

Study of A Fetomaternal Outcome in Cases of Abruptio Placentae



Gynaecology

KEYWORDS : Placental abruption, hypertension, anemia, fetomaternal morbidity and mortality

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ABSTRACT

An Abruptio placenta is a grave obstetrical emergency. The study is carried out to know the incidence, etiological factor and fetal & maternal outcome in patients with abruption at tertiary care hospital. RESULT: The incidence of abruption in our institute is 0.8%. Out of this 60% were emergency patient and rests are booked. 70% patients are multiparous. 60% patients presented with abruption at 34 to 36 weeks of gestational age. Out of 50 case 66% patients presented with toxemia of pregnancy. Most common clinical presentation of patient is bleeding per vaginum and abdominal pain(64%) & anemia.(48%).54% of the patients are delivered by LSCS. Out of fifty 10 case will develop post partum hemorrhage. Blood and blood components are needed in 62% cases. In this study total 8(16%) neonatal death occur. Out of live babies 70% were the low birth weight babies. CONCLUSION As incidence of abruption placenta is more in unbooked cases and multipara, routine antenatal care and early detection of preeclampsia will reduce the rate of the disease. Preeclampsia, eclampsia, chronic hypertension and anemia are the major risk factors. The most common complication is postpartum hemorrhage. Shorter admission delivery time and blood transfusion will improve maternal and fetal outcome. The perinatal mortality is because of prematurity, low birth weight & birth asphyxia.

Introduction

Abruptio Placentae signifies premature separation of normally implanted placenta after 28 weeks of gestation, but before delivery of the fetus. Antepartum hemorrhage is one of the commonest cause of maternal and perinatal mortality and morbidity in India. 35% cases of antepartum hemorrhage attribute to Abruptio placenta. The incidence of abruptio placentae is 0.5 to 3.5% of all pregnancies. The maternal mortality and morbidity is usually due to hypovolemic shock secondary to intrapartum and postpartum hemorrhage, coagulation failure, renal failure and sepsis. In vast majority of cases, no clear etiology is found. The lack of trophoblastic invasion of uterine vessels results in decreased placental blood flow and an abnormal response to vasopressor substances. The resultant spasm of the vessels supplying the placental site results in capillary anoxia and endothelial disruption. The damaged capillaries are unable to cope up with the vascular engorgement that follows, thus resulting in to bleeding. The clinical diagnostic criteria for abruption are Pain- tenderness, Pallor- unexplained by the evident blood loss, Bleeding per vaginum, Signs of toxemia, Uterine hardness and tenderness, Increasing fundal height & Absence or abnormalities in fetal heart rate. Maternal complications are Antepartum hemorrhage, Intrapartum hemorrhage, Blood coagulation disorders, Increased incidence of operative interference, Oliguria, anuria and renal failure, PPH, Shock, Puerperal sepsis, Lactation failure etc. Fetal complications are fetal distress, low birth weight, preterm delivery, asphyxia, perinatal death and even intrauterine fetal death due to placental insufficiency. In management patient is to be shifted immediately to a tertiary care centre immediately where arrangement for blood transfusion is made for resuscitation & close monitoring of maternal and fetal condition is done. Immediate delivery of the fetus is the definitive treatment either by vaginal delivery or LSCS.

MATERIALS AND METHODS: The present study was conducted in our institute in 50 obstetrics patients with abruptio placentae in a tertiary care hospital.

A detailed history with clinical symptoms and signs, lab investigations, diagnosis, management and neonatal outcome were recorded. This study is conducted to find out the etiological factors responsible for abruption & fetomaternal outcome in these patients.

RESULTS

EMERGENCY OR BOOKED CASES

TYPE	NO OF CASES	PERCENTAGE
Emergency cases	30	60%
Registered cases	20	40%
Total	50	100%

The incidence of abruption placenta in our institute is 0.8%. The table shows that 60% were emergency cases, while 40% were booked cases. This suggests that patients who did not have regular antenatal checkups have higher incidence of toxemia and accidental hemorrhage and associated complications.

ABRUPTION AND PARITY

Age in weeks	primipara	multipara	Percentage
28 to 33 weeks	03	10	26%
34 to 36 weeks	10	20	60%
More than 37 weeks	02	05	14%
	15	35	100%

This table shows that the incidence of abruption is more in multiparous patients. The gestational ages ranged from 28 to 40 weeks. Mainly abruption was seen in women (60%) in 34-36 weeks of gestational age.

ETIOLOGICAL FACTORS

	NO OF CASES	PERCENTAGE
TOXEMIC CAUSES	32	66%
NONTOXEMIC CAUSES	18	36%
TOTAL	50	100%

Toxemic factors are Preeclampsia, Eclampsia & Chronic hypertension. Non toxemic factors are age, parity, socioeconomic status, Cigarette smoking, Cocaine abuse, Uterine leiomyomas, Trauma, Twin pregnancy, Short umbilical cord, Supine hypotension syndrome, Sudden decompression of uterine cavity due to sudden rupture of membranes as in case of hydramnios; artificial rupture of membranes & after delivery of baby in twins, uterine anomalies & previous preterm labour.

CLINICAL MANIFESTATIONS AND ABRUPTION

CLINICAL MANIFESTATIONS	NO OF CASES	PERCENTAGE
Bleeding P/V and Pain in abdomen	32	64%
Bleeding P/V only	4	8%
Abdominal pain only	14	28%

Pallor	24	48%
Hypertension	29	58%
Edema	25	50%
Albuminuria	27	54%
Shock	2	4%

64% of the patients were present to the hospital with complain of abdominal pain and bleeding per vaginum. Out of 50 patients 33 were present with live fetus and 17 were present with intra uterine fetal death. Diagnosis of abruption was chiefly done by clinical presentation only. Though ultrasonography is a useful mode to confirm the diagnosis, it gives positive results in 67% cases only, while 14% cases had false negative findings in ultrasonography.

METHOD OF DELIVERY

METHOD	NO. OF CASES	PERCENTAGE
Vaginal delivery	23	46%
LSCS	27	54%

The 54% of abruption patients were operated for LSCS and 46% patients were delivered by vaginal delivery. For the delivery of the baby labour is augmented by artificial rupture of the membrane and oxytocin drip or both in 60% of the patient.

OBSTETRIC COMPLICATIONS

COMPLICATION	NO OF CASES	PERCENTAGE
PPH	10	20%
DIC	09	18%
ARF	3	6%
SHOCK	2	4%
COUVE LAIRE UTERUS	4	8%

The most common complication of abruption placentae is post partum hemorrhage.

HAEMOGLOBIN LEVEL

Degree of anemia	No. of cases	Percentage
Severe anemia (less than 7)	04	08%
Moderate anemia(7.1- 9.9)	30	60%
Mild anemia(10-11.9)	16	32%
No anemia	0	0

Majority of the cases 30 (60%) in present study were moderately anemic. This high frequency of maternal anemia is reflective not only of the bleeding of abruption placentae but is aggravated by an underlying chronic maternal nutritional deficit common in this country.

TRANSFUSION OF BLOOD AND BLOOD COMPONENTS

Transfusion	No of cases	Percentage
Blood	25	50%
Blood components	06	12%
Both	05	10%

Blood and blood components were needed in 31(62%) cases.

Maternal mortality and morbidity.

Complication	No of cases	Percentage
PPH	05	12%
Renal failure	02	04%
DIC	02	02%
Hemorrhagic shock	01	02%
Couvalaire uterus	04	04%
Hysterectomy	02	04%
Mechanical ventilation	01	01%
Mortality	01	02%

Major maternal complication seen was postpartum hemorrhage. There is one maternal mortality occur in this study. Good maternal outcome can be attributed to improved obstetric care, timely

interventions and availability of blood and blood components.

Perinatal morbidity and mortality.

Perinatal outcome	No of cases	Percentage
IUD	17	34%
Still birth	03	06%
Live	30	60%
Neonatal mortality	05	10%

Survival of the neonate in accidental hemorrhage depends on the early diagnosis, timely intervention, degree of placental separation and gestational age. In present study, 17 (34%) cases had intra uterine fetal mortality and a total of 08 (16%) neonatal deaths occurred. Out of these 30 (60%) live born babies 05 died in early neonatal period due to birth asphyxia and prematurity related complications. Therefore overall perinatal mortality was 16%. In this study out of 30 live babies 21 (70%) were low birth weight babies.

DISCUSSION:

The incidence of abruption in our institute is 0.8% which is much less than one study conducted at tertiary hospital (4.4%).¹ In my study majority were emergency cases, which shows that adequate antenatal care and early detection of preeclampsia can prevent abruption and its complication. The higher incidence of AP in our study may be because of the lower socioeconomic strata with concurrent poor nutritional status of the patients attending our tertiary care hospital and is consistent with similar studies reported from other developing countries.²

In my study more no of cases seen in multigravida patients. So in my study multiparity is considered as a risk factor for abruption. These results are in line with many previous studies^{3,10,11}. More no cases found during 34 to 36 week of gestation which lead to more no of preterm deliveries in this study. Placental abruption was more common at earlier gestational age which is similar statement in one study.^{4,11}

Abruptio was associated with toxemia of pregnancy (56%). So hypertension is the major etiological factor for abruption in my study. One study done in Tanzania in 2010 also show similar results with our study³. This is in agreement with previous reports of hypertension as risk factor for abruption placenta.⁵ The pathophysiology of hypertension and abruption placenta is still not well understood. One study evaluated 445 patients with severe pre-eclampsia and eclampsia⁷. In this study the severity of blood pressure and proteinuria were not predictive of abruption placenta. This may suggest a more complex etiology of abruption placenta than a mere prediction with hypertensive disorder.

In fetal distress, large abruption, cervix was not favorable and obstetric indications, LSCS was performed (54%). Rate (54%) of cesarean section was high in our study, which was opted in fetal interest as cesarean delivery was associated with significant reduction in neonatal mortality.^{2,8}

Diagnosis was made predominantly by clinical examination, in which bleeding per vaginum and pallor, out of proportion to the blood loss, were common features. Diagnosis was confirmed by USG in 67% cases.

The occurrence of abruption placentae has been associated with an increased risk of maternal and foetal morbidity and mortality in previous studies.^{2, 12,13,14} PPH was the commonest complication (20%) of all due to atonic uterus. Complications were more with concealed and mixed variety. One study^{3,9} also says that post partum hemorrhage is one of the major complication of abruption as a result of

uterine atony, coagulation failure or puerperal sepsis. The complications and long term sequele are exaggerated in Abruptio Placentae, in patients with pre-existing Anemia. One study also state that maternal anemia is one of the risk factor for abruption.²The amount of blood and blood products are significantly required in patients of abruption complicated by DIC. Perinatal mortality rate in our study is 16%. Prematurity, low birth weight and birth asphyxia were the important cause along with abruption responsible for perinatal mortality. In our study, 70% were the low birth weight babies, so there is increased risk of low birth weight babies with abruption. Similar finding was reported in Uganda.¹⁴ The high risk of low birth weight delivery among women with abruptio placentae may be explained by the effect of preterm birth due to premature termination of pregnancy performed by clinicians due to severity of abruptio placentae or effect of intrauterine foetal growth retardation. The risks of stillbirth, early neonatal death and perinatal death were also higher among women with abruptio placentae as compared to women without abruption. These results are in congruent with previous studies.²

^{12, 15,16,17,18} Fetal survival rate is directly proportional to the amount of retro placental clot and diagnosis-delivery interval.

CONCLUSION

As incidence of abruption is more in unbooked cases we can reduce the incidence by routine antenatal care at regular intervals.

Multiparity, hypertension, preeclampsia, eclampsia and anemia are major etiological factors for abruption.

By reducing the time interval between patient admission and delivery time will help to reduce the maternal and fetal mortality and morbidity.

Blood transfusion may help in improving the maternal outcome.

Postpartum hemorrhage and disseminated intravascular coagulopathy are major complication of the abruption and they may become a contributing factor for maternal mortality.

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