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PLACENTA PRAEVIA: AN ANALYSIS OF RISK FACTORS

1. **FARKHUNDA KHURSHEED,** FCPS
2. **FOUZIA SHAIKH,** FCPS
3. **CHANDRA MADHU DAS,** FCPS
4. **RAHEELA BILAL SHAIKH** MBBS

1. ***Registrar,*** **Department of Obstetrics& Gynecology Unit II** LIAQUAT UNIVERSITY HOSPITAL, HYDERABAD, SINDH
2. ***Assistant Professor,*** **Department of Obstetrics& Gynecology Unit II** LIAQUAT UNIVERSITY HOSPITAL, HYDERABAD, SINDH
3. ***Assistant Professor,*** **Department of Obstetrics& Gynecology Unit II** LIAQUAT UNIVERSITY HOSPITAL, HYDERABAD, SINDH
4. ***Resident*** **Department of Obstetrics& Gynecology** LIAQUAT UNIVERSITY HOSPITAL, HYDERABAD, SINDH

Correspondence:
DR.FARKHUNDA KHURSHEED
HOUSE 314-B, KOHSAR HOUSING SOCIETY,PHASE-I
LATIFABAD,HYDERABAD
Cell:03452138428
Email: hasham_54khan@yahoo.com

ABSTRACT:

OBJECTIVE: *To indentify the risk factors for placenta praevia in patients presenting at our setup*
METHODOLOGY: *This case control study was conducted at Department of Gynecology and Obstetrics Unit II, Liaquat University Hospital, Hyderabad from January 2009 to December 2009. A predesigned proforma was used to collect the study variables. Statistical analysis was done through SPSS 17.*
RESULTS: *Majority of patients belonged to age group of 25-30 years of age. There were 21 patients (26.92%) with previous cesarean section where as 251 patients (7.67%) had previous cesarean section (p-value =0.001). Eleven patients had parity of 0-1 (1.41%) where as in control group it was 33.12%. Thirty-eight patients (48.71%) patient were had parity of 2-5 while it was 1193 (50.33%) in control group. Placenta praevia was also significantly more seen in grandmultiparous, 29 patients (37.17%) had parity of >5, whereas it was 392 patients (16.54%) in control group (p-value=0.01) Table-I.*
CONCLUSION: *It was concluded that increased maternal age and parity, history of previous cesarean section are identified risk factors which are same as reported in western literature.*

KEYWORDS: placenta praevia, risk factors, increased maternal age, parity

INTRODUCTION:

Placenta praevia is the implantation of the placenta partially or totally in the lesser segment of the uterus. Placenta praevia is categorized as minor or major placenta praevia[1]. When internal os is covered or touched by placental edge it is termed as major placenta praevia. The blood loss is generally mild and frequent but at times can be enormous and life threatening. The frequency of placenta praevia is 3-5 per 1000 pregnancies thought out the world and is still increasing for the reason that of growing caesarean section rates.[2]

The occurrence is greatly elevated at twenty weeks than at 36 weeks and above. As pregnancy move on the lower uterine segment is shaped; the upper segment broaden and move with the placenta.[3] The self-determining risk factor for placenta praevia is a previous caesarean section. The threat enhances with the increasing number of caesarean sections performed. The frequency is 2% after one previous caesarean section, 4.1% after two and it is 22% after three.[1] Likewise myomectomy, dilation and curettage (D&C) and evacuation of uterus are coupled with placenta praevia. Placenta praevia is more frequent in older and multiparous patients.[3-5]

Ageing of vasculature of uterus is considered to be related with growing frequency of placenta praevia in aging and multiparous women.[6] This results into hypertrophy of placenta and enlargement which lead to possibility of extension into lower part.[7] Few authors have mentioned that a longer gap between pregnancies is also a probable cause of placenta praevia. This may be attributed to scar and poor vasculature of uterus due to ageing process.

There is also an association between placenta praevia and male births[6]. There is a hypothesis that maternal hormones or prematurity which is commonly seen in pregnant women with male babies causes premature rupture of members. Patients having placenta praevia have a tenfold increased risk of recurrence due to defective decidual vascularization. Placenta abruption is also coupled with placenta praevia. Smoking and atypical placentation is also credited to placenta praevia and abruption placenta

METHODOLOGY:

This case control study was conducted at Department of Gynecology and Obstetrics Unit II, Liaquat University Hospital, Hyderabad from January 2009 to December 2009. A predesigned proforma was used to collect the study variables. A total of 2448 obstetric patients were admitted during the study period, out of which 78 patients were diagnosed with placenta praevia. Controls were patients who delivered the babies at term without placenta praevia. Data was stored and processed through SPSS 17. Chi-square test was used to calculate p-value. A p-value of less than 0.05 was considered as significant.

RESULTS:

There were 2448 deliveries during the study period and 78 patients (3.18%) were diagnosed with placenta praevia. Patients having placenta praevia were compared with rest of 2370 patients. Majority of patients belonged to age group of 25-30 years of age of both groups, with Mean±SD age of 33±4.3 years of age in patients with placenta praevia and 29.33±4.9 in control group (p-value =0.003) Table I.

There were 21 patients (26.92%) with previous cesarean section which was statistically significant than control group where 251 patients (7.67%) had previous cesarean section (p-value =0.001) Table II. Eleven patients had parity of 0-1 (1.41%) where as in control group it was 33.12%. Thirty-eight patients (48.71%) patient were had parity of 2-5 while it was 1193 (50.33%) in control group. Placenta praevia was also significantly more seen in grandmultiparous, 29 patients (37.17%) had parity of >5, whereas it was 392 patients (16.54%) in control group (p-value=0.01) Table-III

TABLE I
AGE DISTRIBUTION

	Cases n=78	Percentage (%)	Control group n=2370	Percentage (%)	*p*-value
AGE (YEARS)					
< 25	11	1.41	695	29.32	0.003
25-35	39	50	1187	50.08	
>35	28	35.89	488	20.59	

TABLE II
PREVIOUS CESAREAN SECTIONS

	Cases n=78	Percentage (%) n=2370	Control group	Percentage (%)	*p*-value
PREVIOUS					
C- SECTION	21	26.92	251	10.59	0.001
Previous 1 C-section	13	16.66	112	4.72	
Previous 2 C-section	4	5.12	93	3.92	
Previous 3 C-section	2	2.56	40	1.68	
Previous 4 C-section	1	1.28	5	0.21	
Previous 5 C-section	1	1.28	1	0.04	

TABLE III
PARITY OF PATIENTS

PARITY	Cases n=78	Percentage (%)	Control group n=2370	Percentage (%)	*p*-value
0-1	11	1.41	785	33.12	0.001
2-5	38	48.71	1193	50.33	
>5	29	37.17	392	16.54	

DISCUSSION

Placenta praevia is implantation of placenta over or near the internal os of cervix. Antepartum hemorrhage is among leading causes of maternal and fetal morbidity and mortality.[4] In second and third trimester placenta praevia is considered to be one of most significant reason of antepartum haemorrhage, it happens around 1/200 pregnancies.[7] Reasons of placenta praevia are still yet to be discovered but diverse relations have been recognized. Some of them are increased age of mother, multiparity, previous c-sections, smoking and male sex of baby.[6] Susceptible miscarriage in 2nd possibly can lead to placenta praevia.[8]

It was observed that increasing age has a strong relationship with placenta praevia. Tabcharoen C et al[9] have suggested that there is a strong relationship of increasing age with placenta praevia and a decreased frequency in women of 20-30 years of age group. Similar frequency has been reported by Bahar A et al[10]. in this study increasing age was shown to have influence to placenta praevia. As women age, collagen gradually swap normal muscle in walls of myometrial arteries, the atrophic changes that take place in older women may possibly also result in defective vascularization of the decidua. Collectively under perfusion and under vascularization have been suggested to participate in the progress of placenta praevia, as implantation has a tendency to take place in well vascularized arteries.

This series shows that placenta praevia is commonly seen in grand multiparous women, and same has been reported by Nyango DD[11] in a recently conducted study in Nigeria. Babinszki et al[12] has reported the incidence of 0.8% and 2.2% in multiparous and grand multiparous women respectively. Another study conducted by Zlatnik MG et al[13] at University of California San Francisco has reported the multiparous patients are at increased risk of having placenta praevia. Cesarean section is one of most commonly performed obstetrical procedure. It is suggested that scar provides a nest for placental implantation in lower segment of uterus. Odibo et al[14] in a study conducted at Washington University has reported that patients with previous cesarean section are more prone to develop placenta praevia.

CONCLUSION:

Increased maternal age and parity, history of previous cesarean section are related with increase incidence of placenta praevia. These identified risk factors which are same as

reported in western literature, are controllable and preventable. It is suggested that high risk patients should be screened in order to reduce both maternal and perinatal mortality.

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