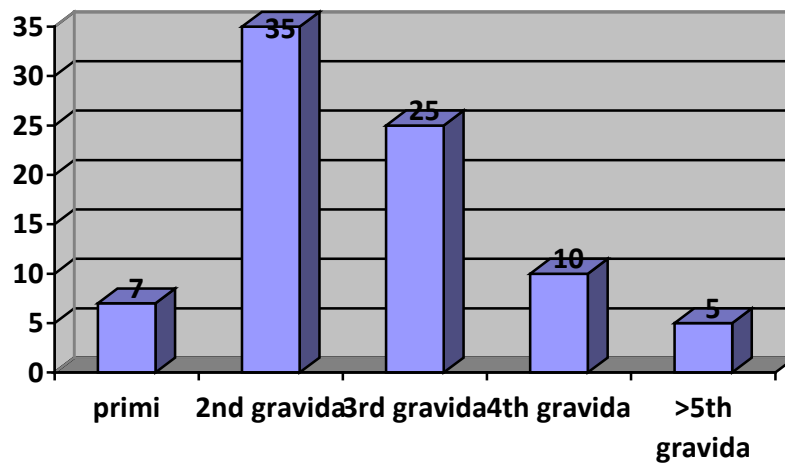


Fig 2: Bar diagram showing relationship between placenta praevia and gravida of patients (n=82)

In this study, 74 (90.24%) patients out of 82 were associated with different risk factors. Among them 47.56% were associated with H/O abortion (spontaneous or induced), M/R & D, E & C; 42.68% were associated with H/O caesarean section and 91.46% were associated with multigravida, 30.49% were associated with advanced maternal age. In this study, in 8 cases (9.76 %) no risk factors could be identified.

Table 3: Clinical and social factors related to placenta praevia (n=82)

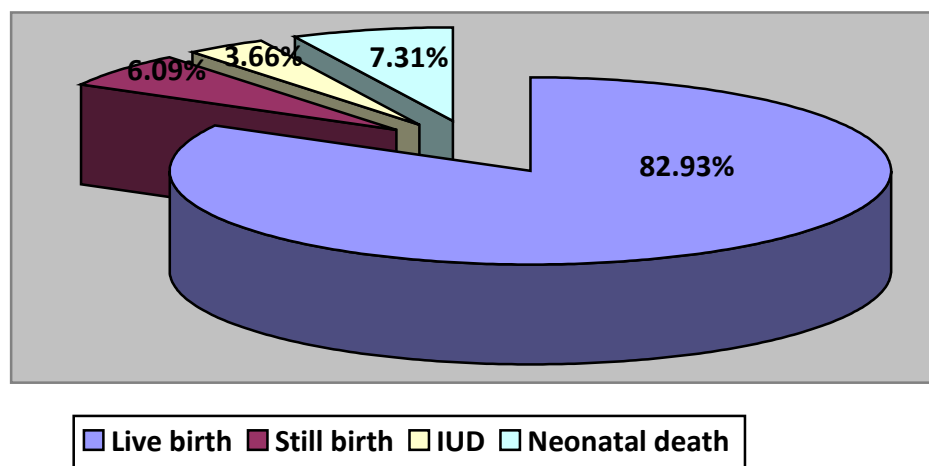
Risk factors	Number of patients	Percentage
Advanced maternal age	25	30.49
H/O caesarean section	35	42.68
H/O MR, abortion, D, E & C	39	47.56
Multiple pregnancy	02	2.4
Multigravida	75	91.46
Cigarette smoking	00	00
No known risk factors	08	9.76

- **Same patient shows multiple risk factors**

Most of the patients were delivered by caesarean section (75.60%). Only 24.39% patient were delivered vaginally

Table 4: Mode of delivery of placenta praevia patients (n=82)

Mode of delivery	Number of patients	Percentage
Vaginal delivery	20	24.39
Caesarean section	62	75.60

**Figure 3: Pie diagram showing foetal outcome (n=82)**

In this study perinatal loss was 14(17.07%).

Table 5: Maternal outcome among placenta praevia patients (n =82)

Maternal outcome	Placenta praevia ≥ 35yrs age (n=25)		Placenta praevia <35 yrs age (n=57)	
	n	%	n	%
Preterm delivery	11	44	18	31.57
PPH	12	48	16	28.07
PPH with shock	5	20	8	14.03
Need of caesarean	3	12	7	12.28
Hysterectomy for PPH				
Wound infection	3	12	9	15.79
ARF	1	4	3	5.26
Mortality	3	12	6	10.52

- Same patient shows multiple responses

Table 6: Perinatal outcome among study cases (n=82)

Perinatal outcome	Placenta praevia \geq 35yrs age (n=25)		Placenta praevia <35 yrs age (n=57)	
	n	%	n	%
LBW	13	52	22	38.59
Prematurity	11	44	18	31.57
Birth asphyxia	6	24	10	17.54
IUGR	4	16	7	12.28
Congenital anomaly	1	4	2	3.5
IUD	1	4	2	3.5
Still birth	2	8	3	5.26
Neonatal death	2	8	4	7.01

Discussion

This is a cross sectional descriptive hospital based study carried out with an aim to find out the association of placenta praevia with advanced maternal age and also to evaluate maternal and perinatal outcome.

The incidence of placenta praevia varies from country to country and from institution to institution. The variation is due to different risk factors. This study shows, rate of placenta praevia 1.01 % Of hospital delivery during the study period.

Risk of placenta praevia increased dramatically with advancing maternal age. Placenta praevia occurs 2-3 times more commonly in above 35 years as compared to those at age 20 years or less.^{9, 24, 25}

But, when the patients with placenta praevia of two age groups (above 35 years and below 35 years) were compared to the corresponding age groups of total admitted antenatal patients, it was found that rate of placenta praevia was more in advanced maternal age group in comparison to below 35 years age. This finding is similar to previous many studies.^{19,20, 22}

Patients of this group in our country usually have more children. Increased maternal age & high parity appeared to be equally important to raise the incidence of placenta praevia. In this study, most of the patients (91.5%) were multigravida. This figure is more or less same in other study.²³

Increased trend in caesarean section delivery acts as a contributing factor for developing placenta praevia. In this present study 42.68% patient had H/O caesarean section which is much higher than other studies.²⁰ Several studies conducted around the world confirmed 2.5 fold increase risk of placenta praevia development in women with H/O previous caesarean section.^{20,21} In this study, 47.56% placenta praevia patients were associated with previous H/O induced or spontaneous abortion, MR or D,E & C. This study report was similar to previous many study report.^{9,22}

This study showed that preterm delivery had 44% cases of placenta praevia in above 35 years age group and 31.57% cases of below 35 years age group. This result is similar to previous study.²³

In this study 75.60% patient were delivered by caesarean section and only 24.39% were delivered by vaginal delivery.

Though maternal mortality has been significantly reduced with the advancement of blood transfusion, safe anesthesia, surgery and post-operative care, still maternal morbidity is high. Many patients developed post-operative complication. PPH developed 48% cases in advanced maternal age group as compared to 28.07% in below 35 years age group. Among 28 (post-partum haemorrhage) cases 13 patients went into shock and 10 patients needed caesarean hysterectomy due to morbid adhesion of placenta and all of them were cases of previous caesarean sections. So, previous caesarean section is a risk factor for the development of placenta praevia accreta and similar to other studies.^{20, 21} Rest of the PPH patients were managed by oxytocic drugs, intrauterine pack or condom catheter.

Maternal death is very unfortunate outcome of pregnancies. In this study, maternal mortality was 12% (3 death) in advanced maternal age group, and 10.52%(6) in below 35 years age group. Majority death was due to severe PPH with irreversible shock.

Conclusion

This study on placenta praevia was conducted over a short period of time and 82 placenta praevia cases were observed. This study shows, advanced maternal age has a relation with placenta praevia and associated with more adverse maternal and perinatal outcome. Careful monitoring of these high risk pregnancies is of utmost importance especially regarding careful ultrasonographic examination with exact placental location during the second trimester of pregnancy. Early recognition and proper monitoring of placenta praevia could minimize the possibility of poor outcome in sudden massive bleeding.

Recommendations

In our country incidence of maternal mortality in patient with placenta praevia is higher than that of developed countries. In Bangladesh, still now large number of deliveries are conducted at home. For placenta praevia we have to ensure institutional delivery. In hospital there should be facilities for USG in obstetric dept, anesthesia should be available for 24 hours & blood should

be available at all levels & whenever needed. There must be provision for neonatology unit in every obstetric dept & incubator facilities in every tertiary & district level hospital. Such hospitals should be equipped with requisite materials as well as personnel who are capable of effectively intervening surgically at short notice.

Family planning should be emphasized as a strategy towards reduction of parity, unnecessary caesarean section and pregnancy at advanced maternal age should be avoided and thereby the incidence of placenta praevia will be reduced.

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