

ASSOCIATION OF PLACENTA PREVIA WITH MULTIPARITY AND PREVIOUS CESAREAN SECTION

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ABSTRACT

Objective: To determine whether previous caesarean section and multiparity have any association with increased risk for placenta previa than in women with no history of previous caesarean section and low parity.

Methodology: This was a descriptive study conducted at the department of obstetrics and gynaecology, Saidu Teaching Hospital Swat from January 2006 to December 2007. Data regarding detailed obstetrical and surgical history were recorded on a proforma in the ante natal clinic and obstetrics ward. In antenatal clinic all those in second and third trimester of pregnancy with or without symptoms of placenta previa but ultra sound scan showing placental implantation in lower uterine segment were documented. In the obstetric ward all the patients presented in emergency (non booked) with antepartum haemorrhage and diagnosed as case of placenta previa by pelvic examination, were documented.

Results: There were total 5267 obstetrical admissions. Two twenty six were diagnosed as cases of placenta previa. The overall incidence was 4.2% ($n = 5267$). Out of these 226 patients, 89 were multipara, 99 were grand multipara and rest were primigravidas. One hundred sixty patients had previous history of one or more caesarean section.

Conclusion: From the available data it is concluded that there is an association between incidence of placenta previa with the increase in parity.

Keywords: Placenta previa; Cesarean section.

INTRODUCTION

Placenta previa complicates approximately 1 in 200 deliveries^{1,2} and is one of the leading causes of vaginal bleeding in the second and third trimesters. It is associated with increased risks of maternal and infant morbidity and mortality^{3,4}.

Surgical disruption of the uterine cavity is a potential risk factor for placenta previa^{5,6}. Cesarean delivery is the most common of operative procedures in practice of Obstetrics and Gynaecology, which is known to cause lasting damage to the myometrium and endometrium⁷. The first observation that reported an association between prior cesarean delivery and increased risk of placenta previa dates back to the early 1950s⁸. Several studies have since corroborated the association for placenta previa⁹⁻¹¹. These findings were subsequently confirmed through a large meta-analysis of more than 3.7 million pregnant women⁹. However, it remains unclear as to whether

these risks increase with the number of cesarean deliveries in a dose-dependent fashion. For instance, whether patients who have undergone a single cesarean delivery run a similar risk of previa as those patients who have undergone two or more prior cesarean deliveries remains unexplored. This information is important from the point of view of assigning patients in terms of risk profiles and for counselling. Thus, this study was planned to determine whether previous caesarean section and multiparity have any association with increased risk for placenta previa than in women with no history of previous caesarean section and low parity.

METHODOLOGY

This descriptive non-interventional study was conducted at the Department of Obstetrics and Gynaecology, Saidu Teaching Hospital Swat from 1st January 2006 to 31st December 2007. All relevant information was collected on a prescribed

proforma, which were placed in antenatal clinic and obstetric ward. In antenatal clinic as per protocol all women are scanned in second and third trimester of pregnancy for foetal wellbeing and placental localization after taking detail obstetrical history and clinical examination. The doctor and staff nurse on duty in the antenatal clinic were trained to enter the information in the proforma. The inclusion criteria were an antenatal lady in second and third trimester of pregnancy, and ultrasound scan showed placenta previa. The same type of information was collected from patients in the obstetric ward who were came in emergency with acute bleeding episode but with no previous antenatal booking and undiagnosed. These patients were diagnosed by pelvic examination on operation table, after full preparation for cesarean section. Only those patients who were diagnosed as placenta previa on pelvic examination were

included in the study. After completion of two years all the collected information were analysed. During the specified time period 5627 antenatal women attended antenatal clinic and obstetric ward in emergency collectively, out of which 226 were identified with placenta previa. After identification of patients with placenta previa, their data was further examined for the distributions of maternal socio-economical status and age. Percentage of incidence was used to examine the association between placenta previa in subsequent pregnancies and previous cesarean sections.

RESULTS

The two years data i.e. from 1st January 2006 to 31st December 2007, of the Department of Obstetrics and Gynaecology Group of Teaching Hospital Saidu Sharif Swat was collected and

Table 1: Socio-Economic and Age Distribution

Characteristics	Number of Cases	Percentage (%) (n = 226)
Social Class		
Poor Class	93	82.30
Middle Class	20	17.69
Upper Class	Nil	0.00
Age Group (Years)		
11-20	1	0.88
21-30	49	43.36
31-40	63	55.75
>40	Nil	0

Table 2: Association of Placenta Previa with Caesarean Deliveries

No. of Previous Caesarean Deliveries	Number of Cases	Percentage (%) (n = 5267)
0	2	0.037
1	7	0.133
2	29	0.550
3	49	0.930
>4	139	4.271

P = 0.9850 (not significant)

Table 3: Association of Placenta Previa with Parity

Parity	Number of Cases	Percentage (%) (n = 5267)
1	22	0.417
2	28	0.531
3	51	0.968
>4	125	2.373

P = 0.031 (Significant)

analysed, percentage of incidence basis, to examine the relationship between parity, prior cesarean delivery and placenta previa. Two twenty six multiparous women with placenta previa, out of 5267 obstetrical admission, 4.2 % (n = 5267), were identified.

Table 1 revealed that the incidence was high among low socioeconomic group. Due to change in the attitude of general population and comparatively more literacy rate in the area, early marriages are quite few and that why only one case is reported in the age group ranges from 11 – 20 years, who was of 20 years of age.

Two twenty six out of 5267 women were identified with placenta previa as given under different characteristics in tabular form i.e. table 1 and 2 with a prior cesarean delivery were more likely to have a placenta previa than those without. The likelihood of placenta previa increased as both parity and number of cesarean deliveries increased Table 2 and 3.

The study revealed that there is a direct relation of the possibility of placenta previa with higher number of parity and of cesarean deliveries.

DISCUSSION

To examine the contribution of cesarean delivery to the risk of placenta previa in future pregnancies, numbers of studies have been conducted but most of them failed to quantify the increased risk associated with each additional cesarean delivery.

Clark et al showed that in women with one uterine incision the risk of placenta previa was 0.26% compared with 10% in women with four or more uterine incisions. However, this descriptive study did not control for known risk factors for placenta previa¹³.

McMahon et al attempted to account for risk factors for placenta previa including age, race, parity, prior abortion, and smoking, but did not examine the role of multiple cesarean deliveries.¹⁴

In this study we examined not only the relationship between one cesarean delivery and subsequent placenta previa, but also the contribution of each additional cesarean delivery to the development of placenta previa.

The relationship between placenta previa and cesarean delivery is quite significant at multiparity levels.

We also demonstrated that the possibility of placenta previa increases with greater parity independent of the number of prior cesarean deliveries. In other words, the association between cesarean delivery and placenta previa grows

stronger as parity increases even if the number of cesarean deliveries stays the same. Again, the possibility of placenta previa increased both across and within parity groups.

Monica et al reported that women having history of placenta previa have an increased risk of placenta previa in a subsequent pregnancy¹⁵. This question was not answered in this study.

Our study supports the conclusions of previous studies showing an increased possibility of placenta previa in women with prior cesarean delivery, and also shows the relationship of parity in the occurrence of placenta previa. One cesarean delivery does not significantly increase the possibility of placenta previa in a primiparous woman, subsequent deliveries, whether vaginal or cesarean, and cesarean deliveries in particular, increase the possibility of future placenta previa. In fact, women with the combination of high parity and multiple repeat cesarean deliveries have the greatest possibility of placenta previa^{16, 17}.

To consider given the renewed argument regarding the benefits of a vaginal trial of labour after prior cesarean delivery, the relationship between multiple prior cesarean deliveries and placenta previa is particularly important. Because it has been observed that repeat cesarean delivery are associated with increased health care costs and maternal morbidity when compared with a vaginal trial of labour¹⁷⁻²⁰.

CONCLUSION

From the available data it is concluded that there is an association between incidence of placenta previa with the increase in parity.

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