



ABRUPTIO PLACENTA RISK FACTORS AND FETO MATERNAL OUTCOME

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ABSTRACT

A prospective study was conducted to know the risk factors and feto maternal outcome in cases of abruptio placenta over a period of 6 months [July – December 2016] in GGH, Kurnool. Preeclampsia is the most common risk factor in the present study with high perinatal mortality. Though it can't be prevented early diagnosis and active management decreases maternal mortality. Maternal mortality was due to hypovolemic shock, DIC and perinatal mortality was in part due to preterm delivery and deprivation of oxygen and nutrients leading to IUD.

KEYWORDS : Abruptio placenta, perinatal mortality, maternal mortality.

INTRODUCTION:

Abruptio placenta is one of the obstetric emergencies and commonest cause of antepartum haemorrhage. Abruptio placenta refers to a condition where haemorrhage occurs at the deciduo placental interface as a result of premature separation of normally situated placenta after 28 weeks of gestation. Incidence varies from 0.4-1% of all pregnancies world wide.

RISK FACTORS:

The primary cause of placental abruption is unknown, but several conditions are associated with it. Risk increases with maternal age and parity. It is more common in African- American and Caucasian women than in Asian. Familial association was found and in sisters of women with severe abruption the risk was doubled. Most commonly associated with hypertensive disorders of pregnancy preeclampsia and chronic hypertension. The severity of hypertension does not necessarily correlate with the incidence of abruption. The risk is also increased with preterm ruptured membranes and preterm delivery, multifetal gestation, Hydromnios, thrombophilias, external trauma, leiomyomas, smoking and cocaine abuse. History of prior abruption was associated with 10-25% risk.

MATERNAL ADVERSE OUTCOMES OF ABRUPTIO PLACENTA:

Maternal risks with abruption placenta are

1. Dissiminated intravascular coagulation
2. Maternal shock
3. Renal failure
4. Postpartum haemorrhage.

DISSIMINATED INTRAVASCULAR COAGULATION:

One of the commonest causes of clinically significant consumptive coagulopathy in obstetrics is placental abruption. Overt hypofibrinogenemia [$< 150 \text{ mg}$] with elevated levels of FDP, d-dimers and variable decrease in other coagulation factors are found in 30% of women with severe degree of placental abruption. The major mechanism is induction of coagulation intravascularly and to lesser degree retroplacentally. The consequence of intravascular coagulation is the activation of plasminogen to plasmin which lyses fibrin. Severe hypofibrinogenemia may or may not be accompanied by overt thrombocytopenia.

MATERNAL SHOCK:

Shock was out of proportion to the amount of visible bleeding due to concealed haemorrhage in some cases. Hypovolemic shock was caused by large reduction in blood volume.

RENAL FAILURE:

Acute renal failure may be seen in severe forms of placental abruption those in which treatment of hypovolemia is delayed or incomplete. Reversible acute tubular necrosis accounts for 75% of cases of renal failure. Seriously impaired renal perfusion is the

consequence of massive haemorrhage and frequent association of preeclampsia causing renal vasospasm. Prompt and vigorous treatment of haemorrhage with blood and crystalloid solution often prevents renal dysfunction.

POSTPARTUM HAEMORRHAGE:

Mainly due to uterine atony, coagulation failure, inhibition of myometrial activity by FDP in DIC.

PERINATAL OUTCOME:

Perinatal mortality in developing countries can be as high as 60%. The high mortality was in part due to preterm delivery. Even in those infants delivered at term perinatal mortality was 25 fold higher with placental abruption. More than 50% of all perinatal deaths are IUD's.

DIAGNOSIS: By symptoms, signs and USG.

DIFFERENTIAL DIAGNOSIS: placenta previa, rupture uterus, acute hydromnios, other acute abdominal conditions and genital tract lesions.

MANAGEMENT:

Always active management with ARM and oxytocin drip with simultaneous treatment of blood loss and coagulation failure with adequate blood and blood component transfusion is required. If there is no progress for vaginal delivery or in patients with term live fetus with unfavourable cervix caesarean section is advisable.

MATERIAL AND METHODS:

All pregnant women diagnosed to have abruption placenta from 28 weeks of gestation and above were included in the study. Women with bleeding per vaginum diagnosed to have placenta previa, lesions of genital tract and genital tract trauma were excluded.

RESULTS:

1) Age of the patient

| Age | No. of patients | Percentage |
|-----------|-----------------|------------|
| <19 yrs | 1 | 1.8% |
| 20-25 yrs | 35 | 66% |
| 25-30 yrs | 14 | 26.4% |
| 30-35 yrs | 3 | 5.6% |

2) Gestational age

| Gestational age | No. of patients | Percentage |
|-----------------|-----------------|------------|
| 28 weeks | 2 | 3.77% |
| 29-32 weeks | 30 | 56% |
| 33-36 weeks | 10 | 18.8% |
| >37 weeks | 11 | 20.7% |

3) Gravida

| Gravida | No. of patients | Percentage |
|---------|-----------------|------------|
|---------|-----------------|------------|

| | | |
|-----|----|--------|
| G1 | 17 | 32.07% |
| G2 | 19 | 35.8% |
| G3 | 11 | 20.7% |
| G4 | 4 | 7.5% |
| G10 | 1 | 1.8% |

4) Blood pressure at the time of admission

| Blood pressure(mm of Hg) | No. of patients | Percentage |
|--------------------------|-----------------|------------|
| Upto 120/80 | 16 | 30.1% |
| 130/90-150/100 | 31 | 58.4% |
| 160/110 & above | 4 | 7.5% |
| >90/60 | 2 | 3.77% |

5) Risk factors for abruptio placentae

| Risk factors | No. of patients | Percentage |
|---------------------------|-----------------|------------|
| Pre eclampsia | 19 | 35.8% |
| Chronic hypertension | 3 | 5.6% |
| Antepartum eclampsia | 1 | 1.8% |
| Anemia with pre eclampsia | 12 | 22.6% |
| Anemia | 12 | 22.6% |
| Pretermruptured membranes | 4 | 7.54% |
| Twins | 2 | 3.7% |
| Hydramnios | 0 | 0% |
| Trauma | 0 | 0% |
| Thrombophilias | 0 | 0% |

6) Mode of delivery

| Mode of delivery | No.of patients | Percentage |
|-----------------------------|----------------|------------|
| Vaginal delivery: Preterm | 40 | 75.47% |
| Term | 8 | 15.09% |
| Abdominal delivery: preterm | 2 | 3.77% |
| Term | 3 | 5.6% |

7) Fetal outcome

| Fetal outcome | Vaginal delivery | | Caesarean section | |
|---------------------|------------------|----------|-------------------|---------|
| | Preterm | Term | Preterm | Term |
| Intra uterine death | 37(69.8%) | 7(13.2%) | 1(1.8%) | 1(1.8%) |
| Poor APGAR | 2(3.7%) | 0(0%) | 1(1.8%) | 1(1.8%) |
| Good APGAR | 1(1.8%) | 1 | 0(0%) | 1(1.8%) |

8) Maternal complications

| Maternal complications | No. of patients | Percentage |
|------------------------|-----------------|------------|
| Hypovolemic shock | 2 | 3.7% |
| Coagulopathy | 10 | 18.8% |
| Renal failure | 3 | 5.6% |
| Post partum hemorrhage | 2 | 3.7% |
| Maternal mortality | 2 | 3.7% |

DISCUSSION:

In our study total number of deliveries from July 2016 – December 2016 were 4961. Among these cases of abruptio placenta were 53. The incidence is 1.07%.

1. In our study majority of patients are in the age group 20 -25y the incidence being 66%. The incidence in the age group 30-35y is only 5.6% may be due to young age at marriage and permanent sterilization.

2. Women with gestational age between 29-32 weeks were more commonly associated with abruptio incidence being 56%. Women with gestational age > 37 weeks were 11 [20.7%]

3. In our study the incidence of abruptio is more common in gravida 2 [35.8%] and primigravida [32%] compared to gravida 3 [20.7%] and gravida 4 [7.5%]

4. Women with mild preeclampsia [58.4%] were more commonly associated with abruptio compared to severe preeclampsia [7.54%]. Sixteen women [30%] have normal BP records. Two women

presented with hypovolemic shock.

5. In our study the most common risk factor is preeclampsia in 32 women [60.3%]. Three patients have chronic H.T [5.6%]. One patient presented with APE. Anaemia was associated with abruptio in 12 [22.6%] patients and anaemia with preeclampsia in 12 [22.6%]. Preterm ruptured membranes is a risk factor in 4 [7.54%] patients and twin gestation in 2 [3.7%]. Risk factors like hydromnios, external trauma and thrombophilia were not encountered in our study.

6. In our study 40 [75.47%] patients have preterm vaginal delivery, 8 patients [15.09%] have term vaginal delivery. Caesarean section was done in 05 patients [9.4%]. Among these 2 patients are preterm and 3 patients are term. Indications being prior c/s in 02 patients, transverse lie in 01, term gestation with unfavourable cx in 01 patient and grade – 3 abruptio with non progress of labour in 01 patient.

7. In our study 46 [86.7%] babies were IUD. Poor APGAR was found in 4 babies 2 preterm babies delivered vaginally and 1 preterm, 1 term baby delivered by caesarean section. Good APGAR score found in 3 babies 1 preterm, 1 term baby delivered vaginally and 1 baby delivered by caesarean section.

8. In our study coagulopathy was seen in 10 patients [18.8%] which was treated by transfusion of blood and blood components. Reversible acute tubular necrosis seen in 3 patients [5.6%] of which 1 patient required dialysis. Hypovolemic shock seen in 2 patients [3.7%] of which one patient was revived by treatment with crystalloids, blood and ionotropic agents but one patient shifted to intensive care unit couldn't be revived due to irreversible shock. Two patients presented with PPH of which 01 patient died due to hypovolemic shock.

CONCLUSIONS:

Abruptio placenta can occur at any gestational age. Abruptio can't be prevented. The commonest maternal risk factor is preeclampsia. The severity of hypertension doesn't correlate with the occurrence of abruptio. The commonest maternal complication is anaemia and coagulation failure. Abruptio placenta is one of the important causes for perinatal mortality. Though perinatal mortality can't be prevented maternal complications can be reduced by early and adequate treatment with blood and blood components.

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