ORIGINAL ARTICLE

FREQUENCY OF PLACENTA PREVIA IN WOMEN WITH HISTORY OF PREVIOUS CAESAREAN AND NORMAL VAGINAL DELIVERIES

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Background: Placenta previa is known to be associated with previous caesarean deliveries, advanced maternal age, increasing parity, smoking, curettage and myomectomy. This study was carried out to compare the frequency of placenta previa, in women with previous caesareans versus those with normal vaginal deliveries. **Methods:** It was one year study conducted at the Department of Obstetrics and Gynaecology Unit B, Ayub Teaching Hospital, Abbottabad. One hundred women were included in the study, 50 in Group A with previous caesarean deliveries, and 50 in Group B with previous normal vaginal deliveries. Frequency of placenta previa in both groups was analysed. **Results:** Placenta previa was found in one (2%) woman in Group A, and in two women (4%) in Group B. It was not found in para 4 or less in both groups. One woman in Group A and two women in Group B with parity 4 or more had placenta previa ($p<0.05$). None of the women with previous one scar had placenta previa, while with previous 2 scars one had placenta previa ($p<0.05$). One woman with placenta previa in Group A and both women with placenta previa in Group B were more than 25 years old. Placenta previa was not found in women below 25 years of age. **Conclusion:** Previous one caesarean section did not increase the frequency of placenta previa. Increasing number of scars, increasing maternal age beyond 25 years and increasing parity beyond 4 were associated with placenta previa.

Keywords: Placenta, placenta previa, caesarean section, scar, vaginal delivery, parity

INTRODUCTION

Placenta previa is defined as placenta lying entirely or in part in the lower uterine segment.[1] Its incidence is about 0.28–2%.[2,3] In local studies frequency of 0.51–3.5% has been reported.[4,5] Advancing maternal age, multiparity, previous caesarean sections[6], miscarriages, uterine curretage[7,8], cocaine use[7], smoking[8] and previous history of placenta previa have all been attributed as risk factors for placenta previa[9]. In singleton pregnancies, the most common identifiable aetiological factor is previous uterine damage due to repeated pregnancies or surgical procedures.[10] This endometrial damage predisposes to abnormal placentation.

There is an association between previous caesarean sections and subsequent development of placenta previa, which is reported between 3 and 10% or even higher.[11–13] Most of the studies show increase in the frequency of placenta previa with increasing number of cesareans.[5,12,13] Some studies, however, show no increased risk of placenta previa with previous caesarean deliveries.[3,14]

Mortality and morbidity from placenta previa is considerable. Maternal complications include, antepartum and postpartum haemorrhages, hysterectomy, blood transfusions, septicaemia and thrombophlebitis.[15] Foetal complications are higher frequencies of congenital malformations, perinatal mortality, and Apgar scores <7 at 5 minutes.[16]

The objective of this study was to see the frequency of placenta previa in women presenting at Obstetrics & Gynaecology Unit B, of Ayub Teaching Hospital, Abbottabad at term, and its relationship with previous caesarean sections.

MATERIAL AND METHODS

This descriptive, comparative study was conducted at Obstetrics & Gynaecology Unit B, Ayub Teaching Hospital Abbottabad over a period of one year. One hundred women were included in the study and divided into two groups. Fifty women (Group A) with previous one or more caesarean deliveries were compared with 50 women with a history of previous normal vaginal deliveries (Group B).

Only singleton pregnancies at or beyond 36 weeks of gestation were included in both groups. Both groups were matched for age and parity and smoking status taking care of the confounders. Women with history of previous miscarriages, myomectomy and dilatation and curettage were excluded from the study.

Placental localisation was done with full bladder on transabdominal ultrasound. Placental edge 5 Cm or less from internal cervical os, but not reaching the os, was labelled as Grade I. Placental edge reaching, but not covering the os was labelled as Grade II; edge covering the internal os partially, or asymmetrically was labelled as Grade III; and placenta covering os symmetrically or wholly was labelled as Grade IV.

Data were collected through a *proforma* and analysed using SPSS-10. Results were described as frequency and percentage, and Chi-square test was used for mean differences at 5% level.

RESULTS

In Group A, out of the 50 patients having previous caesarean section there was one case of placenta previa. In women having no previous caesarean section (Group B) there were two case of placenta previa. Statistically, there were no significant differences between the two groups *vis-à-vis* proportion of placenta previa (p=0.55) (Table-1).

In patients having a single previous caesarean section (35) there was no placenta previa seen. In 15 patients having more than 1 previous caesarean sections there was one placenta previa (Table-2).

The only case in Group A was para 7 and the cases of placenta previa in Group B were 1 each of para 4 and para 5 (Table-3).

The case in Group A was in age group 36–40 years, and the two patients with placenta previa in Group B were aged between 26 and 35 years (Table-4).

Table-1: Distribution of placenta previa in Groups [n (%)]

Group	Placenta Previa	No. Placenta Previa	*p*
A	1 (2)	49 (98)	0.55
B	2 (4)	48 (96)	

Table-2: Frequency of placenta previa in relationship with caesarean sections

Previous C-Sections	Total Patients	Placenta previa
1	35	0
>1	15	1
Total	50	1

Table-3: Frequency of placenta previa in relationship with parity

Parity	Group A		Group B	
	Patients	Frequency	Patients	Frequency
P1	22	0	22	0
P2	14	0	14	0
P3	6	0	6	0
P4	2	0	2	1
P5	5	0	5	1
P6	0	0	0	0
P7	1	1	1	0
Total	**50**	**1**	**50**	**2**

Table-4: Frequency of placenta previa in relationship with age groups

Age Group	Group A		Group B	
	Patients	Frequency	Patients	Frequency
21–25 Year	11	0	11	0
26–30 Year	27	0	27	1
31–35 Year	11	0	11	1
36–40 Year	1	1	1	0
Total	**50**	**1**	**50**	**2**

DISCUSSION

Our study showed that frequency of placenta previa did not increase with a single previous caesarean section. Hossain *et al*[14] reported that previous one caesarean section did not increase the likelihood of development of placenta previa in subsequent pregnancy. They found association of placenta previa with increasing parity and advanced maternal age. Their results support our findings. Similar results were reported by Cieminski *et al*.[3] A meta-analysis by Faiz *et al* found that advancing maternal age, multiparity, previous caesarean delivery and abortion, smoking and cocaine use during pregnancy, and male foetuses conferred increased risk of placenta previa.[7] Another meta-analysis by Ananth CV found increasing risk of placenta previa with increasing number of caesarean deliveries.[2] Due to comparatively shorter duration of the current study, the number of the patients was not enough to determine the effect of increasing number of caesarean sections on the development of placenta previa. Even then, we found placenta previa in one woman with previous two scars as compared to none with previous one scar, thereby indicating that there can be an increased risk with increasing number of caesareans in a dose response pattern.

A study by Zaman *et al*[8] confirmed our observation of increased incidence of placenta previa with increasing parity and advancing maternal age. They, however, found increased risk of placenta previa with previous caesarean sections. Another study by Zamani[4] reported an increased incidence with age and advancing parity supporting our observations. They also found increased risk for placenta previa even with previous single caesarean section. Gilliam *et al*[12], like our study, found an increased risk of placenta previa with increasing parity. However they also found an increased risk of placenta previa with previous single scar. Getahun *et al*[17], unlike our results, found that caesarean first birth was associated with increased risks of placenta previa and abruption in the second pregnancy. They found a dose response pattern for the risk of placenta previa with increasing number of caesarean deliveries.

CONCLUSION

Frequency of placenta previa is not increased in women with history of a single previous caesarean delivery compared to previous normal vaginal deliveries. Increasing number of caesarean sections leads to increased risk of placenta previa. Increasing parity and advancing maternal age are associated with development of low lying placenta.

RECOMMENDATIONS

Care must be exercised to avoid primary caesarean section as far as possible to avoid complications in subsequent pregnancies. Family size should be well-planned and pregnancies at advanced maternal age discouraged.

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