

MEASURES TO IMPROVE THE OUTCOME OF ABRUPTIO PLACENTA IN A TERTIARY REFERRAL CENTRE

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ABSTRACT

AIM

To analyze the outcome of 135 patients admitted with Abruptio Placenta during a period of 9 months managed at Tertiary Referral Centre, Modern Govt. Maternity Hospital, Petalburz, Hyderabad, Telangana State.

MATERIALS AND METHODS

A study of 135 cases of Abruptio Placenta over a period of 9 months at a tertiary level referral centre. They were analyzed regarding age, parity, socio economic status, period of gestation, antenatal care, management of Abruptio and maternal and fetal outcome, and the measures to improve the condition were analyzed.

RESULTS

Abruptio placenta is a dreadful threat to maternal and fetal life. In our study unbooked cases were 110(81.48%), Hypertension is the main risk factor almost in 90(66.66%) cases, 65% of them were between 28-36 weeks of GA, and 6 were grandmultis, 6 cases ended up with HELLP syndrome with DIC. All these 6 cases were near misses, 5 unbooked cases had eclampsia. One case of unbooked eclampsia had abruptio DIC and could not be saved as it was the late referral. Total number of vaginal deliveries were 66(48.88%) and total no. of abdominal deliveries were 67(49.62%) in this LSCS 66 and one hysterotomy. IUD at the time of admission total were 100(74%).

CONCLUSION

To improve the outcome in Abruptio Placentae Good antenatal care, Educating the patient, Strengthening the Primary Health Centers in identifying the risk factors like Pre-eclampsia thereby avoiding eclampsia. Regular antenatal checkups timely delivery and availability of blood and blood products with good Neonatal care unit will help in improving the outcome of Abruptio.

KEYWORDS

HTN, Hypertension, DIC, Disseminated Intravascular Coagulation. PE, Pre-Eclampsia, HELLP Syndrome, Haemolysis Elevated Liver enzymes and Low Platelet count, FFP, Fresh Frozen Plasma, FM, Fetal Movements, GA, Gestational Age, ARM, Artificial Rupture of Membranes.

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INTRODUCTION: Placental abruption complicates 0.2 to 1 percent of pregnancies. The incidence appears to be increasing, due to increases in the prevalence of risk factors for the disorder.

RISK FACTORS: Previous abruption is the strongest risk factor for abruption. Smoking is one of the few modifiable risk factors for abruption: it is associated with a 2.5 fold increased risk of abruption severe enough to result in foetal death and the risk increases by 40 percent for each pack per day smoked. The combination of cigarette smoking and hypertension has a synergistic effect on risk of abruption.

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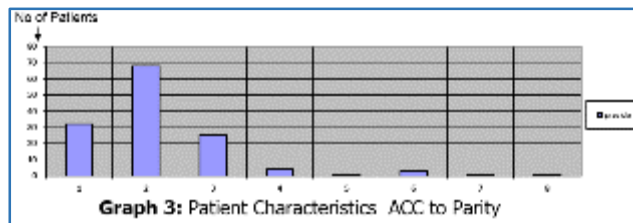
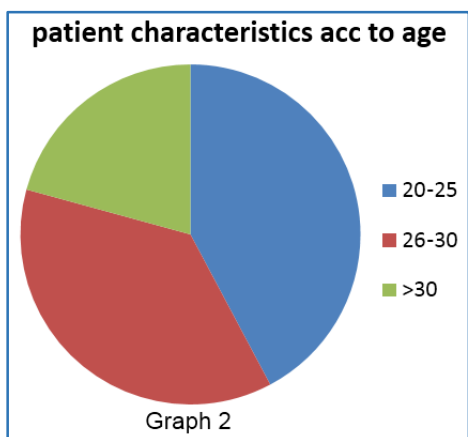
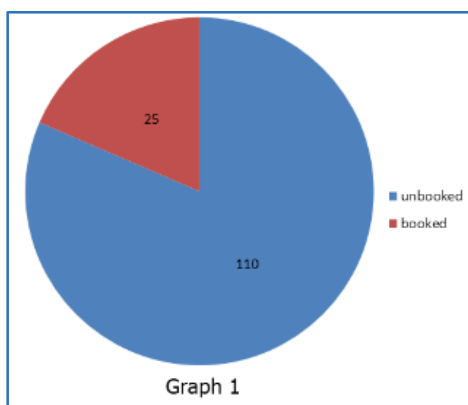
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Hypertensive women have a fivefold increased risk of severe abruption compared to normotensive women, and antihypertensive therapy does not appear to reduce the risk of placental abruption among women with chronic hypertension.

LABORATORY FINDINGS: The degree of maternal haemorrhage correlates with the degree of haematological abnormality; Fibrinogen levels have the best correlation with severity of bleeding. Severe abruption can lead to disseminated intravascular coagulation (DIC). DIC occurs in 10 to 20 percent of severe abruptions with death of the foetus. The diagnosis of acute DIC is confirmed by demonstrating increased thrombin generation (e.g., decreased fibrinogen) and increased fibrinolysis (e.g., elevated fibrin degradation products [FDPs] and Ddimer).

IMAGING: Identification of a retro placental hematoma is the classic ultrasound finding of placental abruption.

RESULTS: Abruptio placenta is a dreadful threat to maternal and foetal life. In our study unbooked cases were 110(81.48%), Hypertension is the main risk factor almost in 90(66.66%) cases, 65% of them were between 28-36 weeks of GA, and 6 were grandmultis. 41 cases presented with normal BP, 4 cases presented with hypotension. Prolonged clotting time seen in 23(17%) cases, blood transfusions given in 70(51.85%) cases and 25(18.51%) cases received FFPs. Most of our cases 100 presented with bleeding PV, decreased FM 15 cases, eclampsia 5 cases, HELLP syndrome 6 cases, Shock 4 cases. Revealed haemorrhage seen in 100 cases, concealed and mixed haemorrhage seen in 35 cases. Maximum no. of abruption seen between 28 to 36 weeks of GA, in 28-32 wks. 42(31.11%) cases, in 32-36 wks. 45(33.33%) cases. Induction of delivery with ARM 70(51.85%) cases, ARM with oxytocin 35(25.92%) cases, ARM with PGE1 20(14.81%) cases. Induction delivery interval is <6hrs in maximum no. 104(77.03%) cases. No. of vaginal deliveries 66(48.88%), No. of abdominal deliveries 67(49.62%) in this emergency LSCS-52, one previous LSCS10cases. IUD at admission were 100(74%) cases, in this vaginal deliveries 59(43.7%) and LSCS 41(30.37%). Total no. of Live births 25(18.51%) in this 5(3.7%) vaginal deliveries and 20(14.81%) LSCS. Total no. of perinatal deaths 113(83.70%) in this 68(50.37%) vaginal deliveries and 45(33.33%) LSCS and NICU admissions 18(13.33%). Total no. of term babies 25(18.51%) and preterm babies 110(81.48%).

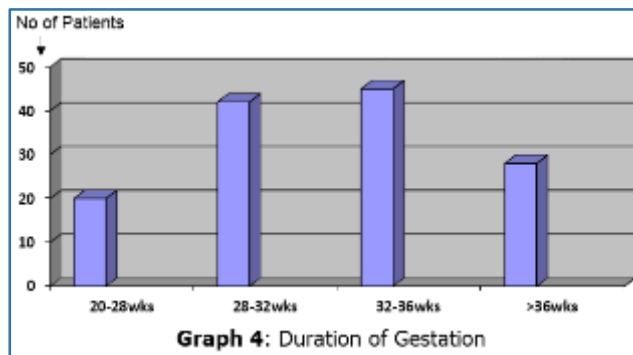


Presenting Complaints:

- Bleeding P/v 100
- ↓FM 15
- Pain abd 10
- Eclampsia 5
- Hellp Syndrome 6
- Shock 4
- Revealed Haemorrhage 100 cases
- Concealed Haemorrhage 35 cases

Associated Factors:

- No of cases with High bl pressure 90(66.66%)
- Mild PIH 55
- Severe 35
- Normal 41
- Hypotension 4
- Prolonged clotting time 23(17%)
- No of pts received bl transfusions 70(51.85%)
- No of patients received FFPs 25(18.51%)



Mode of Induction:

- ARM 70(51.85%)
- ARM + Oxytocin 35(25.92%)
- ARM + PGE1 20(14.81%)
- Induction Delivery Interval (n=135)
- <6 hrs 104(77.03%)
- 6-12 hrs 20(14.81%)
- 12-18 hrs 6(4.44%)
- 18-24 hrs 3(2.22%)

Mode of Delivery:

- No of Vaginal Deliveries 66(48.88%)
- No of Abdominal Deliveries 67(49.62%)
- (LSCS: 66)
- (Hysterotomy: 1)

Indications of LSCS:

- Total No of LSCS 66(49.63%)
- Immediate LSCS 52
- 1 previous LSCS 10
- 2 previous LSCS 2
- Failure to progress 2

	Total	Vag(66)	LSCS(67)
IUD at admission	100(74%)	59(43.7%)	41(30.37%)
Total No of stillbirths	10(7.4%)	7(5.18%)	3(2.22%)
Total No of Live births	25(18.51%)	5(3.7%)	20 (14.81%)
Total No of Neonatal deaths	3(2.22%)	2(1.48%)	1(0.74%)
Total No of perinatal deaths	113(83.70%)	68(50.37%)	45(33.33%)
Total no of NICU admissions	18(13.33%)		

Table 1: Perinatal Outcome

Birth Weight:

- Total No of term babies 25 (18.51%)
- Preterm babies 110 (81.48%)
- Birth Weight
 - <1 kg 15 (11.1%)
 - 1 -1.5 kg 40 (29.62%)
 - 1.6 – 2 kg 35 (25.92%)
 - 2.1 – 2.5 kg 28 (20.74%)
 - 2.6 – 3 kg 10 (7.40%)
 - >3 kg 5 (3.70%)

G6P5L4D1 with TG, eclampsia and IUD admitted with shock and history of 5hrs bleeding and abdominal pain. Gross Pallor, PR 120/min, BP 80/50mm of Hg, clotting time 12min soft clot, cx 1/2inch, os 2-3cms, and pp-2. Delivered by outlet forceps. In spite of 3 pints of bl transfusion and 3pint of FFP patient could not be revived as the patient presented with DIC and shock.

Excessive blood loss and DIC generally necessitate blood transfusion and can lead to hypovolemic shock, renal failure, adult respiratory distress syndrome, multi-organ failure, peripartum hysterectomy and, rarely, death.^[1]

Emergency caesarean delivery done only for foetal or maternal indications

Perinatal morbidity and mortality is related to hypoxemia, asphyxia, low birth weight, and/or preterm delivery,^[2,3,4] Foetal growth restriction (with chronic abruption).^[2,3,4] The perinatal mortality rate is about 12 percent (versus 0.6 percent in births without abruption). More than 50 percent of abruption related perinatal deaths are stillborns due to intrauterine asphyxia, which generally occurs when over 50 percent of the placenta detaches.^[5] Placental abruption is Excessive blood loss and DIC generally necessitate blood transfusion and can lead to hypovolemic shock, renal failure, adult respiratory distress syndrome, multi-organ failure, peripartum hysterectomy and, rarely, death.^[1,5]

RECURRENCE: The risk of recurrence has been reported to be 5 to 15 percent, compared with a baseline incidence of 0.4 to 1.3 percent in the general population. After two

consecutive abruptions, the risk of a third rises to 20 to 25 percent.

Placental abruption, preeclampsia, and intrauterine growth restriction appear to be variable clinical manifestations of uteroplacental under perfusion, chronic hypoxia, and uteroplacental ischemia.

DIFFERENTIAL DIAGNOSIS: In pregnant women with suspected abruption, the differential diagnosis of vaginal bleeding accompanied by pain and contractions includes labour, placenta previa, uterine rupture, and sub chorionic hematoma.

A retro placental clot is the classic ultrasound finding of placental abruption, but is not always present. When placental separation exceeds 50 percent, acute disseminated intravascular coagulation and foetal death are common. Women with placental abruption are at several fold higher risk of abruption in a subsequent pregnancy.

The following actions are reasonable initial interventions:

Initiation of continuous foetal heart rate monitoring, since the foetus is at risk of becoming hypoxicemic and developing acidosis.

Secure intravenous access. Place one wide bore intravenous line; two if the patient presents with signs of moderate or severe abruption, such as moderate to heavy bleeding, hypotension, tachy-systole, uterine hypertonicity and tenderness, coagulopathy, or an abnormal foetal heart rate. Administer crystalloid, preferably Lactated Ringer's, to maintain urine output above 30 mL/hour.

Closely monitor the mother's hemodynamic status (heart rate, blood pressure, urine output, blood loss). Assessment of multiple parameters is important because normal blood pressure may mask hypovolemia if the mother has chronic hypertension or pregnancy associated hypertension, which are risk factors for abruption. In patients who may have a severe abruption, urine output should be monitored closely, but a bladder catheter is not necessary unless the patient is hemodynamically unstable or having a caesarean delivery.

Administer standard medications to women likely to deliver: magnesium sulphate for neuroprotection for pregnancies <32 weeks of gestation, antenatal corticosteroids for pregnancies <34 weeks of gestation.

The most important factors impacting the decision to deliver a patient with placental abruption versus expectant management are:

- Foetal and maternal status, which reflect the severity of the abruption.
- Gestational age.

DEAD FETUS: The optimal route of delivery in these cases minimizes the risk of maternal morbidity or mortality, since foetal wellbeing is no longer a factor. Blood and blood product replacement is often necessary and expeditious delivery is desirable because the frequency of coagulopathy and continuous heavy bleeding is much higher in abruptions in which foetal death has occurred. Placental separation is often greater than 50 percent.

UNSTABLE MOTHER: Caesarean delivery is the best option when vaginal delivery is not imminent and rapid control of bleeding is required because of maternal hemodynamic instability or significant coagulopathy, or the mother is unwilling to accept adequate blood replacement therapy and is therefore likely to develop hemodynamic instability during labour. Blood and blood products for correction of hypovolemia and coagulopathy should be replaced prior to and during the caesarean delivery.

STABLE MOTHER: When the foetus and mother are both stable, the decision to deliver depends primarily on gestational age, with consideration of ongoing maternal symptoms.

Less Than 34 Weeks of Gestation: When the foetus and mother are both stable and there is no evidence of ongoing major blood loss or coagulopathy, conservative management with the aim of delivering a more mature fetus is the main goal before 34 weeks of gestation.^[6]

We take the Following Approach:

Administer Corticosteroids: Corticosteroids to promote foetal lung maturation and reduce complications of prematurity are administered to pregnancies at 23 to 34 weeks of gestation, given the increased risk of need for preterm delivery.

Antenatal Foetal Assessment: We perform foetal assessment with a non-stress test or biophysical profile at least weekly. We also perform serial sonographic estimation of foetal weight to assess growth since these foetuses are at risk of developing growth restriction over time.

Delivery: For patients managed conservatively and without any further symptoms, we schedule delivery at 37 to 38 weeks because of the increased risk of stillbirth.^[6]

Delivery before 37 weeks is indicated if additional complications arise (e.g. - foetal growth restriction, preeclampsia, premature rupture of membranes, no reassuring foetal assessment, and recurrent abruption with maternal instability). Placental abruption occurring in the second trimester carries an especially poor prognosis when accompanied by oligohydramnios.

34 To 36 Weeks of Gestation: We deliver most patients with acute abruption at 34 to 36 weeks of gestation.

36 Weeks To Term Gestation: We deliver all pregnancies with acute abruption at ≥ 36 weeks of gestation^[6] Vaginal delivery is preferable, if there are no obstetrical indications for caesarean delivery (e.g. - malpresentation, prior caesarean). With a clinically significant abruption, the patient is often contracting vigorously, but if she is not in active labour, then amniotomy and administration of oxytocin frequently result in rapid delivery.

The Couvelaire uterus is atonic and prone to postpartum haemorrhage. Aggressive management of atony is needed

to prevent disseminated intravascular coagulation and exsanguination; However, atony in this setting is less likely to respond to standard therapies for postpartum haemorrhage than atony from other causes; Thus, these women are at high risk for requiring hysterectomy.

Women who developed shock and disseminated intravascular coagulation are at risk of multi-organ failure, especially acute renal insufficiency. After delivery, organ function usually improves with aggressive supportive care and treatment of complications,

Recurrence Risk: Women with placental abruption are at several fold higher risk of abruption in a subsequent pregnancy. Three to 15 percent of women have a recurrence, compared with a baseline incidence of 0.4 to 1.3 percent in the general population.

After two consecutive abruptions, the risk of a third rises to 20 to 25 percent.^[7] The risk of recurrence is higher after a severe abruption than after a mild abruption. When the abruption is severe enough to kill the foetus, there is a 7 percent incidence of abruption with foetal demise in a future pregnancy.

DISCUSSION: Pregnant women with abruption should be evaluated promptly on a labour and delivery unit to establish the diagnosis, assess maternal and foetal status, and initiate appropriate management. A patient who is initially stable may deteriorate rapidly if placental separation progresses.

After initial evaluation and stabilization, the management of pregnancies complicated by clinically significant abruption depends on whether the foetus is alive or dead, maternal haemodynamic stability, and, if the foetus is alive, the foetal heart rate pattern and gestational age.

Blood and blood products should be replaced prior to and during delivery, when indicated, because of haemodynamic instability and coagulopathy.

If the foetus is dead, the mode of delivery should minimize the risk of maternal morbidity or mortality. Haemodynamically stable patients without coagulopathy, vaginal birth is preferable, Caesarean delivery is indicated when vaginal delivery is not imminent and rapid control of bleeding is required because of maternal haemodynamic instability.

When the foetal heart rate pattern is reassuring (category I), management depends on the maternal status and gestational age. For pregnancies where the mother is unstable at any gestational age, we deliver the patient expeditiously.

When the foetus and mother are both stable, the decision to deliver depends primarily on gestational age, with consideration of ongoing maternal symptoms.

For pregnancies less than 34 weeks of gestation with no evidence of ongoing major blood loss or coagulopathy, we suggest conservative management until 37 to 38 weeks. We administer a course of antenatal corticosteroids.

Patients at 34 to 36 weeks who present with minimal signs and symptoms of abruption (light bleeding, normal vital signs and laboratory results, uterine quiescence or mild

irritability without tenderness, normal foetal heart rate pattern/biophysical profile score) and then stop bleeding, expectant management is a reasonable approach as long as they remain asymptomatic.

We deliver all pregnancies with acute abruption at ≥ 36 weeks of gestation.

The Couvelaire uterus is atonic and prone to postpartum haemorrhage. Aggressive management of atony is needed to prevent disseminated intravascular coagulation and exsanguination; These women are at high risk for requiring hysterectomy.

A past history of placental abruption predicts a greater likelihood of a small for gestational age infant, preeclampsia, and spontaneous preterm birth in future pregnancies, even in the absence of recurrent abruption. We monitor patients for these complications.

CONCLUSION: To improve the outcome in Abruption Placentae Good antenatal care, educating the patient, strengthening the Primary Health Centres in identifying the risk factors like Pre-eclampsia thereby avoiding eclampsia. Regular antenatal check-ups timely delivery and availability of blood and blood products with good Neonatal care unit will help in improving the outcome of Abruption.

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