



MAJOR DEGREE PLACENTA PRAEVIA; FREQUENCY OF RISK FACTORS, COMPLICATIONS AND PERINATAL OUTCOME

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ABSTRACT ... Introduction: Placenta praevia is a major cause of maternal & fetal morbidity and mortality. It is a major cause of obstetrical haemorrhage in second and third trimester of pregnancy. Placenta praevia usually presents with antepartum haemorrhage and as a source of maternal morbidity, it remained a significant cause of hospitalization and caesarean section. The study was carried out to see the frequency of risk factors, maternal complications and perinatal outcome in major degree placenta praevia. **Objectives:** I). To Find out major risk factors and maternal complications in major degree placenta praevia. II). Know perinatal outcome in major degree placenta praevia. **Study Design & Techniques:** It is a descriptive study. Patients were selected by simple random sampling techniques. **Settings:** The study was carried out at Gynae Unit-I, Allied Hospital, Faisalabad from March 2005 to February, 2006. **Subjects & Method:** Seventy five patients selected for the study after fulfilling the inclusion criteria for major degree placenta praevia. The included patients were examined thoroughly and relevant information was recorded into proforma giving detailed history, clinical examination, investigation and management. **Results:** In this descriptive study, total 75 patients were included as a diagnosed a case of major degree placenta praevia. There were 15 patients presented asymptotically and the rest of 60 patients were symptomatic. Out of 75 patients, majority of the patients belonged to the age group of 24-35 years. The mean age was 31.5 years. 2 patients expired due to massive PPH, 10 patients underwent obstetrical hysterectomy. In these 10 patients, 3 patients had placenta accrete, 1 patient had placenta increta and 2 had placenta percreta. Predisposing factors were previous gynaecological operations in 15 patients, history of previous C-section in 14 patients, history of previous placenta praevia 8 patients, advanced maternal age 5 patients and history of myomectomy in 3 patients. The remaining 39 patients had no predisposing risk factor. The mean gestational age was 36 weeks. 57 babies were delivered by emergency C-section and the remaining 18 patients underwent elective C-section. Live birth account was 66. Out of 75 babies, 9 babies were IUD, 48 were preterm, 17 were IUGR, 25 babies were having RDS and 3 babies were abnormal congenitally and 13 perinatal deaths occurred. **Conclusions:** Significant improvement in the neonatal care should be achieved in our tertiary environment to improve expected survival rate together with a reduction in overall morbidity for the premature new born.

Key words: Antepartum haemorrhage, post partum haemorrhage, Obstetrical hysterectomy, Caesarean section.

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INTRODUCTION

Placenta praevia is defined as "Placenta which is implanted entirely or partially in lower uterine segment". Placenta praevia is a major cause of obstetrical haemorrhage in 2nd & 3rd trimester of pregnancy. Obstetrical haemorrhage is one of the three leading causes of maternal death and it is more likely to be fatal to the mother in circumstances in which blood and blood products are not available immediately. In developing

world haemodynamic support is not appropriate and it results in more difficult situation to treat. Placenta praevia remains one of the major cause of maternal and fetal mortality and morbidity^{1,2,3,4,5}.

The confidential inquiry into maternal death has, over many years, highlighted the dangers associated with massive hemorrhage in general and placenta praevia in particular. In developing countries today, wide spread pre-existing anemia,

difficulties with transport and restricted medical facilities, ensure that APH continues to be responsible for many maternal deaths.

Patients of placenta praevia are more likely to have increased risk of caesarean hysterectomy. Combined abnormal penetration of placenta, as in accreta and abnormality in site as in praevia, are major contributing factors. The incidence of peripartum hysterectomy is 0.5/1000 deliveries and main indication was placenta accrete in about 38.1% but there is considerable difference in the incidence of emergency peripartum hysterectomy in different parts of the world.

Incidence of placenta pravia in Pakistan is 3.5%. Major degree placenta praevia is 2.3% and minor degree placenta praevia is 1.2%. The overall incidence of placenta praevia is 0.5%. The exact cause of placenta praevia is still unknown. There are certain risk factors which are known to be the predisposing factors. These include parity, maternal age, and previous history of caesarean section, previous history of placenta praevia, endometrial damage, placental size, myomectomy and other placental pathology.

OBJECTS & METHODS

Settings

The study was carried out for a period of one year in the Gynaecology and Obstetrics Department at Allied Hospital, Faisalabad.

Study Design

It is descriptive case series.

Sample Size

A total of 75 admitted patients have been selected from emergency and OPD in the Gynae Unit-I Allied hospital within one year from March 2005 to February 2006.

Procedure

This study includes 75 patients. Out of Seventy five patients admitted at Allied hospital, sixty patients were admitted through emergency and fifteen patients were admitted through OPD. The

patients presented in emergency with history of gestational amenorrhea > 28 weeks, PV bleeding and lower abdominal pain. These patients were resuscitated and all of them underwent emergency Caesarean section. The remaining fifteen patients who were admitted through OPD were managed conservatively till 37 weeks of gestation and elective Caesarean section done in all these patients.

These patients remained admitted in the hospital for one week post operatively and perinatal outcome was observed. Data regarding general information maternal complications and perinatal outcome were compiled and processed using appropriate statistical program.

Inclusion Criteria

All patients attending emergency and antenatal ward in Obstetrics & Gynaecology of Allied Hospital, Faisalabad diagnosed cases of placenta pravia major degree on USG were included.

Exclusion Criteria

1. Patients with minor degree placenta praevia were excluded.
2. Placenta praevia major degree with other obstetrical complications like PIH, eclampsia and gestational diabetes were excluded.

STATISTICAL ANALYSIS

Proforma was developed for collection of relevant information regarding various risk factors, maternal complications and perinatal outcome in major degree placenta praevia and computed using SPSS 10 and Microsoft Excel program.

RESULTS

The number of deliveries beyond 28 weeks of gestation during the study period were 3442 and 75 cases of placenta praevia major were reported resulting in incidence of 2.17%.

Out of 75, majority of the patients presented with painless vaginal bleeding (51%) malpresentation (22%) and shock (6%). Distribution according to mode of presentation is shown in Fig.9.

Parity was found to be another factor directly related with placenta praevia. It is evident from the Table-I that increasing parity is directly associated with increased risk of placenta praevia. Maximum number of patients 37.3% were gravida 5 or above while nuliparous were 9.4%.

Parity	Frequency	Percentage
0-1	7	9.4
2-3	18	24
4-5	22	29.3
>5	28	37.3
Total	75	100

Table-I. Distribution of patients according to parity

Distribution of patients according to risk factor
Important risk factors in case of placenta praevia were:

Procedures	No. of Pts.	% Age
Previous Abortions and D & C	15	20
Previous C-section	14	18.7
Previous placenta praevia	8	10
Myomectomy	3	4
Advanced maternal age	5	6.6
No risk factor	39	52

Advancing maternal age is associated with progressively increased risk for placenta praevia. However the maximum number of patients 38.5% was of 24-27 years of age. The mean age was 31.5 years. Table-II shows the patients falling under different age groups.

Age of Pts. (in years)	No. of Patients	Percentage
20-23	7	9.4
24-27	29	38.6
28-31	15	20.0
32-35	18	24.0
36-39	2	2.6
40-43	4	5.4
Total	75	100

Table-II. Distribution of patients according to maternal age

The rate of maternal morbidity and mortality, in

patients with praevia was caused by obstetric hemorrhage in the form of APH and PPH. Out of 75% causes, PPH occurred in 9.3%, obstetrical hysterectomy in 13% and maternal death occurred in 3% cases. Out of 10 patients of hysterectomy, 3 had placenta accrete, 1 had placenta increta and 2 had placenta percreta. Rest of the 4 patients had hysterectomy due to severe uncontrolled PPH. This has been shown in Fig. 11 had Table-III.

Obstetrical Hysterectomy	No. of Pts.	Percentage
Accrete	3	4
Percreta	2	2.7
Increta	1	1.3
PPH	4	5.3
Total	10	13

Table-III. Distribution of patients according to cause of obstetrical hysterectomy.

Gestational age at the time of delivery affects the perinatal outcome, the mean gestational age at the delivery was 36 weeks. The purpose of hospitalization of the patients with placenta praevia was to attain the gestational age up to 36 weeks at least. The results are shown in the Table-IV.

Gestational Age at Delivery (weeks)	No. of Pts.	Percentage
28-29	10	13.4
30-31	2	2.6
32-33	4	5.3
34-35	15	20.0
36-37	36	48.0
>37	8	10.7
Total	75	100

Table-IV. Distribution of patients according to gestational age at delivery

Live birth accounts for 66 babies of 75 cases while rest of the 9 babies were IUD.

- a. Among the live birth, 48 babies were born premature i.e, < 37 weeks of gestation.
- b. 17 out of 66 live births were FGR.
- c. 25 of babies were having RDS.
- d. Perinatal death account for 13 patients.
- e. Only 3 babies out of 66 were congenitally abnormal like 1 baby was having imperforated

anus, 1 had tracheo esophageal fistula and the third one was hydrops fetalis.

Complications	No. of Pts.	(%)
Prematurity	48	64.0
FGR	17	22.6
RDS	25	33.3
IUD	9	12.0
Congenital Malformation	3	4.0
Birth Asphyxia	13	18.0
Perinatal Death	13	17.4

Table-V. Distribution according to complications to foetus

Weight of the babies delivered have between 2.1 - 2.5 kg. the 2nd peak was between 2.6 – 3.0 kg. this low birth weight was due to placental insufficiency and preterm delivery was due to severe antepartumhaemorrhage in major degree placenta praevia. This has been shown in Table-VI.

Weight of Baby at delivery (kg)	No. of Pts.	(%)
1.1 – 1.5	8	10.7
1.6 – 2.0	10	13.3
2.1 – 2.5	28	37.4
2.6 – 3.0	8	10.6
3.1 – 3.5	8	10.6
3.6 – 4.0	3	4.0
Total	75	100

Table-VI. Distribution according to weight of baby at delivery

DISCUSSION

As obstetrical haemorrhage is one of the three leading causes of maternal mortality and placenta is a major cause of obstetrical hemorrhage in 2nd and 3rd trimester of pregnancy. The patients with major degree placenta praevia still present a challenge to the clinicians faced with APH and PPH. The more serious sequelae of major degree placenta praevia is maternal and perinatal mortality. Hundreds of studies have been concluded on placenta praevia in developed countries but so far a very few from developing countries. Placenta praevia remained a major group in the developing countries due to the

fact that haemodynamic support is not readily available. So in our circumstances, placenta praevia contributes a lot in becoming one of the major causes of maternal and fetal morbidity and mortality.

The incidence of placenta praevia major in this study was 2.17%. It was comparable to study conducted by Farhat Nasreen in Khyber Teaching Hospital, Peshawar which was about 2.3%. According to Yoon⁶, the overall incidence in the United States is 5 of 1000 deliveries. The reason being that this is a tertiary hospital and most of the normal deliveries take place outside the hospital. From this study, it appears that implantation over the internal os is not just chance happening. A high incidence of placenta praevia would be expected if implantation were random rather than preferentially in the fundus of the uterus.

In this study, the analysis of age showed that the frequency of placenta praevia increases across the entire maternal age. This study is comparable to study of Abu Heija⁷. Their study of "Retrospective review of hospital deliveries", performed at "Princess Bedeea Teaching in North Jordan", proved that placenta praevia increase with increasing maternal age.

The usual association of placenta praevia with multiparity was also increased under this study i.e, 4 times more common in multipara having placenta praevia as in nulipara (N=7). This study is comparable to Abu Heija et al⁸ who reviewed record of 95 women with placenta praevia in North Jordan.

In this study, 20% of patients had a history of previous abortions and D&C. Barret et al⁹ reported six fold increase in the risk of placenta praevia following abortions and therapeutic termination of pregnancy.

In present study, 18.6% patients had previous history of caesarean section. Miller and associates¹⁰ cited a 3 fold increase of praevia in women with prior caesarean delivery in over 150,000 deliveries at Los Angeles Country Hospital. The incidence

with the number of previous caesarean delivery, it was 1.9% with 2 prior caesarean and 4.1% with 3 or more.

Caesarean hysterectomy is another maternal morbidity in placenta praevia. In this study, 13% patients underwent caesarean hysterectomy. Out of 10 patients of hysterectomy, 3 had placenta accrete, 1 had placenta increta and 2 had placenta percreta, rest of the 4 patients had hysterectomy due to severe un-controlled PPH. A study conducted by Tahir and colleagues¹¹ regarding "indications and maternal outcome of emergency peripartum hysterectomy" at DHQ hospital, Faisalabad, found that in 17% cases, abnormal placentation was present.

Under this, maternal mortality occurred in 3% of patients due to severe postpartum haemorrhage. Another study was conducted by Mussarat and colleagues¹² in Gynae & Obstet at Allied Hospital, Faisalabad from January 2002. They concluded that maternal mortality was 557/100,000 live birth during this study period. The most common cause of MMR was haemorrhage. 12 maternal deaths (48%) were due to hemorrhage. Out of them, 7 patients had placenta praevia; they had massive PPH post operatively. After failure of medical management, obstetric hysterectomy was done, but they did not survive.

Prematurity due to placenta praevia accounts for 39%. Crane and co-investigations¹³⁰ reported a preterm delivery rate of 47%. A recent study in Western Australia reported that 54% preterm deliveries (<37 weeks gestation) were associated with pre-labour rupture of membrane, 18% with APH and 21% with preeclampsia. Hagan and colleagues¹³¹ found that up to fifth of every preterm baby were in association with APH.

The mean gestational age was 36 weeks under this and perinatal mortality was 17.4%. Neilson¹³ found that 15% of perinatal death can be attributed to APH. Home¹⁴ found that perinatal mortality associated with placenta praevia is less than 10%. IUGR occurred in 13% in this study. Brar and colleagues¹⁵ reported that the incidence was

nearly 20%.

RDS occurred in 20% cases. Lin¹³⁷ during their study period from January 1989 to December 1995 in a medical center and 40 preterm infant born to mothers with placenta praevia were enrolled and compared with control group. About half of mothers in both the groups received steroids. They concluded that placenta praevia pregnancies had a higher incidence (21/40 vs 10/40) and more severe RDS than control.

Birth asphyxia occurred in 18% of cases. A study conducted by Azam and co-workers¹⁶ at paediatric unit, Nishtar Hospital Multan reported that 14% cases of birth asphyxia were due to APH.

The mean birth weight of the baby was 2.3 kg women with placenta praevia are more likely to have a low-birth weight baby mostly because they may need to deliver early, but also because of a slightly increased risk of intrauterine growth restriction.

Low birth weight was also associated with number of bleeding episodes. If the bleeding episodes are more, there are more of preterm deliveries resulting in low birth weight. Neonatal intensive care facilities are in the primitive stage in our hospitals which add to perinatal mortality. Most of our patients are referred cases from remote areas, so by the time they reach the hospital, intrauterine fetal demise occur due to heavy blood loss accounting for a very high perinatal mortality.

CONCLUSIONS

After conducting this study, we are able to draw certain conclusive points. Which are:
Antenatal diagnosis of placenta praevia and correction of anemia in antenatal period is important to prevent complication.

Effective blood banking is also very much necessary to cope with the ever increasing demand of blood in Gynae & Obstetric unit.

Significant improvement in the neonatal care should care should be achieved in our tertiary

environment to improve expected survival rate, together with a reduction in overall morbidity for the premature newborn.

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It always seems impossible until it's done.

Nelson Mandela

