

Outcome of Placental Abruption

Wajeeha Khurshid¹, Sadaf Saifullah², Uzma Shoaib², Sajida Iqbal³, Bilal Ahmed¹ and Attiya Bibi¹

ABSTRACT

Objective: To determine the fetomaternal outcome of placental abruption.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Obstetrics & Gynae Unit A, Ayub Teaching Hospital, Abbottabad from January, 2020 to June, 2020.

Materials and Methods: A total of 115 women were enrolled. Non-probability purposive sampling. Pregnant females with 24 to 40 weeks of gestation and age group from 20 to 45 years with any gravidity or parity were included in the study. Patient with RTA, renal disease and thrombophilia /ITP, were excluded from the study. Written informed consent was taken from all samples. The women were observed closely and their outcome was recorded. Descriptive data was obtained related to age and parity. Frequency and percentage was also deduced. Chi-square test was performed. All data was tabulated.

Results: Mean age was 29.0 ± 3.27 years. 20(17%) patients had shock, 35(30%) patients had PPH, 9(8%) patients developed DIC/Coagulopathy and 7 (6%) patients were transferred to ICU while 5 (4%) patients had maternal death. Whereas 51(44%) fetuses had low birth weight, 60(52%) fetuses were still born and 19(17%) had neonatal death.

Conclusion: Our study concludes that placental abruption has significant maternal and perinatal morbidity and mortality.

Key Words: Feto-maternal outcome, placental abruption

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INTRODUCTION

Placental abruption is flowing of blood in uterus due to separation of placenta before its normal time of segregation. It occurs after 5 months of pregnancy. No pathology is seen with respect to attachment of placenta. The segregation may be whole of the placenta or some part of it¹. This abnormality takes place at a low percentage in countries like USA or UK. In underdeveloped countries this percentage is more. Resultantly the fatal outcome percentage is more in these countries^{1,2}. There are multiple risk factors which lead to this fatal abnormal condition.

A few of them include age of mother above 40 years, multiple previous pregnancies, poor families, blowing of cigarette, nutritional deficiencies, elevation of blood pressure of mother, thrombus formation, addiction, sever injuries to abdomen, etc³⁻⁵. In a few cases no obvious reason is found⁶.

How mother will be affected depends upon percentage of segregation of placenta. Segregation may be complete or partial. It may lead to hemorrhagic shock which further needs to giving blood to overcome loss. Internal bleeding may lead to clot formation. Renal failure may be one of its complications. Sometimes uterus is removed to save life of the mother⁷.

Fetus is also affected very badly. Fetus may be small for date, early delivery, still born and dead born are also seen as its complication. Lack of oxygen inhalation is another result of such abnormality⁸.

Pain in lower abdomen, blood flow through vagina, pain on palpation of lower abdomen is leading sign and symptoms. Confirmation of this abnormality can be made by doing abdominal ultrasound. Retroplacental clot confirms placental abruption⁹.

The fatal outcomes of this pathology can be overcome by proper antenatal examination in routine. By giving folic acid supplement. If there is accompanying raised blood pressure or glues levels then they must be under control. Health education regarding limiting number of babies is another preventive measure¹⁰.

In Pakistan the percentage of occurrence of this abnormality is about seven. Most of these cases show

¹. Department of Obstetrics and Gynecology, Ayub Teaching Hospital, Abbottabad.

². Department of Obstetrics and Gynecology, Women and Children Hospital, Abbottabad.

³. Department of Obstetrics and Gynecology, Mansehra Medical Complex, Abbottabad.

Correspondence: Dr. Uzma Shoaib, Medical Officer, Obstetrics and Gynecology, Women and Children Hospital, Abbottabad.

Contact No: 0333-5038628

Email: druzmashoaib@yahoo.com

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no sign other than abrupt collapse of pregnant female. It is frequent in remote areas of Pakistan¹¹. This study will get data about the incidence of this condition in the area of Abbottabad. That will further help to find out the most commonly occurring complication in both mother and fetus which will help to take proper preventive measures to reduce fatal outcome.

MATERIALS AND METHODS

Study Design: Cross-sectional study.

Study Place: This study was carried out at Department of Obstetrics & Gynae Unit A, Ayub Teaching Hospital, Abbottabad.

Study Duration: 6 months (1-1-2020 to 30-6-2020).

Sample Size: A total of 115 women were enrolled.

Sampling Technique: Non-probability purposive sampling.

Selection criteria: Inclusion criteria: Pregnant females with placental abruption, 24 to 40 weeks of gestation and age group from 20 to 45 years with any gravidity or parity were included in the study.

Exclusion criteria: Patient with RTA, renal disease and thrombophilia/ITP, were excluded from the study.

Data Collection: Written informed consent was taken from all samples. The women were observed closely and their outcome was recorded. The patients were managed according to unit protocol. Data regarding age, parity, outcome with respect to mother as well as fetus was collected.

Statistical analysis: Data was analyzed using SPSS version 20. Descriptive data of age, parity and outcome was obtained. Frequency, percentage and standard deviation of all the variables was obtained. Data was stratified by age and parity with respect to outcome. To know significant difference of outcome variable between different ages and parity, chi-square test at 5% significance level was performed.

RESULTS

A total of 115 patients were included in the study to determine the fetomaternal outcome of placental abruption.

Age distribution among 115 patients was analyzed as 49(43%) patients were in age group 20-30 years while 66(57%) patients were in age group 31-40 years. Mean age was 29 years with standard deviation ± 3.27 .

Parity among 115 patients was analyzed as 30(26%) patients were primipara, 60(52%) patients were multipara, and 25(22%) patients were grand multipara.

Mode of delivery among 115 patients was analyzed as 59(51%) patients had vaginal delivery whereas 56(49%) patients had caesarean section.

Maternal outcome among 115 patients was analyzed as 20(17%) patients had shock, 35(30%) patients had PPH, 9(8%) patients had DIC/Coagulopathy, 7(6%) patients was transferred to ICU while 5(4%) patients had maternal death.

Fetal outcome among 115 patients was analyzed as 51(44%) had low birth weight, 60(52%) had still birth, 19(17%) had neonatal death.

Stratification of maternal and fetal outcome with age and parity is given in table no 1-4.

Table No.1: Stratification of maternal outcome with respect to age (n=115)

Maternal Outcome		20-30 years	31-40 years	Total	P value
Shock	Yes	9	11	20	0.8119
	No	40	55	95	
PPH	Yes	15	20	35	0.7621
	No	34	40	80	
DIC	Yes	4	5	9	0.9076
	No	45	61	106	
ICU	Yes	3	4	7	0.9890
	No	46	62	108	
Maternal Death	Yes	2	3	5	0.9039
	No	47	63	110	
Total		49	66	115	

Table No.2: Stratification of maternal outcome with respect to parity (115)

Maternal Outcome		Primi para	Multi para	Grand Multi para	Total	P value
Shock	Yes	5	10	5	20	0.9271
	No	25	50	20	95	
PPH	Yes	9	19	7	35	0.9437
	No	21	41	18	80	
DIC	Yes	2	5	2	9	0.9615
	No	28	55	23	106	
ICU	Yes	2	4	1	7	0.8854
	No	28	56	24	108	
Maternal Death	Yes	1	3	1	5	0.9310
	No	29	57	24	110	
Total		30	60	25	115	

Table 3: Stratification of fetal outcome with respect to age (n=115)

Fetal Outcome		20-30 years	31-40 years	Total	P value
Low birth weight	Yes	22	29	51	0.9185
	No	27	37	64	
Still birth	Yes	26	34	60	0.8696
	No	23	32	55	
Neonatal Death	Yes	8	11	19	0.9612
	No	41	55	96	
Total		49	66	115	

DISCUSSION

Our study shows that among 115 patients, 49(43%) patients were in age group 20-30 years while 66(57%)

patients were in age group 31-40 years. Mean age was 29 years with standard deviation ± 3.27 . Thirty (26%) patients were primipara, 60(52%) patients were multipara, and 25(22%) patients were grand multipara. Fifty nine (51%) patients had vaginal delivery whereas 56(49%) patients had caesarean section. Twenty (17%) patients had shock, 35(30%) patients had PPH, 9(8%) patients had DIC/Coagulopathy, and 7 (6%) patients were transferred to ICU while 5 (4%) patients had maternal death. Whereas 51(44%) fetuses had low birth weight, 60(52%) had still birth, 19(17%) had neonatal death. In a study it was found that most of the newborn delivered to a mother with placental abruption needed life saving measures to save apnea, asphyxia, respiratory distress syndrome and prolong hospital stay¹².

Table No.4: Stratification of fetal outcome with respect to parity (n=115)

Fetal Outcome		Primi Para	Multi para	Grand Multi para	Total	P value
Low birth weight	Yes	13	27	11	51	0.9880
	No	17	33	14	64	
Still birth	Yes	16	31	13	60	0.9887
	No	14	29	12	55	
Neonatal Death	Yes	5	10	4	19	0.9968
	No	25	50	21	96	
Total		30	60	25	115	

Maternal complications depend upon severity of placental abruption and include shock (20%), need for blood transfusion (50%), coagulopathy (08%), postpartum hemorrhage (32%) which can lead to acute tubular necrosis, transfer to ICU (10%), maternal death (05%) and peripartum hysterectomy due to couvelaire uterus (25%). On the basis of complete or incomplete segregation of placenta, the mother experienced bleeding through vagina, multiple clot formation in the blood vessels and kidney failure in descending order¹³. Almost same mean age (28) of females with placenta abruption was found in a study carried out in China. More than fifty percent were multipara. Seventy three percent of total females underwent cesarean section. Almost thirty two percent showed couvelaire uterus and almost twenty percent showed asphyxia¹⁴.

In a study brought out in Sweden, it was found that less than one percent females were primigravida. They showed rise in blood pressure and glucose levels¹⁵. A research performed in Holland showed that fatal complication was fits in newborn¹⁶. A study indicated that if detachment of placenta is large enough it leads to death of fetus. There will be bleeding abnormalities along with clot formation in blood vessels.

Similar findings were observed in another study conducted by Abbasi et al., in which a total number of women admitted in labor ward were 2563. Among these, 48 patients (1.87%) had abruption placenta. The patients belonged to the age group ranging from 21-40

years. Most of the women were in the age group 21-30 (31-08%). Most of the women (62.5%) who presented with abruption placenta were para^{7,17}. The maximum percentage of the women who presented with abruption placenta had gestational age >36 weeks¹⁸. The reasons leading to placental abruption vary in different geographical areas of the world¹⁹.

CONCLUSION

Our study concludes that frequency of shock was found in 20(17%) patients, 35(30%) patients had PPH, 9(8%) patients had DIC/ Coagulopathy and 7(6%) patients were transferred to ICU while 5(4%) females died. Whereas 51(44%) fetuses had low birth weight, 60(52%) had still birth, 19(17%) had neonatal death.

Author's Contribution:

Concept & Design of Study: Wajeeha Khurshid
 Drafting: Sadaf Saifullah, Uzma Shoaib
 Data Analysis: Sajida Iqbal, Bilal Ahmed, Attiya Bibi
 Revisiting Critically: Wajeeha Khurshid, Sadaf Saifullah
 Final Approval of version: Wajeeha Khurshid

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Bibi S, Ghaffar S, Pir MA, Yousfani S. Risk factors and clinical outcome of placental abruption; a retrospective analysis. *J Pak Med Assoc* 2009;59(10):672-4.
2. Tebeu PM, Nnomo JA, Tiyou CK, Obama MTA, Fosso GK, Fomulu JN. The pattern of abruption placenta in Cameroon. *Med J Obstet Gynecol* 2013;1(3):10-15.
3. Tasleem H, Tasleem S, Saddique MA, Nazir F, Iqbal T. Outcome of pregnancy in placental abruption. *Rawal Med J* 2011;36:57-9.
4. Hussain N, Khan N, Sultan SS, Khan N. Abruptio placentae and adverse pregnancy outcome. *J Pak Med Assoc* 2010;60(6):443-6.
5. Qamarunnisa, Memon H, Ali M. Frequency, maternal and fetal outcome of abruption placentae in a Rural Medical College Hospital, Mirpurkhas Sindh. *Pak J Med Sci* 2010;26(3):663-6.
6. Khattak SN, Deeba F, Ayaz A, Khattak MI. Association of maternal hypertension with placental abruption. *J Ayub Med Coll Abbottabad* 2012;24(3- 4):103-5.
7. Abbasi RM, Rizwan N, Mumtaz F, Farooq S. Feto Maternal Outcome Among Abruptio Placentae Cases. *JLUMHS* 2008;106-09.
8. Sylvester HC, Stringer M. Placental abruption leading to hysterectomy. *Case Reports* 2017;2017:bcr2016218349.
9. Kovo M, Gonen N, Schreiber L, Hochman R, Noy LK, Levy M, et al. Histologic chorioamnionitis concomitant placental abruption and its effects on pregnancy outcome. *Placenta* 2020;94:39-43.
10. Martinelli KG, Garcia ÉM, Santos Neto ET, Gama SG. Advanced maternal age and its association with placenta praevia and placental abruption: a meta-analysis. *Cadernos de saude publica* 2018;2:34.
11. Soomro P, Pirzada S, Maheshwari M, Bhatti N. Frequency, Predictors and Outcomes of Placental Abruption in Rural Sindh. *Pak J Med Res* 2021;60(2):57-61.
12. Downes KL, Shenassa ED, Grantz KL. Neonatal outcomes associated with placental abruption. *Am J Epidemiol* 2017;186(12):1319-28.
13. Tikkanen M. Placental abruption: epidemiology, risk factors and consequences. *Acta obstetrica et gynecologica Scandinavica* 2011;90(2):140-9.
14. Li Y, Tian Y, Liu N, Chen Y, Wu F. Analysis of 62 placental abruption cases: Risk factors and clinical outcomes. *Taiwanese J Obstet Gynecol* 2019;58(2):223-6.
15. Nyberg DA, Mack LA, Benedetti TJ, Cyr DR, Schuman WP. Placental abruption and placental hemorrhage: correlation of sonographic findings with fetal outcome. *Radiol* 1987;164(2):357-61.
16. Gonen N, Levy M, Kovo M, Schreiber L, Noy LK, Volpert E, et al. Placental Histopathology and Pregnancy Outcomes in “Early” vs. “Late” Placental Abruption. *Reproductive Sciences* 2021;28(2):351-60.
17. Ananth CV, Lavery JA, Vintzileos AM, Skupski DW, Varner M, Saade G, et al. Severe placental abruption: clinical definition and associations with maternal complications. *Am J Obstet Gynecol* 2016;214(2):272-e1.
18. Ananth CV, Keyes KM, Hamilton A, Gissler M, Wu C, Liu S, et al. An international contrast of rates of placental abruption: an age-period-cohort analysis. *PloS One* 2015;10(5):e0125246.
19. Boisramé T, Sananès N, Fritz G, Boudier E, Aissi G, Favre R, et al. Placental abruption: risk factors, management and maternal–fetal prognosis. Cohort study over 10 years. *Eur J Obstet Gynecol Reproductive Biol* 2014;179:100-4.