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PLACENTA ACCRETA IN PLACENTA PREVIA; FREQUENCY OF PREVIA WITH OR WITHOUT SCARRED UTERUS

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ABSTRACT... Objective: To calculate the frequency of placenta accreta in placenta previa with or without scarred uterus and compare clinico demographic features of cases with or without placenta accreta. **Study Design:** Cross sectional study. **Place and Duration of Study:** Department of Obst & Gynae Allied Hospital, Faisalabad from 1st June 2007 to 31st May 2008. **Methodology:** 200 patients of placenta previa, 100 with history of previous cesarean section and 100 without history of previous C-section fulfilling inclusion criteria were taken. They were evaluated by history, examination and ultrasound noting placental location and type. Placenta accreta was diagnosed during delivery. **Results:** Out of 200 patients, frequency of placenta accreta was significantly increased with history of previous C-section. It was 20% in patients with previous C-sections and 6% in patients without previous C-sections. **Conclusions:** Our data suggests that frequency of placenta accreta is greater in patients with previous C-section and its frequency increases with increasing number of C-sections especially with anterior and central placenta previa.

Key words: Placenta accreta, placenta previa, cesarean section.

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INTRODUCTION

Placenta accreta is a condition in which placenta is morbidly adherent to the uterine wall¹. Its incidence has increased 10 fold in the past 50 years. Women who have had two or more caesarean deliveries with anterior or central placenta previa have nearly a 47% risk of developing placenta accreta². It increases to 67% after four caesarean sections³.

Although placenta accreta is more common with anterior placenta previa in woman with uterine scar⁴ but other factors include submucous myoma, grand multiparity, previous curettage, asherman' syndrome, advance maternal age, smoking and chronic hypertension⁵.

Hemorrhage is a serious threat with placenta accreta often requiring aggressive operative intervention by life saving hysterectomy and resuscitative measures with large amount of blood replacement to ensure survival. Recent studies show placenta accreta as one of primary indications of peripartum hysterectomy⁶.

Placenta accreta is diagnosed mostly in antenatal

period by using Doppler ultrasound^{7,8} but still may be diagnosed in the third stage of labour or at caesarean section, when placenta fails to separate partially or completely.

Rationale of my study is to determine clinical risk factors for placenta accreta as screening criteria in emergency situations as it will help to identify the patients with high suspicion of placenta accreta so that, prophylactic measures would be taken prior to surgery by a multidisciplinary team to reduce maternal morbidity and mortality.

MATERIAL & METHODS

Setting

Department of Obstetrics & Gynaecology Allied Hospital, Punjab Medical College, Faisalabad.

Duration

One year from 01-06-2007 to 31-05-2008.

Sample Size

Two hundreds patients of placenta previa: 100 with scarred uterus and 100 without scarred uterus.

Sampling technique

Non probability: convenience sampling technique.

SAMPLE SELECTION

Inclusion Criteria

All patients having placenta previa (diagnosed on ultrasound) at gestational age greater than 28 weeks with or without scarred uterus admitted through emergency or OPD were included.

Exclusion Criteria

Symptoms and signs suggestive of associated placental abruption.

Study Design

Cross-sectional study.

Data Collection and Analysis Procedure

200 patients of placenta previa fulfilling the inclusion criteria were selected from indoor and emergency departments. Detailed history including age, parity, gestational age and risk factors including previous history of placenta previa, endometrial curettage, uterine scar from cesarean section or myomectomy and history of smoking or hypertension was asked. Abdominal USG for exact placental localization was done. Symptomatic patients of minor degree placenta previa and all patients with major degree placenta previa were admitted in the hospital from the time of diagnosis till delivery. Asymptomatic patients with minor degree placenta previa were followed through OPD. Delivery was planed as close to term as possible or if hemorrhage was profuse irrespective of gestation. Caesarean section was done in symptomatic minor or major degree of placenta previa. Vaginal delivery was considered in asymptomatic patients with minor degree of placenta previa.

Placenta accreta was diagnosed when manual removal of retained placenta was impossible

and there was no cleavage plane between placenta and the uterus. Frequency of placenta accreta in placenta previa was noted and clinico-demographic features of patients with accreta were compared with non-accreta patients.

Data was entered into SPSS-10 version and descriptive statistics was calculated. Gravidity, parity, findings of ultrasonography and diagnosis were presented as percentage. For comparison of frequency and clinico-demographic features with other group Chi-square test was used. P = 0.05 was taken as significant.

RESULTS

Out of 200 patients, placenta was found to be accreta in 26 patients, taken as cases and non-accreta in previa patients was 13%. The frequency of placenta accreta was 6% in those patients without previous c-sections versus 20% with a previously scarred uterus. It increased with increasing number of previous caesarean sections at a rate of 6%, 11%, 20%, 43% and 60% after 0,1,2,3, and 4 c-sections respectively. The incidence of placenta accreta was significantly higher in patients with advanced maternal age (34% vs 28%) compared with those less than 35 years.

Anterior or central placental location was found to be a significant risk factor in the presence of previous scar but not in its absence.

Table I and II describe clinico-demographic features selected as predictors of placenta accreta as compared to non-accreta. These include, hypertensive disorder, previous history of placenta previa, previous history of retained placenta, previous history of uterine curettage, previous history of c-section and placental site in current gestation detected by ultrasound. Table III describes that increasing numbers of c-sections

| Placental location | Cases (n=26) | %age | Controls (n=174) | %age |
|--------------------|--------------|------|------------------|------|
| Anterior wall | 24 | 92% | 97 | 55% |
| Posterior wall | 02 | 7.6% | 39 | 22% |

Table-I. Distribution of patients according to placental location on ultrasound

| Clinical Features | Cases (n=56) | %age | Control (n=174) | %age | P-value |
|-------------------------------|--------------|------|-----------------|-------|---------|
| History of hypertension | 11 | 42% | 48 | 27% | 0.125 |
| History of placenta previa | 0 | 0% | 2 | 1.14% | 0.583 |
| History of retained placentas | 1 | 3.8% | 7 | 4% | 0.966 |
| Previous uterine curettage | 4 | 15% | 29 | 16% | 0.870 |
| Previous C-section | 20 | 77% | 80 | 45% | 0.003 |

Table-II. Potential determinants of placenta accreta

| No. of C-section | No. of patients | Number of placenta accreta | %age of placenta accreta |
|-------------------------------------|-----------------|----------------------------|--------------------------|
| No. C-section | 100 | 6 | 6% |
| 1 | 63 | 7 | 11% |
| 2 | 20 | 4 | 20% |
| 3 | 7 | 3 | 43% |
| 4 | 10 | 6 | 60% |
| Patients with c-section | 100 | 20 | 20% |
| Total pts with or without c-section | 200 | 26 | 13% |

Table-III. Distribution of patients according to numbers of c-sections and its effects on frequency of placenta accreta:

Chi square value = 30.446

df = 4

p-value = 0.000

is important risk factor for increasing number of patients with placenta accreta so the hypothesis that frequency of placenta accreta increases with increasing number of c-sections is accepted. Hysterectomies were done in 33% cases versus 1.7% controls.

DISCUSSION

The rate of accreta in our previa cases was 13%. It is much higher than the reported incidence of other studies. The reason may be the possibility of selection bias, because the study was hospital based and might not represent the general population.

Another limitation might be selection of clinical recognition of abnormal uteroplacental adherence as the basis for diagnosis of placenta accreta, there might be discordance between suspected and histologically confirmed cases.

The risk of placenta accreta in patients with one c-section was 8 fold higher compared with those with an unscarred uterus. In my study the rate of accreta was 3.3 fold in patients with one c-section compared with unscarred uterus. The same was observed in a recently published abstract from Maternal Fetal Medicine Unit Caesarean Section

Registry, having same rate of increase in incidence of placenta accreta with 1 and 2 c-sections (3.3% & 11%) respectively⁹. Miller et al¹⁰, studied 590 cases of placenta previa and found a rate of placenta accreta of 4%, 14%, 23%, 35%, 50%, after 0,1,2,3 and 4 c-sections respectively. My study showed rate of placenta accreta of 6%, 11%, 20%, 43% and 60% with 0,1,2,3 and 4 c-sections respectively. The incidence of accreta was higher in other reports reaching 4% to 5%, 24%, 60% and 67% after 0,1,3 or greater than 3 and 4 or greater than 4 c-sections¹¹ and even higher, reaching 34.8%, 56%, 75% and 100% after 0,1,2, and greater than 2 c-sections¹².

Clarke and colleagues¹³ found that, in the presence of a placenta previa, the risk of having placenta accreta increased from 24% in women with one prior caesarean delivery to 67% in women with 3 or more prior caesareans.

Ananth and colleagues¹⁴, in a meta-analysis, found a strong association between previous caesarean deliveries, spontaneous or induced abortions, and placenta previa, the risk increasing with number of prior caesarean deliveries.

The proposed pathogenesis of placenta accreta

includes a maldevelopment of decidua, excessive trophoblastic invasion, or a combination of both¹⁵.

Our data confirmed studies^{10,16} that found maternal ages of 35 years and older increasing risks of placenta accreta, even after adjustments for controlling confounding effects of potential determinants. Perhaps it was related to the progressive vascular endothelial damage that occurs with aging.

Our study shows an almost stable rate of accreta until maternal age exceeds 35 when the incidence of accreta rises dramatically. Advance maternal age was also an important risk factor for placenta accreta in a study by Lachman et al¹⁷.

The incidence of placenta accreta was significantly higher in grand multiparous women. Zaki et al¹¹ reached similar conclusion where the effect of age and parity was less dramatic than previous scar. Like Geilchinsky et al¹⁸ we found a higher incidence of accreta with an anterior or central placenta, only in those with a previously scarred uterus.

It is possible that hypertensive disorder might be a risk factor for accreta because of the possible vascular endothelial damage in hypertension.

Identifying risk factors is important in emergency situations as awareness of clinical risk factors can aid in careful preoperative preparation and in counseling women with placenta previa regarding the likelihood of encountering placenta accreta with its attendant morbidity as recommended by ACOG and RCOG. In mother with placenta previa and a suspected accreta who required peripartum hysterectomy, a scheduled delivery has been associated with shorter operative time, lower frequency of transfusions, complications and intensive care unit admissions¹⁹. Eller AG and colleagues²⁰ concluded that improved outcomes have been demonstrated when these patients give birth in specialized tertiary centers.

In my study hysterectomy was done in 33% patients of placenta accreta in placenta previa

compared with 1.7% patients of placenta previa without accreta. Placenta accreta is reported as the leading^{11,21} or the second most common indication for peripartum hysterectomy constituting 23.8% to 64% of these cases²².

CONCLUSIONS

Our data suggests that frequency of placenta accreta is greater in patients with previous c-sections and its frequency increases with increasing number of c-sections especially with anterior or central placenta previa.

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