

A Study of Anaesthetic Management of Placenta Previa and its Maternal and Perinatal Outcome

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ABSTRACT

Introduction: Placenta previa occurs when part or whole of placenta implants in lower uterine segment. So study was done to know the maternal and perinatal outcome of different types of placenta previa with different anaesthesia techniques.

Material and methods: A Retrospective cohort study of 30 cases of women with placenta previa coming for caesarean section diagnosed placenta praevia with or without haemorrhage.

Results: The incidence of placenta previa in this study in relation to the parity of women is 43.3% in multigravida and 60% of cases presented for emergency C- section. 53.3% cases were done under spinal anaesthesia 46.6% cases had general anaesthesia. 43.4% needed transfusion of blood and blood components. Maternal outcome was 100% and only 6.6% neonates needed NICU admission.

Conclusion: Maternal and perinatal morbidity and mortality due to placenta previa is preventable with multidisciplinary approach

Keywords: Placenta Previa, Regional Anaesthesia, Maternal and Foetal Outcome

INTRODUCTION

Placenta previa complicates 4.8 per 1000 deliveries and is fatal in 0.03% of these. It occurs in 2.8/1000 and 3.9/1000 in singleton and twin pregnancies respectively.¹ It has shown rising incidence of cesarean section combined with increasing maternal age, the number of cases of PP and its complications, including placenta accreta (PA), will continue to increase.

Deficiency of the decidua basalis at the endometrial scar is thought to be the cause of PA. Morbidly adherent placenta is a serious complication of pregnancy and is associated with massive intrapartum hemorrhage and high maternal morbidity and mortality.³ Surgery for morbidly adherent placenta is a considerable challenge, but it has been reported that maternal morbidity is reduced in women who deliver in a tertiary care hospital with a multispecialty care team.

It is one of the major causes of obstetric haemorrhages which effects the maternal, foetal and neonatal morbidity and mortality. Women with a previous cesarean section require a greater suspicion for placenta previa and placenta accreta. placenta previa itself raises the risk for accreta due to implantation over a highly vascular, poor contractile lower uterine segment and an existing scar in the same area, increases the risk of placenta accreta. Other risk factors are previous dilatation and curettage as in abortions, previous uterine surgery, previous myomectomy, asher-man syndrome (endometrial defects), submucous leiomyomata, advanced maternal age, multiparity and tobacco use. while many anesthetists believe GA is mandatory for CS for placenta previa, there is enough evidence that the maternal outcome with RA is also good and preference to GA depends on the position of placenta, urgency of the situation and the extend of any continuing antenatal blood loss.

Type I (low-lying): The major part of the placenta is attached to the upper segment and only the lower margin encroaches onto the lower segment but not upto the os.

Type-II (marginal): The placenta reaches the margin of the internal os but does not cover it.

Type-III (incomplete or partial central): The placenta covers the internal os partially (covers the internal os when closed but does not entirely do so when fully dilated).

Type-IV (central or total): The placenta completely covers the internal os even after it is fully dilated.

They can also be classified as:-

Minor degree - Type I, Type II anterior.

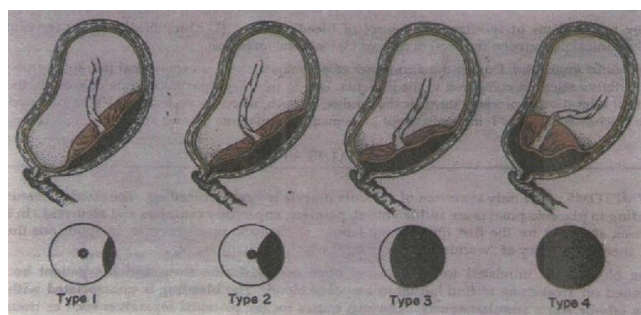
Major degree - Type II posterior, Type-III and IV.

Some reports have shown high neonatal morbidity associated with PA.⁴ On the other hand, other studies did not observe adverse neonatal effects in such cases.⁵ Hence our aim was to know the maternal and perinatal outcome of different types of placenta, Placenta previa undergoing caesarean section with different anesthesia techniques.

MATERIAL AND METHODS

A Retrospective cohort study of 30 cases of women with placenta previa who under went cesarean section in Modern Government Maternity Hospital, petlaburz, Hyderabad. For some cases regional anaesthesia was administered and others general anaesthesia was used as anaesthesia technique.

Inclusion Criteria: All cases of diagnosed placenta praevia



DEGREES OF PLACENTA PREVIA

Figure-1: Types of placenta previa

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with or without haemorrhage.

Exclusion Criteria: Abruptio placenta, lesions of cervix like cervical polyp, cervical carcinoma, lesions of vagina and external genitalia and Uterine rupture.

Placenta previa was diagnosed with ultrasound and was defined as placenta that partly covers or completely covers the internal cervical os. Placenta previa was classified as types 1-4 with 1 and 2 as minor and 3 and 4 as major. Urgency of Caesarean section was either elective or emergency. Technique of anaesthesia was general anaesthesia or subarachnoid block (spinal anaesthesia) as determined by the anaesthetist on duty after explaining the choices available to the parturient. The blood loss was by visual estimation of abdominal swab count and blood in the suctioning bottle. Hypotension was defined as systolic blood pressure <100mmhg.

From each patient following information was recorded age, gestational age, gravidarity, type of placenta previa, technique of anaesthesia, urgency of Caesarean section, blood transfusion, estimated blood loss, maternal outcome and fetal outcome.

In cases of regional anaesthesia, spinal technique was administered. Under strict aseptic precautions inj 0.5% Bupivacaine heavy 2ml was administered intrathecally using 25G Quinckes spinal needle. A level of anaesthesia of T6 was achieved for cesarean section. All the patients in whom spinal anaesthesia was administered were preloaded with Ringer Lactate solution. In cases where general anaesthesia was preferred, patients were preoxygenated with 100% oxygen for 3minutes. premedication was given with inj.ondansetron 0.15mg/kg inj. glycopyrolate 0.004mg/kg.inj tramadal was withheld until the delivery of the baby. Induction was done using inj.thiopentone 5mg/kg.Tracheal intubation was done with depolarizing muscle relaxant inj.succinylcholine 2mg/kg. Maintenance of anaesthesia was achieved with 33% oxygen in nitrous oxide,muscle relaxation was achieved with inj vecuronium 0.08mg/kg. At the end of surgery residual neuromuscular blockade was reversed with inj neostigmine0.05mg/kg and inj glycopyrolate 0.004mg/kg.patient was extubated after regain of reflexes. In both the anaesthetic techniques after the delivery of the baby inj oxytocin 10 units was added to the intra venous drip and 10 units inj oxytocin was given intramuscularly.

STATISTICAL ANALYSIS

Microsoft office 2007 was used for the statistical analysis. Descriptive statistics like mean and percentages were used for the interpretation.

RESULTS

Out of total 30 placenta previa cases Placenta Previa Accreta is found in 2 cases with 6.6% of incidence.

The incidence of placenta previa in this study in relation to the parity of women is 43.3% in multigravida. Placenta Previa type-IV is most commonly seen in study with 36.7% (table-1).

60% of cases presented for emergency C- section and 53.4% cases were done under spinal anaesthesia 46.6% cases had general anaesthesia (table-2).

43.4% needed transfusion of blood and blood components (table-3).

Maternal outcome was 100% and only 6.6% neonates needed NICU admission (table-4).

Parity	No. of Cases	Percentage
Primi	8	26.6%
Multi (2-3)	13	43.4%
Grand Multi \geq 4	9	30%
Total	30	100%
Types of Placenta Previa		
Type-I	6	20%
Type-II	10	33.3%
Type-III	3	10%
Type-IV	11	36.7%
Total	30	100%

Table-1: Placenta previa in relation to parity

Type of Surgery	Frequency	Percentage
Elective C-Section	12	40%
Emergency C-Section	18	60%
Anesthesia technique		
Regional anesthesia	16	53.4%
General anesthesia	14	46.6%

Table-2: Type of surgery and anesthesia technique

Blood components	No. of cases	Percentage
Needed	13	43.3%
Not Needed	17	56.6%

Table-3: Blood components requirement

Outcome	No. of cases	Percentage
Maternal complications		
Anemia	8	26.67
Malpresentation	3	10
Intra/Post Partum haemorrhage	7	23.33
LSCS hysterectomy	2	6.66
Internal iliac ligation	4	13.33
ICU care	6	20
Maternal mortality	0	0
Perinatal complication		
Term	16	53.33
Preterm	7	23.33
IUGR	4	13.33
IUFD	0	0
Poor -APGAR	3	10
Perinatal mortality	0	0
Total mortality		
Maternal/alive	30	100%
Neonate/ Alive	28	93.4%
Neonate/Alive NICU Admission	2	6.6%

Table-4: Maternal and perinatal outcome

DISCUSSION

Present study shows that a multigravida is more prone to primigravida which is comparable to study of S Singhal⁵ who also reported that incidence of APH increases in multigravida. However abruptio placenta is more common in pregnancy around term. Placenta Previa type-IV is most commonly seen in study with 36.7% agrees with study done by Sheiner E et al.⁵ Malpresentation was seen in 10% patients of placenta praevia. Raksha et al⁷, found foetal malpresentation to be 23% in placenta previa. The cumulative risks for placenta previa that accrue with the increasing number of caesarean deliveries are

extraordinary. Ultrasonography was a useful mode of diagnosis in cases of placenta previa. Caesarean section is necessary practically in all cases of placenta previa and higher incidence of emergency LSCS (60%) mainly to reduce maternal and foetal mortality due to haemorrhage. Our retrospective study provides evidence that regional anaesthesia can be administered safely in cases for placenta previa cases for caeserian section. Like Arcario and colleagues⁸ we have noted a significant decrease for transfusion of blood and blood components implying less blood loss. McShane, Heyl and Epstein⁹, in a retrospective study of 147 cases of placenta previa, reported that for 25% of cases regional anaesthesia was administered that there was no maternal morbidity was attributable to the anaesthesia technique. while massive haemorrhage is a recognized complication in type IV placenta previa and placenta accrete general anaesthesia is more preferred as mentioned by LaPlatney DR, O'Leary JA.¹³ Whatever the anaesthetic technique, it is essential that plans are made to contend with sudden blood loss. If the mother is to be awake, then the possible need for rapid fluid or for such transfusions arise. this study suggests that when RA is used there is no reduction in maternal safety.

Perinatal mortality is 0% cases of placenta previa which is not coherent with S Singhal⁵ study. This is probably due to early diagnosis and timely intervention and having a well equipped NICU.

CONCLUSION

Proper planning of anaesthesia management and preoperative assessment of the patient with placenta previa plays an important role in preventing maternal and perinatal morbidity and mortality. Availability of blood products also plays a major role. Though Regional anesthesia is safely administered, General anesthesia is preferred in type IV placenta previa.

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