

MATERNAL AND FOETAL OUTCOME IN PLACENTA PREVIA

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ABSTRACT

BACKGROUND

The aim of the study is to study the-

- Risk factors for placenta previa.
- Signs of placenta previa.
- Modes of delivery.
- Maternal and foetal outcome.
- Incidence of placenta previa.

MATERIALS AND METHODS

This is a longitudinal prospective study group consisting of 75 cases of pregnancies with placenta previa. Analysis of maternal and neonatal outcome in cases of placenta previa occurring over a period of 2 years from November 2013 to October 2016. This study was carried out at Government General Hospital, Kakinada, attached to Rangaraya Medical College.

RESULTS

Maternal morbidity in placenta previa is due to antepartum, intrapartum and postpartum complications. Maternal mortality due to placenta previa was nil. Perinatal death with minor placenta previa was 5.12% with major placenta previa was 47.22%. The general perinatal mortality was 28 per 1000 live births and that due to placenta previa 280 per 1000 live births, i.e. approximately 4 times higher than general perinatal mortality rate. The maternal mortality rate due to placenta previa in this study was nil.

CONCLUSIONS

In the present study, incidence of antepartum haemorrhage was 0.87% and placenta previa contributed to 37.12% of cases. The general perinatal mortality was 28 per 1000 live births and that due to placenta previa 280 per 1000 live births, i.e. approximately 4 times higher than general perinatal mortality rate. The maternal mortality rate due to placenta previa in this study was nil. But, maternal morbidity was high that is more than 60% of cases had antenatal, intranatal and postnatal complications and anaemia worsened the clinical state of patient.

KEYWORDS

Placenta Previa, Maternal and Foetal Outcome.

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BACKGROUND

Antepartum Haemorrhage (APH) still presents as one of the most dreaded and devastating groups of disorders in obstetrics. Vaginal bleeding in any stage of pregnancy is an alarming event generating significant concern in both patients and doctors and when occurring in 3rd trimester, mainly placenta previa and abruption placenta and marginal placental separation. Majority of the painless vaginal bleeding in the second half of the pregnancy are associated with placenta previa, more common with neglected pregnancies, increased parity and advancing age.¹

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Patrick J. defined placenta previa as condition based on the site of blastocyst implantation and whether the maturing placenta obstructs or is proximal to the internal os. Placenta previa involves bleeding from placenta site completely, which is located in lower uterine segment either partially or completely and as the lower uterine segment stretches near term or in labour the associated bleeding is inevitable.² Placenta previa contributes to 1/5th of the cases of antepartum haemorrhage. Approximately, >40% patients deliver in hospitals without immediate 24 hours blood bank facilities.³

The maternal and neonatal outcome can be definitely improved in cases of placenta previa as it can be diagnosed by antenatal USG even before the 1st episode of bleeding. Once the condition is diagnosed, the case should be judiciously managed and all steps required should be taken to treat the complications associated with such cases. These cases are to be managed only in centres where there are facilities for blood transfusion, immediate operative interventions and NICU facilities round the clock to attend

the preterm babies. Even better antenatal care and thorough screening of the patient with 3rd trimester scan, better referral system, transport and more hospitals with 24 hrs. blood bank facility are the need of the hour. All these measures can probably bring down the maternal and perinatal mortality and morbidity rates and achieve the standards of the developed countries.

I was interested in knowing whether we are any better in managing this obstetric emergency, so as to achieve our ultimate goal of a healthy mother and a healthy baby at the end of every pregnancy.

MATERIALS AND METHODS

The present study group consisted of 75 cases of pregnancies with placenta previa selected randomly.

Inclusion Criteria

Pregnant women with placenta previa confirmed by USG and with gestational age beyond 28 weeks were selected irrespective of parity, type of placenta previa and with a live or dead foetus.

METHODOLOGY

The ethical committee of the hospital approved the study. Before recruiting the eligible patient in the study, an informed consent was taken from the patient's attenders or the patient herself. On admission, relevant history was taken followed by general physical examination.

In the history, the details were collected regarding the age, parity, gestational age at 1st episode of bleeding, number of previous episodes of bleeding, the duration of bleeding and the amount of bleeding [no. of diapers soaked, passage of clots] were estimated approximately. Patient was asked whether she appreciated the foetal movements whether bleeding per vagina is associated with pain abdomen in the obstetric history. Enquiry was made about the number of previous deliveries whether associated with previous abortion, and if such history given, then whether these abortions were spontaneous or induced or followed by D and C.

On examination, a clinical note was made about the nutritional status, pallor, oedema, signs and symptoms of shock. Pulse rate, blood pressure, respiratory rate measured and cardiovascular system, respiratory and central nervous system statuses analysed.

IV lines were secured and blood samples collected for investigations. Investigations including Hb%, blood grouping and Rh typing, bleeding time, clotting time and CRT. Urine examined for albumin, sugar and microscopy, platelet count, LFT, RFT and prothrombin time was measured. All patients were subjected to USG, if it was not done previously or not done after 28 completed weeks of gestation.

Management of Cases were Based on Following Criteria

1. Mother's condition- degree of obstetric haemorrhage- mild, moderate or severe.

2. Foetal condition- gestational age, live/dead.
3. Ability of the neonatal unit to handle an infant of that gestational age.

75 cases were managed according to maternal state of exsanguination, degree of placenta previa and gestational age of foetus. Target was to achieve gestational age of 37 completed weeks and to maintain the haemoglobin above 10 gm%.

Minor degree^{4,5} of placenta previa cases were allowed to go spontaneously in labour for vaginal delivery up to 37 weeks. If there was no onset of labour by 37 weeks, elective LSCS was done. No induction techniques utilised. If a patient came in labour and was haemodynamically stable, labour was augmented with oxytocin drip. In case of torrential bleeding or foetal distress, caesarean section was done. If gestational age was less than 34 weeks, expectant line of management was followed.

Major degree of placenta previa cases, if not bleeding actively and if less than 34 weeks of gestation were given expectant line of management, steroids (injection betamethasone 12 mgs 24 hrs. apart in divided doses IM) and blood transfusions.^{6,7,8}

In case of onset of regular uterine contractions or two or more episodes of significant vaginal bleeding or lowering of haemoglobin by 1 gm%, emergency LSCS was mandatory.

Anticipating PPH, oxytocin, methergine or prostaglandins were used. No tocolytic drugs used, no cervical encirclage carried out and no double setup vaginal examination undertaken in operation theatre.

All caesarean sections were lower segment caesarean section. The low uterine segment was opened with transverse incision in all cases. In central and anterior types of placenta previa, placenta was cut through for extraction of baby. 10 cases of placenta previa had intraoperative atonic PPH, which was controlled with vertical haemostatic suturing, i.e. B-Lynch sutures.

Postpartum blood loss during vaginal deliveries is measured by collection of the blood in a kidney tray placed below the buttocks. This collected blood was measured and bleeding was estimated as 1 gram equivalent to 4 mL of blood loss. Intraoperatively, number of mops used were weighed. Difference in the weight before and after the use was utilised for calculating the blood loss. Here, 1 gm is equivalent to 1 mL of blood loss.

Anaemia is defined as haemoglobin less than 10 gm or haematocrit less than 30%. This was corrected with blood transfusion when necessary. All the delivered babies were managed with proper care paying attention to the resuscitation of the asphyxiated ones. Babies requiring special care were admitted in NICU.

The foetal and maternal outcome and complications were recorded in each case and the patients and the babies assessed at the time of discharge. The duration of hospital stay was recorded in each case.

RESULTS

The total number of deliveries in study period, November 2013-October 2015 are 23,161, out of which, 322 patients presented with antepartum haemorrhage. % of women presenting with APH is 1.4%. 75 cases of placenta previa were managed giving an incidence of 32%.

INCIDENCE OF PLACENTA PREVIA

Total number of births	23,161
Total number of APH cases	322
Incidence of APH	1.4
Total number of placenta previa cases	75
Incidence of placenta previa	0.32
Total number of perinatal deaths due to placenta previa	19
General perinatal mortality rate	28/1000
Perinatal mortality rate in placenta previa	25.33
NICU admissions	20
Maternal deaths due to placenta previa	Nil

Out of our study group of 75 cases of placenta previa, 39 cases had minor degree of placenta previa and 36 cases had major degree of placenta previa. 65 cases were

delivered by caesarean section, 57 as emergency, 8 as elective and 10 cases delivered vaginally.

In the Study, the Following Results have been studied under the Following Headings

1. The incidence of placenta previa.
2. Correlation of maternal age and placenta previa.
3. Correlation of parity and placenta previa.
4. Risk factors in placenta previa.
5. Antenatal complications associated with placenta previa.
6. Intra- and postoperative complications noted in the cases studied.
7. The perinatal morbidity in placenta previa.
8. The perinatal mortality rate.
9. Correlation between perinatal mortality and type of placenta previa.
10. Correlation between perinatal mortality and gestational age.

The result of analysis of the booking status of these 75 women enrolled in the study showed that 30 [40%] cases had been booked with regular ANC, while 45 [60%] cases remained unbooked.

Study	ANC Status			
	Booked		Unbooked	
	No.	Percent	No.	Percent
Present Study	30	40	45	60

Regarding the maternal age, the maximum number of patients, i.e. 58 [77.34%] women were between the age group of 20-29 years followed by 9 [12%] women in 30-35 yrs. age group. 2 [2.67%] women were more than 35 yrs. and 6 women [8%] were less than 19 yrs.

Age Group in Years	No. of Cases [n=75]	Percentage
<19	6	8.00
20-29	58	77.34
30-35	9	12.00
>35	2	2.67

In the present study, the incidence of placenta previa in the age group of >35 yrs. is 2.67%, which is not comparable to other studies because the cases attending to our institution are getting married early and by the age of 35 yrs., the family size is complete.

Risk factors	No. of Cases	Percentage
Previous caesarean section	17	22.67
Previous abortion	23	30.67
Spontaneous	7	9.34
With D and C	16	21.33
Twin gestation	2	2.67

Active management was carried out in 53 (70.67%) cases and 22 cases were subjected for expectant management by MCafee's regime. 8 women (10.67%) successfully continued with pregnancy till 37 weeks and were taken for elective LSCS, whereas 14 women (18.67)

had more than 2 episodes of heavy bleeding and were taken for emergency LSCS.

10 cases delivered vaginally. In the vaginal delivery group, 4 cases were augmented with oxytocin and had no perinatal mortality, while 6 had spontaneous delivery with perinatal mortality of 16.67%.

Statistically, 18 cases of women presented with severe anaemia with Hb <7 gm% and 8 cases had Hb <5 gm and mean Hb was 7.8 gm. Lowest Hb recorded was 3.5 gm. Six cases presented with shock, i.e. 8% of women needed acute emergency care.

Because, patients attending to our institute were low, SES who were already having nutritional anaemia and because our institute is a tertiary care center, most of placenta previa cases we get were mostly referred cases from other centres. Bleeding episode was continuing throughout the period of transport, which was contributing to severe blood loss.

Out of 75 cases studied, 34 women had more than 2 episodes of p/v bleed (minor = 13: major = 21) and perinatal mortality in minor and major type of placenta previa was 25.33%.

34 women had single bleeding episode, out of which, 24 women had minor placenta previa with no perinatal mortality. Major placenta previa had 20% perinatal mortality.⁹ Women has 3 episodes of bleeding p/v. All 4 cases are major degree placenta previa with 75% perinatal mortality.¹⁰ Ladies in the study group had no p/v bleed and no perinatal mortality and 1 lady had more than 4 episodes and 100% perinatal mortality. Mean number of episodes of bleeding were 1.76 per women.

Above relation was statistically proven by chi-square test showing significant correlation.

Earlier, the first episode of bleeding in pregnancy greater is the perinatal mortality. 94.67% of women presented with bleeding before 38 weeks, while 6.67% presented before 30 weeks of gestation. Perinatal mortality was 80% in bleeding before 30 weeks. 61% in bleeding between 30-34 weeks and 8% when the first episode was 34-38 weeks. It has been statistically showed by chi-square test that there is a high significant association of gestational age at first episode of bleed and neonatal outcome. Hence, earlier the first episode of bleeding higher is the perinatal mortality.

Antenatal complications in present study: Number of episodes of bleeding, severe anaemia 24%, patients in shock 8%, antenatal blood transfusions 21.33% and malpresentations mainly breech 22%, IUD 16%.

Intraoperative complication in the present study was PPH. 10% cases developed PPH, 5 cases controlled by oxytocin, methergine, carboprost. 5 cases had atonic PPH intraoperatively where B-Lynch suturing was utilised and it was effective in only 3 cases. 2 cases required subtotal hysterectomy.

Postoperative complications: Sepsis was seen in 4% cases, febrile morbidity in 12% cases, UTI in 12% cases and PPH in 13% cases.

Condition of Foetus at Birth

Outcome	Maturity and Mode of Delivery				Total	Percent
	Term		Preterm			
	LSCS	Vaginal	LSCS	Vaginal		
Alive	40	0	15	2	58	77.33
IUD	4	0	7	1	12	16

Perinatal morbidity.

Morbidity	Term	Preterm	Total	Percent
Resuscitation	6	30	36	48
NICU Admission	-	20	20	26.67

Correlation between perinatal mortality and type of placenta previa.

Type of Placenta Previa	Term		Preterm		Perinatal death	
	No.	Perinatal Death	No.	Perinatal Death	No.	Percent
minor	23	0	16	2	2	5.12
major	20	4	16	13	17	47.22

CONCLUSION

In the present study, incidence of antepartum haemorrhage was 0.87% and placenta previa contributed to 37.12% of cases. The general perinatal mortality was 28 per 1000 live births and that due to placenta previa 280 per 1000 live births, i.e. approximately 4 times higher than general perinatal mortality rate. The maternal mortality rate due to placenta previa in this study was nil. But, maternal morbidity was high that is more than 60% of cases had antenatal,

intranatal and postnatal complications and anaemia worsened the clinical state of patient.

As the maternal and perinatal morbidity and mortality due to placenta previa is preventable, effort should be made to bring down these rates. This can be achieved by better spacing in between pregnancies, limitation of family size, antenatal registration of all pregnant women, routine use of USG in pregnancy and early referral of high-risk pregnant women to tertiary care centres. Awareness should be

brought about in the urban slums and rural public to avail the facilities provided by the government.

These measures will definitely help in a better outcome for mother and foetus in all high-risk pregnancies.

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