Effect of Placenta Previa on Fetal & Maternal Morbidity/ Mortality

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Objective: -To see the effect of placenta previa on fetal and maternal mortality/ morbidity. This was a case series study. Study was conducted in Gynecology unit BV Hospital Bahawalpur during year 2000 to 2003. All the patients presenting with or with out painless bleeding in antenatal clinic & proved to be due placenta previa were included in the study. Patients presenting with pain less bleeding in the antenatal clinic due to other reasons were excluded from the study. In all the patients' history along with the risk factors clinical and sonography finding, any intervention needed and final out come was recorded. SPSS was used for data collection & analysis. **Results**: Total 50 patients were studied Out of these 84% of patients were symptomatic at admission the symptoms found were Bleeding, shock & Pain. Strong associations of risk factors like Age, Parity, ERCP, Smoking and previous C.Section was found in our study. Severe hemorrhage, prematurity, stillbirths and ENND was associated with Placenta Previa. **Conclusion**: Placenta previa is not an uncommon but underestimated, under reported & preventable condition. Prevention is possible in case of Known risk factors. Early diagnosis is necessary as the delay in some cases may end up in disaster.
Key words: - Placenta Previa. Antepartum Hemorrhage

Placenta previa is placenta, which is partially or wholly attached to the lower uterine segment.

Four grades are defined:

Grade1: Placenta is in the lower segment, which does not reach the internal os.

Grade 2: Lower edge reaches but does not cover the internal os.

Grade 3: Placenta covers the internal os asymmetrically.

Grade 4: Placenta covers the internal os completely.

The condition may be multifactorial. Exact etiology is not known. It is postulated to be related to multiparity, multiple pregnancies, advanced maternal age, previous cesarean delivery, and evacuation for miscarriages, dilatation and curettage. Uterine scar provides nidus for placenta implantation.

Placenta previa is one of the major causes of Antepartum hemorrhage. It may cause serious maternal and perinatal morbidity and mortality. Maternal mortality has fallen from 5% to <0.1% due to the introduction of conservative management consisting of hemodynamic support and expectant management where possible. Anesthetic and surgical complications occur where the mothers with placenta previa are delivered by emergency cesarean section.

Placenta previa is more common in Asian women >30 years are 3 times more prone than women <20 years. Prior placenta previa is seen in 4-8% of cases.

Fetal risks include preterm birth. Overall perinatal mortality has dropped from 126/1000 to 42-81/1000 with conservative management and improved neonatal care. Intrauterine Growth Retardation is common and incidence is high with multiple episodes of bleeding. Congenital malformations are doubled. Perinatal mortality is also contributed by cord compression; cord prolapsed, malpresentation, fetal anoxia and unexpected IUD from severe maternal hypovolemia. These facts highlight the need for proper maternal care and diagnosis of condition in all pregnant ladies especially those at high risk. So keeping these facts in view such cases must be referred for delivery at tertiary care hospitals where the trained personals are available. In general, placenta previa means delivery by cesarean section. In placenta previa grade 1 and 2,vaginal delivery may be allowed if head is engaged.

Keeping these facts in view author conducted this case series study.

Patients and methods:

Study Design:

This is case series study.

Suit & Time:

Study was conducted in Gynecology units of Bahawal Victoria Hospital Bahawalpur during the year 2000-2003. Patients were admitted from gynae out patient department.

Inclusion criteria:

All the pregnant ladies above 28 weeks of pregnancy presenting with painless bleeding in antenatal clinic & proved to be due placenta previa before or after admission were included in the study. Patients presenting with pain less bleeding in the antenatal clinic due to other reasons were excluded from the study.

Statistical Procedure:

History was obtained from the patients themselves and also from their relatives. Clinical Presentations painless bleeding & associated symptoms were recorded. Any known risk factor like multiparity, multiple pregnancies, advanced maternal age etc. was recorded. Every patient was analyzed regarding age, parity, duration of pregnancy, previous significant obstetrical history (any malpresentation, fetal status i.e. alive, in distress or dead, maternal complication like hypovolemic shock) were recorded. History was also taken regarding the date and place of any previous surgery in details.

All such patient was advised hospital delivery (spontaneous or caesarian). Close monitoring natal &

postnatal period was and record of data was possible in all cases except few dropouts.

After initial resuscitation diagnosis was confirmed by USG. More serious patients were taken to Operation Theater for examination under anesthesia & proceed. Mode of delivery recorded in detail with any complication. Apgar scoring of baby at birth and 5 minutes was done & examination done for anomalies. Babies requiring admission in nursery were shifted to pediatric ward and follow up done till discharge.

Data collected and processed by SPSS. The computer program of Microsoft word & SPSS were used.

Test of significance:

As this is observational case series study so no test is applicable.

Results:

During the period of study 3000 patients were delivered. Out of these 420 were LSCS and rests 2580 were spontaneous vaginal deliveries (SVD's). Study was conducted on 50 patients that presented with placenta previa. So frequency of placenta previa was 1.67% of total births conducted.

Clinical presentation of the patients has shown that age was ranging from 19 to 43 with an average of 33 years. Multi parity was in 45 (90%) patients.

Antepartum bleeding was the 1st symptom in 36% of cases. Out of these 50 patients 84% of patients were symptomatic at admission the symptoms found were Bleeding, shock & Pain. Details are given in table I. 8 (16%) Patients were diagnosed on routine USG and were asymptomatic.

Table 1: Pre-operative finding in the patient

Factors	n=	%age
Age in years		
19-29	05	10
30-35	30	60
Above 35	15	30
Parity		
Primigravida	05	10
Multipara	35	70
Gran multipara	10	20
Bleeding per vaginuma APH		
Mild	05	10
Moderate	10	20
Severe	03	06
Total	18	36
Bleeding per Vaginum PPH	05	10
Abdominal pain	02	04
Hypovolemic shock	04	08
Asymptomatic	08	16
Gestational age of patient		
28-30 weeks	12	24
Above 30	08	76

Strong associations of **risk factors** like Age, Parity, ERCP, Smoking and previous C.Section was found in our study. Details are given in table II.USG was done in all patients and grading of placenta previa was done preoperatively as under:

Grade1: 15 patients
Grade 2:03 patients
Grade 3: 05patients
Grade 4: 27patients

Out come of the patients having Placenta Previa in our study have shown that Malpresentation of the fetus was more in the patients with placenta previa as compared to normally cited placenta. SVD was possible in 17 patient and C.Section was done in 33 patients. Perinatal mortality was seen in 02 patient. Severe hemorrhage, prematurity, stillbirths and ENND was associated with Placenta Previa; details are shown in table III.

Table II Risk factors for placenta previa in study population

Risk factors found	n=	%age
Parity		
Primigravida	05	10
Multipara	35	70
Gran multipara	10	20
Previous scar in uterus		
One caesarean	07	14
> one caesarean	10	20
Myomectomy	04	08
Past history of ERCP	07	14
History of smoking	01	02
Hypovolemic shock	04	08
Asymptomatic	08	16

Table III: Status of fetus/baby

Status of fetus/baby	n=	%age
Fetal status at admission		
Alive and normal heart	44	88
trace	01	02
Fetal distress	05	10
Intrauterine death		
APGAR score of alive delivered		
babies at birth		
>5	25	50
<5	20	40
APGAR score at 5 minutes of		
birth	10	20
>5	35	70
<5		
Perinatal outcome of Alive		
delivered babies		
Total	45	90
Shifted to nursery	23	46
ENND	12	24

Discussion:

Placenta previa can cause serious, occasionally fatal complications for fetus and mothers7. The frequency of placenta previa in our study is 1.67% which is more than double as compare to what Bamanga observed at Brazzarille hospital, Congo[5], but far less than the figures presented in Miller's study which is 9.3% at Los Angeles[8].

Average age of placenta previa presentation is 31 years; with 60% of cases falling in the age group of 30-35 years. The results are similar to a study conducted in Mexico where average maternal age turned out to be 31 years. More than 90% of selected cases were multiparous in our study; in accordance with the study of Brenner[9] and Tuzovic[2] (95%) but in contrast with what Lira Plascencia observed[10]. Second trimester bleeding is the main presenting complaint (mounting up to 36% in our study) as Sheiner observed at Beer-Sheva, Israel.

The risk factors for placenta previa observed by us are in the order of multiparity, previous uterine surgery and past history of ERPC with only one patient with history of smoking. Review of research work conducted by Miller[8], Tuzovic[2] and Read[11] revealed similar results.

Neonatal complications significantly associated with placenta previa included those because of pre-term delivery like respiratory distress syndrome and anemia. The perinatal mortality rate associated with placenta previa was 24% and was explained by gestational age at delivery and APGAR score of the baby at the time of birth. There was no increased occurrence of fetal growth restriction. The results are entirely different to those of Crane[12] at Canada who noticed the rate of only 2.30% (Reason behind this gross difference may be due to good health facilities in a well developed country).

Out come of the patients having Placenta Previa in our study as well as of Sheiner[3] have shown that mal-presentation of the fetus was more in the patients with placenta previa as compared to normally cited placenta. SVD was possible in 18 patients and C. Section was done in 32 patients with the same ratio as Sheiner observed[3]. Main perinatal complication was pre-term delivery with 14-fold higher risk in women with placenta previa among the patient's studies. Severe hemorrhage, stillbirths and early neonatal death were associated with placenta previa.

In a multivariable analysis investigating risk factors for perinatal mortality, the following were found to be independent significant factors: congenital malformation, placental abruption, pathological presentations and pre-term delivery. In contrast, placenta previa and caesarean section were found to be protective factors against the occurrence of perinatal mortality.

Conclusion:

There is high frequency of placenta previa because of early marriages, multiparity and low threshold for c. section in periphery. Placenta previa is associated with high maternal and fetal suffering.

The major cause of perinatal mortality proved to be the prematurely. Mothers suffered because of lack of diagnosis and blood transfusion facilities in peripheral areas. Thus pregnant ladies should have a third trimester USG for placental localization and patients with p.p should be referred to tertiary care hospital to be dealt accordingly.

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