

Abruptio Placentae and Perinatal Outcome

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Abstract

Introduction: Acute cases of Abruptio Placentae results in intrauterine death and stillborn baby, while chronic abruption results in intrauterine growth restriction, low birth weight and preterm labour and perinatal death. Less attention has been paid on the study on placental separation and perinatal outcome along with preterm labor among the cases coming to referral hospital like Banaras Hindu university in which placental separation and perinatal outcome along with preterm labor has been studied. We studied how many extremely preterm, very preterm and moderate to late preterm deliveries were there in mothers with abruption. *Material & Methods:* The study took place in Sir Sunder Lal Hospital, Banaras Hindu University, Varanasi, North India. Singleton pregnancies who were diagnosed as having placental abruption clinically based on clinical features and confirmed, were taken in this study. *Results:* Study period was June 2015-July 2016. Incidence of abruption was found to be higher among illiterate women (p value 0.006, Chi Square value 10.11). Socioeconomic status and stillbirth table also showed incidence higher among lower socioeconomic status group (p value 0.007, Chi Square 7.18). *Conclusions:* Our study indicates that babies born to mothers with abruption placentae were preterm and had poor outcome.

Most of the time it is due to premature delivery. In clinical situations there should be low threshold for diagnosis of placental abruption, more so in cases of unexplained vaginal bleeding or preterm labour.

Keywords: Abruptio Placentae; Revealed Haemorrhage; Concealed Haemorrhage; Preterm Labour; Stillbirth.

Introduction

Placental abruption is defined as premature separation of placenta that has grave consequences for both the mother and baby. The pathophysiological process is complex and relentless.

Acute cases of Abruptio Placentae results in intrauterine death and stillborn baby, while chronic abruption results in intrauterine growth restriction, low birth weight and preterm labour and perinatal death [1-3].

This is first of this kind of study in Banaras Hindu University in which placental separation and perinatal outcome along with preterm labor has been studied. We studied how many extremely preterm, very preterm and moderate to late preterm deliveries were there in mothers with abruption. We also subjectively studied degree of placental separation in these mothers.

Materials and Methods

The study took place in Sir Sunder Lal Hospital, Banaras Hindu University, Varanasi, North India. Singleton pregnancies who were diagnosed as having placental abruption clinically based on clinical

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Received on 29.05.2017,
Accepted on 13.06.2017

features and confirmed, were taken in this study.

During the study period of June 2015-July 2016, Booked or unbooked cases whosoever came to labour room and were diagnosed as having Placental Abruptio were included/recorded for their clinical details and perinatal outcome in the study. Total of 20 women were included.

Results

During the study period of June 2015-July 2016, booked or unbooked cases whosoever came to labour room and were diagnosed as having Placental Abruptio were included/recorded for their clinical details and perinatal outcome in the study. Total of 20 women were included.

None of them were smoker or drug addict. The age group of women was 20-38 years with mean age 29±5 years and 65% were multigravida. Out of total study subjects 65% women delivered by spontaneous vaginal delivery

Incidence of abruptio was found to be higher among illiterate women (p value 0.006, Chi Square value 10.11, Table 1). Socioeconomic status was found to be associated with stillbirth and it showed higher incidence among lower socioeconomic status group (p value 0.007, Chi Square 7.18, Table 2). If the women had preeclampsia then there are almost 50% chances of having stillbirth (p value 0.88, Chi square test 0.03, Table 3) although the data was not statistically significant.

Neonates weighing less than 2500 grams could be intrauterine growth restricted (IUGR) or Appropriate for Gestational Age (AGA). This study did not show any correlation between birth weight less than 2500 grams with intrauterine growth restricted (IUGR) Table 4.

Table 5 shows that abruptio was more commonly observed in multigravida. History of previous placental abruptio was found only in 15% of cases (Table 6). 45% women had preeclampsia in this study (Table 7). History of miscarriage was not significant, found in 35% only (Table 8).

Table 1: EDUCATION * STILLBIRTH_IUD Crosstabulation

			STILLBIRTH / IUD		Total	
			No	Yes		
Education	Illiterate	Count	0	4	4	Chi square 10.11 p value 0.006
		% within Education	.0%	100.0%	100.0%	
>12th Standard Educated	Up to 12th Standard Educated	Count	4	0	4	
		% within Education	100.0%	.0%	100.0%	
Total		Count	9	3	12	
		% within Education	75.0%	25.0%	100.0%	
Total		Count	13	7	20	
		% within Education	65.0%	35.0%	100.0%	

Table 2: SE_STATUS * STILLBIRTH_IUD Crosstabulation

			STILLBIRTH / IUD		Total	
			No	Yes		
SE_Status	Lower Class	Count	5	7	12	Chi square 7.18 p value 0.007
		% within SE_STATUS	41.7%	58.3%	100.0%	
Upper Class	Total	Count	8	0	8	
		% within SE_STATUS	100.0%	.0%	100.0%	
Total		Count	13	7	20	
		% within SE_STATUS	65.0%	35.0%	100.0%	

Table 3: PREECLAMPSIA *STILLBIRTH_IUD Crosstabulation

			STILLBIRTH / IUD		Total	
			No	Yes		
PREECLAMPSIA	No	Count	7	4	11	Chi square 0.03 p value 0.88
		% within PREECLAMPSIA	63.6%	36.4%	100.0%	
Yes	Total	Count	6	3	9	
		% within PREECLAMPSIA	66.7%	33.3%	100.0%	
Total		Count	13	7	20	
		% within PREECLAMPSIA	65.0%	35.0%	100.0%	

Table 4: BW_less_2500 * IUGR Crosstabulation

				IUGR		Total
				No	Yes	
BW_less_2500	No	Count		12	0	12
		% within BW_less_2500		100.0%	.0%	100.0%
	Yes	Count		4	3	7
		% within BW_less_2500		57.1%	42.9%	100.0%
Total		Count		16	3	19
		% within BW_less_2500		84.2%	15.8%	100.0%

Table 5: Parity_

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	M	13	65.0	65.0	65.0
	P	7	35.0	35.0	100.0
Total		20	100.0	100.0	

Table 6: PREVIOUS_PL_ABRUPTION

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	17	85.0	85.0	85.0
	Yes	3	15.0	15.0	100.0
Total		20	100.0	100.0	

Table 7: PREECLAMPSIA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	11	55.0	55.0	55.0
	Yes	9	45.0	45.0	100.0
Total		20	100.0	100.0	

Table 8: H/O_MISCARRIAGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	13	65.0	65.0	65.0
	Yes	7	35.0	35.0	100.0
Total		20	100.0	100.0	

Table 9: NICU_Ad

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	13	65.0	65.0	65.0
	Yes	7	35.0	35.0	100.0
Total		20	100.0	100.0	

Table 10: Prematurity and Abruption

		Gestational age	Number	Percentage
Extremely preterm	<28 weeks		7	35%
Very preterm	28 to <32 weeks		4	20%
Moderate to late preterm	32-<37 weeks		9	45%

50% of babies had good apgar score, rest needed resuscitation. 35% of the babies were admitted in NICU (Table 9).

In our study there were 35% neonates who were born at less than 28 weeks gestation, 20% at less than 32 weeks gestation and 45% between 32-less than 37 weeks (Table 10). Total of 7 (35%) babies were born stillbirth and they had almost 75% of placental

separation (based on subjective assessment).

Discussion

Placental abruption is associated with 20-40% rate of preterm delivery [4]. In this study we had 20 women reported to labour room were diagnosed as abruption

placentae and all had preterm delivery. Higher incidence of premature delivery has been reported in another study as well [5].

Harris et al in 1985 also published a similar data showing relation between placental separation and preterm labour. The possible causation is due to prostaglandin release. The premature placental separation leads to blood collection at the placental margin and thus the inflammatory reaction and release of Prostaglandins. Study by Candee et al also states that the risk of stillbirth increases dramatically for women with over 50% placental separation [6,7].

Total of 7 (35%) babies were born stillbirth and they had almost 75% of placental separation (based on subjective assessment).

These were women who presented with revealed haemorrhage and were severe. This is in accordance with the study by Ananth et al [7].

Our study indicates that babies born to mothers with abruptio placentae were preterm and had poor outcome. Most of the time it is due to premature delivery but can also be due to growth restriction. It is also concerning and perhaps not preventable to a great extent that the risk of stillbirth is quite high among mothers with severe revealed haemorrhage and placental separation [7].

In clinical situations there should be low threshold for diagnosis of placental abruption, more so in cases of unexplained vaginal bleeding or preterm labour. This was observed in the study by Hurd et al. Clinicians should be aware of symptoms of abruption

placentae like uterine tenderness, excessive uterine contraction and fetal distress [8].

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