

INCIDENCE OF PLACENTAL ABRUPTION;

Morbidity / mortality associated with it

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ABSTRACT.....Objective: To determine the Incidence of Placental Abruption and the morbidity / mortality associated with it. **Design:** Prospective and Observational case Study. **Setting & Duration:** Department of Obstetrics & Gynecology, Liaquat University of Medical and Health Sciences Hyderabad, for a period of 15 months from January 2007 to March 2008. **Patients & Methods:** Among all the antenatal patients delivered during the period under review, those suffering from Placental abruption were entered into this study by completing a proforma for each patient. After history, examination and initial management, investigations were carried out. These patients were managed on case to case basis depending on the progression of abruption and delivery. After delivery whether spontaneous or by cesarean section the condition of mother and subsequent complications were recorded and results analyzed on SPSS version 10. **Results:** During the period 15 months, 2760 patients were admitted to labour room /labour ward and delivered. Among these, 100 patients had abruption making an incidence of 2.89% per year. According to the degree of abruption 33 had mild, 50 had moderate and 17 had severe abruption. 42% had spontaneous vaginal delivery, and 52% underwent cesarean section. 36% of Abruption patients, developed complications like shock, PPH and DIC. One (1%) patient died in severe abruption. **Conclusions:** The incidence of Abruption Placentae in this study is comparable to local studies and studies from developing countries, but is high in comparison to studies from developed countries. The maternal morbidity and mortality rate is not as high as in other studies.

Key words: Abruption Placentae, Incidence, Morbidity, Mortality.

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INTRODUCTION

Abruption placentae is now universally adopted term for the condition that was previously known as accidental hemorrhage^{1,2}. Placental abruption is bleeding after premature separation of a normally situated placenta, usually after 20 weeks of pregnancy^{3,4}.

It is a serious Obstetrical condition associated with an increased incidence of perinatal morbidity and mortality. The incidence of Abruption placentae is less than 1 percent in USA, Europe and other developed countries, but it remains 2-8% in the developing world^{5,6,7}.

The abruption placentae is graded according to the clinical classification, as mild (amount of vaginal bleeding less than 100ml), moderate (amount 100-500ml) and severe (amount more than 500ml) and other criteria like uterine tone, fetal heart rate, coagulopathy and maternal status are also considered⁴.

The major complications of placental abruption are hemorrhagic shock, Disseminated intravascular coagulation, ischemic necrosis of the distal organs and postpartum haemorrhage^{1,2}.

Few studies have been conducted on the frequency and complications of this condition.

The aim of this study is to know the frequency of this condition in our setting and to record the complications that are encountered in managing this type of obstetrical emergency.

PATIENTS & METHODS

All booked and unbooked antenatal patients presenting in antenatal clinic or in emergency with signs and symptoms of Abruption placentae were entered into this study.

INCLUSION CRITERIA

All pregnant women between 20 weeks and term with

complain of abdominal pain/ backache and bleeding per vagina were included in this study.

EXCLUSION CRITERIA

Pregnant women having bleeding per vagina due to causes other than abruption like placenta previa, ruptured uterus, cervical polyp etc. were excluded from study.

A detailed history of these patients was taken, examination performed and findings entered into proforma. Relevant investigations were sent to laboratory and ultrasound examination of abdomen and pelvis was requested. Once diagnosed these patients were appropriately managed according to the severity of the condition and the condition of fetus monitored. The management consisted of either immediate delivery (SVD/LSCS) or the patient was kept under observation with monitoring and the supportive treatment till delivered.

The complications were dealt with as they developed. All these details were entered into questionnaire form

which was completed separately for each individual case. All the data was entered into SPSS program and data was analysed after calculating frequencies, mean and standard deviation.

RESULTS

During the period under study, 2760 patients were admitted to labour room /labour ward and delivered. The mean age in this study was 29.4 (± 4.1) years, the mean parity was 4.1 (± 3.7) (Table-I). Among these, 100 patients had abruption making an incidence of 2.89% per year. Comparison of rate of abruption from different local as well as international studies has been shown in Table-II. 33 had mild degree of abruption, 50 had moderate and 17 had severe abruption as shown in Table-III. Out of 36 who developed complications, 19 (52.7%) went into shock, 12 (33.3%) suffered from postpartum hemorrhage (among these one developed acute renal failure, and two developed DIC). Overall 5 (13.8%) patients developed DIC as shown in table-IV. 42 had spontaneous vaginal delivery, 52 underwent lower segment cesarian section, one patient died due to severe bleeding leading to DIC as shown in Figure 1.

Variable	Test Value = 0	df	Sig. (2-tailed)	Mean Difference	95% Confidence interval of the difference	
					Lower	Upper
	t					
Age in years	70.926	99	.000	29.43	28.6067	30.2533
Parity in number	18.147	99	.000	4.02	3.2854	4.7546
Gestation age	84.464	99	.000	34.98	34.1583	35.8017
Duration of Vaginal Bleed in hours	3.071	99	0.003	22.34	7.9046	36.7754

Table-I. Shows different variables with mean and 95% confidence interval.

	N	Mean	Std. Deviation	Std. Error Mean
Age	100	29.4300	4.1494	.4149
Parity	100	4.02	3.7026	9.5426
Gestational Age	100	34.9800	4.1414	.4141
Vaginal Bleeding Duration	100	22.3400	72.7509	7.2751

Author	Country	Year of Publication	No: of Deliveries	No: of Abruption Patients	Percentage
KJ Noorani ⁵	Pakistan	1995	8766	630	7.18%
Shamshad ⁶ Begum	Pakistan	2003			3.00%
Sadia Z ⁶	Pakistan	2003			2.00%
Naqvi MM ⁹	Pakistan	2003			6.15%
Nizam K ¹⁰	Pakistan	2004	1662	110	7.00%
Musarrat J ¹¹	Pakistan	2004	3291	151	4.50%
Iram Sarwar ¹²	Pakistan	2006	1194	53	4.40%
Nagina Fatima ¹³	Pakistan	2006	4497	102	2.26%
This Study	Pakistan	2007	2760	100	2.89%
Dafallah SE ¹⁴	Sudan	2004	15620	1028	6.50%
Vigil DE ¹⁵	Panama	2004			8.40%
Tuthill DP ¹⁶	UK	1999			2.07%
Shiener E ¹⁷	Israel	2002	5934	300	5.10%
William MA ¹⁸	USA	1991	10648	943	8.85%
Shiener E ¹⁹	Israel	2003	72995	219	0.30%
Ananth C ²⁰	USA	1999	1358623	8724	0.64%
Ananth C ²¹	USA	2001			0.59%
Ananth C ²²	USA	2001	7508605		0.65%
Kavegard M ²³	Sweden	1986			0.44%
Toivonen S ²⁴	Finland	2002			0.57%
Tikanen ²⁵	Finland	2006			0.42%
Atef Y ²⁶	Tunis	2005			0.34%
Abu Heija ²⁷	Jordan	1998	18256	108	0.59%
Thieba B ²⁸	French	2003		177	0.96%

Table-II. Comparison of rate of abruption from different studies.

Abruptio Grade	Frequency	Percent	Valid Percent	Cumulative Percent	Column-I
Mild	33	33	33	33	
Moderate	50	50	50	83	
Severe	17	17	17	100	
	100	100	100		

Table-III. Showing the degrees of abruption

Complications	Number	Percentage
Shock	19	52.77%
Postpartum haemorrhage (one developed acute renal failure), two developed DIC	12	33.33%
DIC (one developed acute renal failure)	05	13.88%
Total	36	100%

Table-IV. Showing rate of different complications.

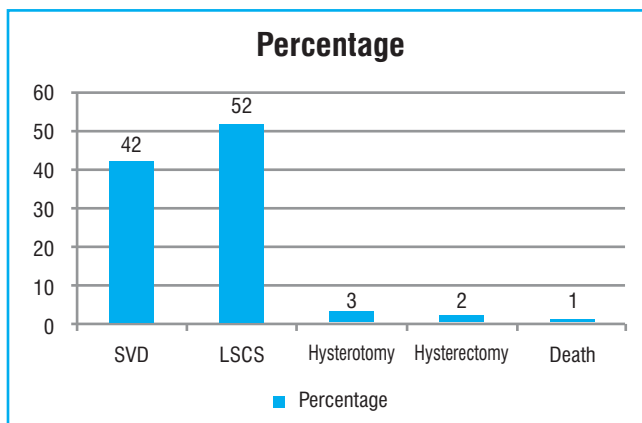


Figure 1: Showing Maternal outcome

DISCUSSION

This study on abruptio placentae, and its complications was conducted in the department of Obstetrics & Gynaecology, Liaquat University of Medical & Health Sciences Hospital Hyderabad, from January 2007 to March 2008.

During this period a total 2760 deliveries were conducted and out of these, the patients of abruptio placentae recorded were 100, resulting in an incidence of 2.89% per year.

The studies from Pakistan and other developing countries show an incidence between 2% and 8.5% (Table-II). Recent studies from USA by Ananth et al. show the incidence of less than 1%²⁰⁻²². This is also confirmed from studies of European and other countries (Table-II). It is an obvious fact that the incidence was higher in the past, and it has definitely come down to less than 1% in USA. This is also confirmed from studies by Sheiner et al, and other recent studies from USA (Table-II). This fact emphasizes that knowing the risk factors in a given population, and taking measures to prevent these risk factors particularly by antenatal care can decrease the incidence, and thereby reducing the perinatal morbidity and mortality.

All the patients presented with some degree of vaginal bleeding. The mean duration of vaginal bleeding was 22.34 hours. According to the degree of abruption 33 had mild, 50 had moderate and 17 had severe abruption (Table-III).

42 patients delivered their babies by spontaneous vaginal delivery, whereas 52 patients under went

caesarian section (Figure 1). Karegard and et al show a caesarian section frequency of 74.6 % with a perinatal mortality of 20.2 %²³. Similarly Vigil De¹⁵ show 71.4% frequency and Tikkanen et al have shown a 91 % C-section rate with a perinatal mortality 9.2%²⁵. This high rate of caesarian section is probably a factor towards early management and decreased perinatal mortality

The maternal morbidity was 36% and the complications are shown in (Table-IV). Most common complication was Shock affecting 19 patients, followed by Postpartum haemorrhage which affected 12 patients. Other common complication was disseminated intravascular coagulation (DIC) which occurred in 5 patients and these patients were managed with fresh frozen plasma and fresh blood transfusions. One patient (1%) died in severe abruption, as the blood could not be arranged in time for this patient and she died two hours after arrival.

The maternal morbidity and mortality rate is comparable to a local study by Nagina Fatima et al¹³. It is not as high as compared to other studies^{11,12}. In one study by Thiebaet al²⁸ the maternal death rate was about 3.9%, despite low incidence of abruption (9.61/1000). In another study by Shad H Deering²⁹ maternal death by abruption has been shown to be 6%. Vigil De et al¹⁵, conclude that extensive monitoring of the clinical status of the mother was associated with low maternal morbidity and the absence of maternal deaths.

CONCLUSIONS

The incidence of abruption placentae in this study is 2.89% per year, which is comparable to local studies but is high as compared to western studies. The maternal morbidity and mortality rate is not as high as shown in other studies.

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You cannot make a revolution
with silk gloves.

Joseph Stalin