

Evaluation of the Patients with Placenta Praevia in Mymensingh Medical College Hospital, Bangladesh

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Abstract

Placenta praevia is a life-threatening condition both for mother and foetus and defines high risk pregnancy. A cross-sectional, observational study was conducted from July to December of 2021 in the Department of Obstetrics & Gynaecology of Mymensingh Medical College Hospital, Mymensingh, Bangladesh, to assess the relationship between previous Caesarean scar and subsequent development of placenta praevia. A total of 48 women of placenta praevia were taken in this study as diagnosed through ultrasonogram. In age distribution of these patients, peak incidence was found in the 26-35 years age group (54.10%) and the oldest was at her 42 years. Most of the patients (35.41%) did not take any antenatal check-up before their admission into hospital. The majority patients (64.58%) had history of previous Caesarean scars than vaginal delivery (35.41%) and previous two scars (51.61%) were most common. Ultrasonographically, partial variety was more (29.10%) common than others. Most pregnancies were (78.08%) delivered abdominally. In fetal outcome, 22.91% of babies were premature but did not need any NICU support, whereas 22.83% needed admission into NICU. Primary postpartum haemorrhage was the most common among complications (37.50%). This study suggests identifying the risk factors for placenta praevia. Early diagnosis, creating awareness and organizing a strong supportive surgical skilled team are needed to reduce maternal and foetal morbidity and mortality in such cases.

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Introduction

Antepartum haemorrhage is one of the most challenging obstetric complications encountered in pregnant women.¹ The seriousness and frequency massive obstetric haemorrhage make it one of the leading causes of maternal death and also a major cause of prenatal morbidity and mortality.² About 35% causes of APH are due to placenta praevia and almost equal numbers of causes are due to placental abruption. Placenta praevia occurs when the placenta is wholly or partially implanted in the lower uterine segmented.³ The exact cause of placenta praevia is not known, but its association with various risk factors such as advance maternal age, multiparity, previous miscarriages, previous Caesarean section, and cigarette smoking are well documented.⁴ Placenta praevia affects 0.3-2% of pregnancies in the third trimester and

the incidence is rising with the increasing caesarean section.⁵

Placenta praevia can have serious adverse consequences for both mother and baby, including an increased risk of maternal and

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neonatal mortality; fetal growth restriction and women may require a blood transfusion or even an emergency hysterectomy.⁶ With the rising incidence of Caesarean section combined with increasing maternal age, the number of cases of placenta praevia and its complication, including placenta accrete is likely to continue to increase in upcoming days.⁷ The incidence of placenta accrete is as high as 67% in placenta praevia and multiple previous caesarean section. This association of previous caesarean section, placenta praevia and placenta accrete is becoming increasingly acknowledged and is causing concern, since it carries a significant risk of caesarean hysterectomy with its incumbent morbidity and mortality.⁸

Increasing caesarean section rate in Bangladesh as well as worldwide which is one of the important factors to predispose to develop a grave condition like placenta praevia. Hence, the aim of this study was to identify the relationship between presence of previous scar and development of placenta praevia.

Methods

This cross-sectional, observational study was conducted from July to December of 2021 in the Department of Obstetrics & Gynaecology of Mymensingh Medical College Hospital, Mymensingh, Bangladesh. A total of 48 women of placenta praevia were taken who were diagnosed by ultrasonogram.

Inclusion criteria: All the women who were enrolled for the study were antenatal cases of gestation with or without bleeding per vagina diagnosed by as a case of placenta praevia by ultrasonogram.

Exclusion criteria: Patients having previous myomectomy, placental abruption, and antepartum haemorrhage due to local cause were excluded.

A structured data collection form was developed containing all the variables of interest which was finalized following pretesting. Before data collection informed consent were taken from study patients or her attendants. Permission was taken from hospital ethical committee. The collected data were processed and analyzed using SPSS version 16.0 (Statistical Package for Social Science).

Results

This study was conducted on 48 pregnant patients who were diagnosed placenta praevia through ultrasonogram. Table-I shows the age distribution of patients of the study. Peak incidence was found in the 26–35 years age group (54.10%) and oldest was at 42 years. Most of the patients (35.41%) did not take any antenatal check-up, 31.25% took only one, 20.83% took two and 12.50% took three check-ups before coming to hospital (Fig. 1). Table-II shows that 35.41% of the patients had history of previous vaginal delivery, whereas 64.58% had previous Caesarean section. Frequencies of placenta praevia increased with the number of Caesarean section operation as shown in table-III. The majority had the history of two Caesarean section operation (51.61%), while 32.25% had one and 16.13% were 3 or more. Table-IV shows different varieties of placenta praevia as diagnosed by ultrasonogram. Partial type of placenta praevia were most common (29.10%); among others were low lying (27.08%), marginal (18.75%), central (22.92%) and accrete (2.08%).

In 78.08% cases, babies were delivered Caesarean section operation and only 22.91% were delivered vaginally (Table-V). About 22.91% babies were premature but did not need any NICU support, whereas 22.83% needed NICU support (Table-VI). Primary postpartum haemorrhage (37.50%) was the most common complications. Other complications were wound dehiscence (04.17%), UTI (04.17%), acute kidney injury (02.08%), DIC (02.08%) (Table-VII).

Table-I: Age distribution of study patient (n=48)

Maternal age group (years)	Frequency	Percentage
20 - 25	19	39.58%
26 – 35	26	54.10%
>35	03	06.25%

Fig. 1: Frequency of antenatal check up

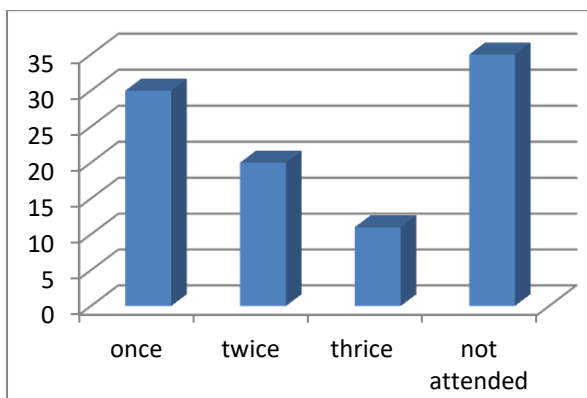


Table-II: Relation with the previous mode of delivery (n=48)

Previous mood of delivery	Frequency	Percentage
Vaginal delivery	17	35.41%
Previous caesarean section	31	64.58%

Table-III: Frequency of placenta praevia by previous caesarean section (n=31)

Number of caesarean section	Frequency	Percentage
1	10	32.25%
2	16	51.61%
3 or more	05	16.13%

Table-IV: Distribution of study patients according to USG varieties of placenta praevia (n=48)

USG findings variety of placenta praevia	Frequency	Percentage
Low lying	13	27.08%
Marginal	09	18.75%
Partial	14	29.10%
Central	11	22.92%
Accreta	01	02.08%

Table-V: Mode of termination of current pregnancy (n=48)

Mood of delivery	Frequency	Percentage
Caesarean section	37	78.08%
Vaginal delivery	11	22.91%

Table-VI: Foetal outcome

Fetal outcome	Frequency	Percentage
No morbidity	20	41.66%
Premature (no NICU support)	11	20.91%
NICU support	10	22.83%
Asphyxiated	04	08.33%
Neonatal death	03	06.25%

Table-VII: Complications after delivery (n=48)

Complications after delivery	Frequency	Percentage
No Complications	22	45.83%
Primary PPH	18	37.50%
Wound dehiscence	02	04.17%
Puerperial sepsis	02	04.17%
UTI	02	04.17%
Acute kidney injury	01	02.08%
DIC	01	02.08%

Discussion

Placenta praevia initiated by implantation of embryo in the lower uterine segment. The frequency of caesarean section is increasing worldwide with a parallel rise in maternal morbidity and mortality. The higher incidence of caesarean delivery today is strongly associated with greater frequency of the incidence of adherent placenta has increased dramatically over the last 3 decades with the increased in caesarean delivery rates. The association of placenta praevia and previous caesarean section is due to inhibition in placental migration and more chance of morbid adhesion⁹, which shows increasing number of Caesarean section operation is a predisposing factor to develop placenta praevia.⁹ The range of maternal age from 20 years to >35 years of age. Majority numbers of patients were in the group of 25-35 years.

In Bangladesh, despite all economic progress, ante natal care has been inadequate especially in some part of rural areas. In our study 35.41% patients had no ante natal cheque-up and 31.25% took only one antenatal cheque-up which as same as the study of Kamal *et al.*²

Placenta praevia are more prone to develop in scarred uterus than unscarred uterus. In this study placenta praevia develop in 64.58% in previous history of caesarean section and 35.41% previous vaginal delivery which is consistent with the study of Chattopadhyay *et al.*⁸ and Grobman *et al.*¹⁰ and different with the study of Liang-Kun *et al.*¹¹. Repeat caesarean deliveries are not only associated with an increased risk of development of placenta praevia and its complication but also each number causes increased chance of complication. In our study, risk of placenta praevia is increased with the number of caesarean delivery and more in previous history of 2 caesarean section (51.61%) which is similar with the study of Z Parvin *et al*, D Zeba *et al* and different with the study of Grobman *et al.*^{1,9,10}

Most of the patients, i.e. 27.08% were having type III placenta praevia, while 22.92% had type IV, 18.75% had type II and 29.10% had type I. This result is consistent with the study done by Raees *et al.*¹² but the study of Raja Rajeshwari *et al.*¹³ shows that the highest patient belongs to type II (37%) and there after type III (29%). Our study shows that 78.08% patient that means most of the mother with placenta praevia are delivered by caesarean section which were also demonstrated by other studies of Maiti *et al*, Sidhiq *et al* and Majumder *et al.*¹⁴⁻¹⁶

20.83% of the babies were admitted in the NICU; most of them were due to prematurity. This has also been mentioned by Maiti *et al*, Li *et al* and Mathuriya *et al.*^{14,17,18} 08.33% babies are asphyxiated, and perinatal mortality observed in 6.25% cases, which is as same as the study of Raees *et al.*¹²

Primary postpartum haemorrhage (37.50%) was the most common complication after delivery, which is consistent with the study of Raees *et al.* (28%), Raja Rajeshwari *et al.* (27.6%) and Chufamo (37.4%).^{12,13,19}

Conclusion

Placenta praevia is a nightmare for an obstetrician as it is a grave obstetrical emergency which has life threatening outcomes such as massive blood transfusion, caesarean hysterectomy and DIC for a women and perinatal death of fetus. It can be concluded that Caesarean section had a significant relationship with placenta praevia and the risk becomes very high with the number of previous Caesarean section. Caesarean section scars are at high risk for developing placenta praevia in subsequent pregnancy where scar causes inhibition in placental migration and more chance of morbid adhesion. This study also reinforces the importance of advocating vaginal delivery as far as possible and reduces the number of injudicious Caesarean section and development of future placenta praevia in subsequent pregnancy.

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