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PLACENTA PREVIA;
ETIOLOGY AND FETOMATERNAL OUTCOME

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ABSTRACT.. Objectives: To analyze the causative factors and short term complications in cases of placenta previa. **Design and Settings**: A retrospective study carried out in Obstetrics and Gynecology Department of Sheikh Zayed Post Graduate Institute Lahore. **Period:** From June 2004 to June 2007.**Subject**: Fifty patients with placenta previa. **Main outcome measures**: Age, parity, previous cesarean section, previous history of evacuation/myomectomy, average hospital stay, need for blood transfusions, emergency/elective LSCS, associated maternal and fetal morbidity and mortality. **Results:** There were 50 cases of placenta previa over the period of 3 years. Most frequently occurring intra operative complication was postpartum hemorrhage in 19 patients (38%). Highest morbidity was due to anemia which was in 23 patients (46%). Maternal mortality was 2%, while neonatal mortality was 14%. **Conclusion:** Placenta previa is a multifactorial disease. No doubt that the rising incidence of cesarean section is increasing the intraoperative complication associated with the condition but other risk factors are also important like age, parity, history of evacuation etc.

Key words: Placenta previa, Maternal morbidity and mortality, Cesarean section, myomectomy, postpartum emorrhage.

INTRODUCTION

Placenta previa is defined as placenta which is partly or wholly implanted in lower uterine segment[5]. Worldwide, over 600,000 females dies annually in pregnancy and childbirth and the global maternal mortality ratio is estimated at 400/100,000 live births. However in developed countries such as in UK, maternal mortality is infrequent (13.1/100,000 maternities). Placenta previa is thought to be one of the most important causes of maternal mortality.

Traditionally divided into four grades[1-4] but now it is usual to describe only the degree of severity i.e. lateral, marginal and complete or even two (minor and major). Its incidence varies between 0.4- 0.8%[1]and is associated with significant hemorrhage to both mother and fetus. The timing of diagnosis of placenta previa has undergone significant change in the last decade. Third trimester bleeding was a common presentation for placenta previa, most cases are now detected antenatally prior to the

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onset of significant bleeding. This is because of common practice of early ultrasound scan which is done for the detection of fetal abnormalities, maturity and other pregnancy complications. However most cases of placenta previa detected in second trimester will resolve by term.

The exact etiology of placenta previa is unknown. The condition may be multifactorial postulated to be related to multiparity, multiple gestations, advanced maternal age, previous cesarean sections[3-6] previous abortions and possibly smoking and cocaine. Placenta previa is associated with significant morbidity and mortality because of postpartum hemorrhage, related to placental invasion leading to peripartum hysterectomy and prematurity.

PATIENTS AND METHOD

For this retrospective study, fifty cases of palcenta previa during a period of three years were selected, who were booked or unbooked in Sheikh Zayed Hospital Lahore. The patient with major degree of placenta previa, those having mild ante partum hemorrhage were managed conservatively. During admission consent for emergency/elective section and for cesarean hysterectomy were taken from all the patients and at least two pints of blood were arranged and two cross matched. Patients and their families were counseled about the risk and consequences of placenta previa. Inj. Dexamethasone 12mg two doses12 hour apart given to those patients who were at less than 34 weeks of gestation to achieve fetal lung maturity and they were started on tab. Yutopar 5mg thrice a day till 36 weeks. All patients were operated under general anesthesia. Operative complications were defined as amount of blood loss, need for peripartum hysterectomy, level of surgeon, injury to bladder or bowel etc. Post operative complications were defined as adverse events that occurred as a result of the procedure. All gathered information were recorded on a proforma.

STATISTICAL DATA

Table-I: Age distribution (n=50)

Groups	Age of the pts.	Frequency (n)	%age
1	22-26	14	28%
2	27-37	23	46%
3	32-36	11	22%
4	37-41	2	4%

MEAN AGE: 29.16

Table-II. parity distribution (n=50)

Groups	Parity	Frequency (n)	%age
1	0-1	11	22%
2	2-3	22	44%
3	4-5	13	26%
4	6-7	4	8%
Total		50	100%

MEAN PARITY: 3

Table-III. Placental localization with associated risk factors (n=50)

Group	Placenta	Multi	D&C	PG	1LSCS	2LSCS	3LSCS	(n)	%age
1	Anterior	11	Nil	7	5	6	2	31	62%
2	Posterior	5	5	6	2	1	-	19	38%
								50	100%

Table-IV. placental invasion with anteriorly placed placenta (n=50)			
Groups	**Placenta invasion**	**Frequency (n)**	**%age**
1	Placenta accrete	4	8%
2	Placenta percreta	1	2%

Table-V. Intra operative complications (n=50)			
Groups	**Intraop. Complications**	**Frequency (n)**	**%age**
1	Placenta accrete	19	8%
2	Placenta percreta	1	2%
3	Bowel damage	1	2%
4	Cesarean hysterectomy	2	4%
5	Retroperitoneal	1	2%
6	Retained placenta	1	2%
Total		50	100%

Table-VI: Risk factor for placenta previa (n=50)			
Groups	**Risk factor**	**Frequency (n)**	**%age**
1	PG	24	48%
2	1 LSCS	7	14%
3	2 LSCS	7	14%
4	3 LSCS	2	4%
5	H/O D&C	16	32%
6	H/O Laparotomy	1	2%
7	Uterine anomalies	Nil	0%
8	H/O Myomectomy	Nil	0%
Total		50	100%

Table-VII: Postoperative complications (n=50)			
Groups	**Postoperative Complications**	**Frequency (n)**	**%age**
1	Coagulopathy	2	4%
2	Septicemia	1	2%
3	ICU admission	2	4%
4	Anemia	23	46%
5	Re-exp laparotomy	1	2%
Total		50	100%

Table-VIII. Average hospital stay (Pre & post operatively) (n=50)			
Groups	**Days**	**No. Of cases**	**%age**
1	7-9	19	38%
2	10-12	2	4%
3	13-15	6	12%
4	16-18	3	6%
5	19-21	4	8%
6	22-24	2	4%
7	25-27	5	10%
8	28-30	1	2%
9	>30	8	16%
Total		50	100%

Table-IX. No. of blood transfusions (n=50)			
Groups	**Units 500mi/unit**	**Frequency (n)**	**%age**
1	Nil	10	20%
2	1-2	25	50%
3	3-4	11	22%
4	5-6	2	4%
5	7-8	0	0%
6	>8	2	4%
Total		50	100%

Table-X. Maternal mortality (n=50)		
Total. No. Of pts.	**No. Of deaths**	**Mortality %**
50	1	2%

Maternal mortality = 2%

Table-XI. Neonatal mortality (n=50)		
Total. No. Of cases.	**No. Of deaths**	**Mortality %**
50	7	14%

Neonatal mortality = 14

Table-XII. Emergency / elective LSCS (n=50)			
Groups	**EM/EL.LSCS**	**Frequency (n)**	**%age**
1	EL. LSCS	25	50%
2	EM. LSCS	25	50%
Total		50	100%

Table-XIII. Neonatal birth weight (n=50)			
Groups	**Birth weight**	**Frequency (n)**	**%age**
1	<1.5	3	6%
2	1.5-2.5	13	26%
3	>2.5	34	68%
Total		50	100%

Table-XIV. Blood group of pts. (N=50)								
Blood group	**A+**	**B+**	**O+**	**A-**	**B-**	**O-**	**AB+**	**AB-**
Frequency	14	13	14	1	2	Nil	5	1
Percentage	28%	26%	28%	2%	4%	0	10%	2%

Table-XV. Duration of pregnancy (n=50)			
Groups	**Gestation**	**Frequency (n)**	**%age**
1	37wks	28	56%
2	34-37	15	30%
3	28-34	7	14%
4	<28	Nil	0%
5	Hystrotomy	Nil	0%
Total		50	100%

RESULTS

Total no. of 50 patients were identified and studied. Emergency cesarean section was done in 50% patients, while 50% underwent elective cesarean section. The age distribution was between 22-41 years with highest incidence between 27-31 year (46%) and regarding parity 44% were between Para 2 and Para 3. Almost equal no. of patient underwent emergency /elective section, and Intraoperative complication were mostly related to the previous cesarean section and most frequently encountered complication was post partum hemorrhage in 19 patients (38%) which was managed conservatively initially but leads to cesarean hysterectomy in 2 patient (4%) because of massive hemorrhage due to placenta percreta in one patient. The frequency of bowel and bladder injury was also 2% in this study. In one patient there was development of retroperitoneal hematoma that came in notice during postoperative period (after cesarean hysterectomy and that patient need re-exploratory laparotomy). Placenta accrete was present in those patients who have got anterior placenta in 4 patients (8%) while severe morbid adherence was observed in 1 patient, and placenta was left in situ due to the risk of torrential hemorrhage and it was monitored in the postoperative period by serial ultrasound scan. Intra-operatively in 31 patients (62%) have got placenta situated anteriorly, out of which 7 (14%) were primigravida, 11 (22%) were multigravida, 5 patients (10%) with previous 1 Lower segment Caesarean

Section, 6 (12%) with previous 2 Lower segment Caesarean Section, and 2 patients (4%) with previous 3 Lower segment Caesarean Section. This anteriorly situated placenta is associated with morbid adherence of placenta i.e. placenta accrete was present in 4 patients (8%). The posteriorly placed placenta was present in 19 patients (38%) out of which 6 (12%) were Primigravida, 5 patients (10%) were multigravida, while 5 patients (10%) have got history of Dilatation & Curettage, 2 patients were with previous 1 Lower segment Caesarean Section,1(2%) with previous 2 Lower segment Caesarean Section.

Regarding postoperative complication, the most frequent occurring complication was anemia in 23 patients (46%) requiring either blood transfusion or inject able iron therapy depending upon the severity of anemia. One patient went into septicemia (2%), while 2 went into disseminated intravascular coagulation (4%). ICU admission was required in 2 patients (4%) while one patient need re-exploratory laparotomy (2%).

The main risk factor for placenta previa as thought to be related to the previous cesarean section, but in this study 24 patients (48%) were either primigravidas or those having previous normal vaginal deliveries. Second most frequently occurring risk factor in this study was history of Dilatation and Curettage which was there in 16 patients (32%), with 7 patients (14%) having previous 1 Lower segment Caesarean Section and 14% with previous 2 Lower segment Caesarean Section. There were 2 patients (4%) with previous 3 Lower segment Caesarean Section, and 1 patient (2%) was with history of laparotomy for ectopic pregnancy. No uterine anomalies were observed intraoperatively. The gestational age at cesarean was 37 week in 56% patients, between 34-37 week in 30% patients, between 28-34 week in14% patients, while no hystrotomy was done and no patient was at less than 28 week of gestation.

The average hospital stay was between 2-84 days with 19 patients (38%) discharging between 7-9 days. The longest hospital stay was because of ante partum hemorrhage in these patients at an early gestation. The longest hospital stay was 84 days, because that patient develops APH at 22 weeks and need prolonged hospitalization, but patient unfortunately died due to septicemia and atrial fibrillations during postoperative period.

The need for blood transfusion was different in different patients. 10 patients (20%) require no blood transfusion while one to two pint of blood were needed in 25 patients (50%). 3-4 pint of blood were given in 11 patients(22%) while the maximum blood transfused was 38 pints. The blood group of this patient was A+. The most commonly observed blood group was A+ve 28% and O+ve 28%.while B+ve was present in 26% patients, AB+VE IN 10%,A-VE in 2%, B-VE in 4% and AB-VE in 2% patients. Maternal mortality associated with this condition was 2% during this study. Regarding neonatal mortality, it was 14% in this study and this mortality was associated with extreme prematurity and low birth weight newborns.

DISCUSSION

The rising incidence of placenta previa in modern obstetrics is thought to be related to the rising rate of cesarean section which are now occurring on maternal request and other such indications which were nonexistent previously. The incidence of cesarean section has risen from 5.5% in1970 to 16.5% in 1980 and up to 24.7% in 1988[2]. A single cesarean delivery increases the risk to 0.65%, two increases the risk 1.5%, three increases the risk by 2.2% and four or more increases the risk by 10%[3]. The incidence of placenta accrete is 5% in patients with placenta previa with previous one Lower segment Caesarean Section to 67% with previous 4 Lower segment Caesarean Section[4]. This study however shows some differing results with placenta previa occurring in 48% patients who do not have past history of cesarean they were either primigravidas or those who previously had normal vaginal deliveries. This could be because of other associated risk factors. 32% patients had history of Dilatation and Curettage while 14%were those who had previous one or two cesarean sections respectively. So it can be assumed that may be maternal age may be a contributing factor in the etiology of placenta previa or some other risk factor which are still to be identified. Previous Lower segment Caesarean Section no doubt increases the morbidity and mortality, as intraoperative complications are more with previous

cesarean section associated with the condition especially if the placenta is situated anteriorly over the previous cesarean scar.

In the present study the highest morbidity was associated with anemia i.e. 46%. While maternal morality was 2% which is in contrast to the studies from USA where associated maternal mortality was 0.03% this high mortality is thought to be related to the poor provision of health care services and lack of awareness of general population. The rate of placenta previa was 0.33% from a study in Canada, rate in USA is 5/1000 deliveries, in a study from Taiwan the rate of placenta previa was 1.2%, while in our study the rate was 0.2%. Neonatal mortality was 14%.

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PREVIOUS RELATED STUDIES

- Aslam Mahmood Malik, Shazia Siddique, Ijaz Ahmad Shah. **Placenta Praevia; A study to determine responsible factors.** Professional Med J 2007; Vol:17, No:3, 407-410.