

Evaluation of the Maternal & Perinatal Outcome in Abruptio Placentae in Reference to Coagulation Profile.

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ABSTRACT

Background: Maternal mortality is an important indicator of a woman's health. Even though MMR has reduced dramatically death from hemorrhage remains prominent even in developed countries. Abruptio placentae is an acute obstetrical emergency. **Methods:** This study was done in the Department of Obstetrics and Gynecology Government Medical College and Rajindra Hospital Patiala to assess clinical and coagulation profile of patients presenting with abruptio placentae and analyze maternal and fetal outcome. **Result:** A total of 73 patients with abruptio placentae were studied, giving an incidence of 3.09%. Of these 76.7% patients were in the age group of 21-30 years. (60%) were either nulliparous or primiparous. (65.75%) patients belonged to rural area with no regular antenatal checkup. The 90.41% patients belong to lower socio- economic status and 56% were illiterate. The mean gestational age in our study was 34.5 weeks and classical presentation of bleeding per vaginam associated with pain was seen in 54.7%. Most common associated risk factor found to be hypertension (58.9%), followed by PROM (13.7%) and trauma (2.74%). **Conclusion:** The main complications observed were shock, DIC and PPH. There was only one maternal death in our series; Mode of delivery was Vaginal in 53 Cases (72.60%) and LSCS in 20 (27.40%) Perinatal mortality was observed in 40 patients (54.79%).

Keywords: Abruptio Placentae, FDP, S. Fibrinogen.

INTRODUCTION

The ultimate goal of modern obstetrics is to provide a healthy baby and a healthy mother as an outcome of pregnancy. Maternal mortality is an important indicator of a woman's health, both in developing countries and in more developed ones. Even though MMR has reduced dramatically, death from hemorrhage remains prominent even in developed countries. It has been observed that 3.5% of all pregnancies are associated with 3rd trimester bleeding and nearly 32% of these are diagnosed as placental abruption.^[1]

An Abruptio placenta is an acute obstetrical emergency. When the placental separation is minimal, the risk to the mother and fetus is low, but with major separation, to life of the mother is in jeopardy and the consequences to the fetus are often fatal.

Abruptio placentae is defined a bleeding from or into the genital tract after 28 weeks of pregnancy but before the birth of the baby due to premature

separation of a normally situated placenta. The clinical presentation of abruption varies widely from totally asymptomatic cases to those where there is fetal death with severe maternal morbidity. The classical symptoms are vaginal bleeding and abdominal pain. The severity of symptoms depends upon the type of the abruption, revealed or concealed and the degree of abruption.

Aims & Objectives

1. To study clinical profile of patients presenting with abruption placentae
2. To assess the maternal prognosis and to evaluate the various complications encountered in these cases
3. To evaluate the perinatal outcome

MATERIALS AND METHODS

A detailed analysis of all cases of abruption placentae presenting between 1st April 2005 to 30th September 2006 in the Department of Obstetrics and Gynecology Government Medical College and Rajindra Hospital Patiala was done. The total number of patients with abruption placentae was 73. At the time of admission a detailed history was taken followed by through GPE and obstetrical examination. Investigations including hematological, biochemical and radiological were done.

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Inclusion criteria

- Gestational age > 28 weeks
- Bleeding per vaginam
- Presence of normally situated placenta as ascertained by USG.
- Absence of other medical / surgical conditions not directly related to pregnancy

The patients included in the study were graded before and after delivery according to classification of Sher and Statland.

Grade I (Mild): Clinically not recognized before delivery and usually diagnosed by the presence of retroplacental clot.

Grade II (Intermediate): The classical signs of abruption are present but fetus is still alive.

Grade III (Severe): The fetus is dead

III A: Without coagulopathy

III B: With coagulopathy

In addition to routine tests special emphasis was given to complete coagulation profile which included special tests for serum fibrinogen, fibrinogen degradation products levels and prothombin time index.

RESULTS

During the study period, 2359 deliveries took place, out of which 73 patients were diagnosed as cases of abruptio placentae. Thus the incidence was 3.09%. (76.7%) of patients were in the age group of 21-30 years with the mean age of 25 years. (60%) were either nulliparous or primiparous. (65.75%) of the patients belonged to rural areas with no regular antenatal checkup (75.34%). (90.41%) patients belonged to lower socio economic status and 56% were illiterate. The mean gestational age in our study was 34.5 weeks and classical presentation of bleeding per vaginam associated with pain was seen in 54.7%.

Most common associated risk factor found to be hypertension (58.9%) followed by PROM (13.7%) and trauma (2.74%).

Table 1: Obstetrical examination showed the characteristics shown.

Clinical exam		No of cases	% age
Presentation	Cephalic	71	97.2
	Breach	1	1.37
	Transverse lie	1	1.37
Uterus	Relaxed	14	19.1
	Contraction present	22	30.1
Liquor on ARM	Tense and tender	37	50.6
	Blood stained	49	67.2
FHR	Clear	19	26
	Meconium stain	5	6.85
	Reassuring	24	32.8
Gestational Age	Non reassuring	12	16.4
	Absent	37	50.6

The average hemoglobin level of the patients was 7.9gm%. 68.5% patients of placental abruption showed higher than normal levels of FDP [Table 6] in the serum and 47.9% showed evidence of hypofibrinogenemia [Table 2]. USG was possible in 35 patients and out of these retroplacental clot could be seen in 16 (45.7%).

Table 2: Place of Intranatal Care before Admission

S. Fibrinogen mg%	No of cases	% age
>300	38	52.05
151-300	29	39.7
<150	6	8.2
Total	73	100
Range	127-437	
Mean +SD	288.06 + 90.08	

The main complications observed were shock, DIC and PPH. [Table 3] there was only on maternal death.

Table 3:

Complication	No of cases	%age
Shock	5	6.8
Renal failure	--	-
DIC	5	6.8
PPH	5	6.8
Shock&PPH	1	1.3
Shock+PPH+DIC	1	1.3
HELLP	1	1.3

Mode of delivery was Vaginal in 53 cases (72.60%) and LSCS in 20 (27.40%) the most common indication for LSCS was non-reassuring fetal heart. Induction of labour was primarily done with ARM followed by oxytocin or misoprostol as the need be. [Table 4].

Table 4:

Mode of induction	No of cases	%age
Spontaneous	8	15.09
ARM	24	45.28
ARM+Oxytocin	12	22.64
ARM+Misoprostol	9	16.98
Total	53	

Perinatal mortality was observed in 40 patients (54.79%). Out of these fetal heart could not be located in 37 (50%) at the time of admission. No congenital malformation was noted at birth. [Table 5].

Table 5:

Perinatal Outcome		No of cases	%age
Outcome	Alive	33	45.21
	Perinatal death	40	54.79
Sex	Male	34	46.58
	Female	39	53.42
SGA/AGA/LGA	SGA	28	38.36
	AGA	45	61.64
	LGA	-	-
Gestational Age	Preterm	50	68.49
	Term	23	31.51

39 patients (53.4%) presented with Grade III abruption and in 19 (26%) retroplacental clot was seen after delivery (Grade I). 4 patients showed evidence of coagulopathy

Table 6:

FDP	HT		Normal	
	No	%age	No	%age
<5	10	23.2	13	43.3
>5<20	21	48.8	11	36.6
>20	12	27.9	6	20
Total	43	100	30	100

Higher levels of serum FDP was recorded in 33/43 patients (76.7%) who were hypertensive in contrast to 17/30 (56.6%) normotensive patients but this was not statistically significant [Table 6]. Where as serum fibrinogen levels were low in 25/43 (58.13%) hypertensive patients and in only 10/30 (33.33%) normotensive patients which was statistically significant. The complications were seen more in hypertensive patients. Couvelaire uterus was seen in 10% cases of Grade III abruption and 26.6% of Grade II abruption placentae. There was no difference in perinatal outcome in cases of couvelaire uterus. 7/9 (77.7%) of patients with Couvelaire uterus showed hypofibrinemia (Serum fibrinogen < 300 mg %) as compared to 28/64 patients in whom Couvelaire uterus could not be demonstrated. The difference was statistically significant. Serum FDP levels were raised in all patients with Couvelaire uterus. This was highly significant.

DISCUSSION

The incidence in studies from Europe and USA has been reported to be 0.5 – 0.6% as compared to our study which may be due to better antenatal care in developed world.^[2,3] Our incidence is comparable to study from tertiary level hospital in Pakistan i.e. 4.4%.^[4] The presentation of vaginal bleeding (75.3%) and abdominal pain (67.3%) in our study is similar to most of the studies reported.^[5,6] Most of the patients belonged to lower SES, majority of them were residing in villages and illiterate with no or minimal antenatal care. Many risk factors have been shown as important indicators by other authors also.^[7,8] USG was possible in only 35/75 (48%) of the patients because of poor general condition and in those also retroplacental hemorrhage could be identified in only 16/45 (45.7%). In view of the low sensitivity of the USG, the clinical examination of the patients is a more reliable index for management. Hypertension was the most significant risk factor (59%). Though perinatal mortality was almost similar in hypertensive and normotensive group the maternal complications were significantly higher in hypertensive group. The incidence of cesarean section was almost double in the hypertensive group. Placental abruption in prior pregnancy was observed

to be a significant risk factor in our study which is reported by other authors also.^[9,10] The rate of cesarean section reported in various studies varies significantly.^[6,11,12] whereas it was 27.4% in our study. High perinatal mortality in abruption placentae remains a persistent obstetric problem, especially in developing countries. Most of the mortality is inevitable as the fetal death had already occurred in the majority of cases at the time of admission as was seen in our study. In our study incidence of couvelaire was 9/73 (12.33%). 77.7% patients who had couvelaire uterus had evidence of hypofibrinemia but the one who had uncontrolled PPH and underwent hysterectomy had serum fibrinogen level of 437 mg%. This illustrates that the association between Couvelaire uterus and hypofibrinemia is not always present. In our study serum FDP levels were found to be highly significant on statistically analysis comparing the patients who had Couvelaire uterus with the rest of the patients, with all the nine patients having serum FDP>5 ug/ml/. Two of the patients of Couvelaire uterus in our study underwent hysterectomy due to uncontrolled PPH unresponsive to conservative management.

CONCLUSION

We conclude that serum levels of fibrinogen and fibrin degradation products were statistically significant parameters in cases of abruption placentae. Upliftment of the existing health system is highly desirable to meet the needs of pregnant women, particularly for good antenatal care and to address various complications of pregnancy and obstetrical emergencies.

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