FREQUENCY OF ABRUPTION PLACENTA IN GRAND MULTIGRAVIDA

Tanweer Akhtar, Shabnam Naz Shaikh, Arooba Bhutto

Shaikh Zayed Women Hospital/Shaheed Mohtarma Benazir Bhutto Medical University, Larkana Pakistan

ABSTRACT

Objective: To determine frequency of abruptio placenta in grand multigravida.
Study Design: Case-series study.
Place and Duration of Study: Shaikh Zaid Women Hospital CMCH Larkana, from Oct 2016 to Mar 2017.
Methodology: Total 172 patients of age 25-35 years, in their >5th pregnancy with gestational age >28 weeks were consecutively selected. Multifetal pregnancy, history of smoking, medical disorders like diabetes mellitus, heart disease, polyhydramnios, history of trauma in current pregnancy were excluded. Chi-square was used as test of significance with a *p*-value ≤0.05 was taken as significant.
Results: Mean age was 29.66 ± 3.28 years and mean gestational age was 33.11 ± 3.23 weeks, mean parity was 4.40 ± 1.14 children and mean gravidity was 6.12 ± 1.10 with the range of gravida 5 to 9. Frequency of placental abruption among grand multigravida women was found to be 11.63%. Age of multigravida women & gestational age were non-significant (*p*=0.360 & 0.378 respectively) while gravidity, parity were statistically significant effect (*p*=0.001, 0.023 respectively).
Conclusion: The frequency of placental abruption was not very uncommon in our population of multigravida women therefore; special focus on placental abruption be given during the antenatal visits of such women.

Keywords: Grand multigravida, Maternal mortality, Placental abruption, Pregnancy complications.

INTRODUCTION

Placental abruption (Abruptio placentae, Ablation placentae and Accidental hemorrhage) is the complete or partial separation of a normally located placenta from its uterine site before the delivery of the fetus mostly occurring at third trimester of pregnancy[1,2]. Globally, placental abruption of various degrees occurs in approximately 1% of all pregnancies or 1 in 100 births.

Abruption is associated with perinatal mortality rate of 119 per 1000 births in comparison to a rate of 8.2 per 1000 births in the reference United States population[3]. In Pakistan, placental abruption ranges from 2.2% to 7% with alarmingly high perinatal mortality of 50.63% to 62.5%[4]. Its particular etiology remains unclear but advanced maternal age, high parity (grand multiparity), low socio-economic status, smoking, folic acid deficiency, maternal hypertension, thrombophilia and trauma are various risk factors[5]. In developing countries incidence of grand multi parity is between 10-30% while in Pakistan incidence of grand-multiparity along with its complications is still high because of lack of reproductive knowledge, unmet need for contraception, desire for son, poor obstetric performance and too early marriage[6]. Severity of placental abruption is classified into grade I (Mild; includes antepartum hemorrhage of uncertain cause), grade II (Intermediate; includes uterine hypertonicity but the fetus still is alive), grade III (Severe; includes heavy vaginal bleeding and fetus is always dead). Clinical hallmark for placental abruption diagnoses is vaginal bleeding, which may be present in up to 80% to 90% of cases. Patients with placental abruption most commonly present with the triad of abdominal pain, abnormal uterine tenderness and vaginal bleeding after the 20th week of pregnancy[7]. Electronic fetal heart rate monitoring, uterine activity and maternal hypovolemia assist the clinician in the assessment of the severity of the abruption. A recent study analyzed fetal heart rate tracings from 40

Correspondence: Dr Tanweer Akhtar, Shaikh Zayed Women Hospital, SMBBMU, Larkana Pakistan
Email: research.initiative17@gmail.com
Received: 25 Jun 2018; revised received: 29 Oct 2018; accepted: 04 Jan 2019

pregnant Japanese women with placental abruption, eighty percent did not show normal fetal heart rate patterns[8-10]. Initial laboratory values may not be helpful in the diagnosis of abruptio placentae. A plan of management for patients with placental abruption must take into account the condition of both mother and fetus.

METHODOLOGY

A case series study conducted at Shaikh Zaid Women Hospital CMCH Larkana for a duration of 6 months period 1st October 2016 to 15th March 2017. Total 172 participants having reproductive age 25 to 35 years in their >5th pregnancy and gestational age less than 23 weeks (confirmed by early dating scan) were included in this study. Sampling was done by non-probability convenient technique. Women with multifetal pregnancy, Medical disorders like diabetes mellitus, heart disease, renal disease and pregnancy induced hypertension, history of smoking, Polyhydramnios, history of trauma in current pregnancy and congenitally abnormal fetus were excluded.

Informed written consent was taken by the researcher and confidentiality regarding their medical and non-medical details were maintained. Gestational age was diagnosed on earlier dating scan and from last menstrual period[11,12]. Base-line demographic information including name, age, gestational age, gravida and para were taken. After taking detailed history, conducting examination and ultrasound pelvis findings were entered into proforma. Abruptio placenta was diagnosed on the basis of clinical features and presence of retroplacental clots on scan. These patients were followed till delivery for definitive diagnosis. All the given data had been statistically analyzed on SPSS version 18 where descriptive statistics was used to calculate the frequencies of categorical variables, and to compute means and standard deviations of continuous variables. Results were presented in the forms of tables and graphs. Effect modifiers were controlled by stratification on the basis of age, parity, gravidity, duration of bleeding and gestational age. Post-stratification chi square test was used. A *p*-value <0.05 was considered as statistically significant.

RESULTS

Mean age of women was 29.66 ± 3.28 years with a range from 25-35 years. Mean gestational age at time of presentation was 33.11 ± 3.23 weeks with minimum & maximum gestational ages of 28 & 40 weeks respectively (table-I). It was noted that mean gravidity was 6.12 ± 1.10 with the range of gravida 5 to 9 while women had mean parity of 4.40 ± 1.14 children (minimum & maximum number of chidren was 2 & 6 respectively). Mean duration of bleeding was 1.67 ± 0.47 days. Majority of women 116 (67.4%) had history of bleeding for two days while other 56 (32.6%) had history of bleeding for one day.

Frequency of placental abruption was higher (16.4%) among women with gestational age of 33-36 weeks. Women with gestational age larger (>37 weeks) or smaller (28-32 weeks) had lesser frequency of placental abruption (7.1% & 10.1% respectively) (*p*=0.378).

It was very significantly noted that women with 8th - 9th pregnancy had very much higher incidence of placental abruption (39.1%) compared to only around 7.6% among women who had their 5th - 7th pregnancy respectively (*p*=0.001).

Likewise; parity also significantly affected the frequency of placental abruption in grand multigravida women such that women having 5-6 children had higher incidence (18%) of placental abruption compared to only (4.1% & 10%) among women who had 3-4 & 1-2 children respectively (*p*-value 0.023).

It was noted that frequency of placental abruption was higher (16.4%) among women with gestational age of 33-36 weeks. Women with gestational age larger (>37 weeks) or smaller (28-32 weeks) had lesser frequency of placental abruption (7.1% & 10.1% respectively) (*p*=0.378; table-II). It was very significantly noted that women with 8th -9th pregnancy had very much higher incidence of placental abruption (39.1%) compared to only around 7.6% among women

who had their 5th-7th pregnancy respectively (p<0.001, table-III).

Likewise; parity also significantly affected the frequency of placental abruption in grand multigravida women such that women having 5-6 children had higher incidence (18%) of placental abruption compared to only 4.1% & 10% among women who had 3-4 & 1-2 children respectively (p 0.023, table-IV).

Table-I: Effect of age of the patient on frequency of placental abruption among grand multigravida women.

Age of the patient	Placental abruption		*p*-value
	Yes	No	
25-30 yrs	11 (10.5%)	94 (89.5%)	0.360
31-35 yrs	9 (13.4%)	58 (86.6%)	

Table-II: Effect of gestational age on frequency of placental abruption among grand multigravida women.

Gestational age	Placental abruption		*p*-value
	Yes	No	
28-32 wks	9 (10.1%)	80 (89.9%)	0.378
33-36 wks	9 (16.4%)	46 (83.6%)	
≥37 wks	2 (7.1%)	26 (92.9%)	

Table-III: Effect of gravida on frequency of placental abruption among grand multigravida women.

Number of Pregnancy	Placental abruption		*p*-value
	Yes	No	
5th	5 (7.6%)	61 (92.4%)	0.001
6th -7th	6 (7.2%)	77 (92.8%)	
8th -9th	9 (39.1%	14 (60.9%)	

Table-IV: Effect of parity on frequency of placental abruption among grand multigravida women.

Number of children	Placental Abruption		*p*-value
	Yes	No	
1-2	1 (10%)	9 (90%)	0.023
3-4	3 (4.1%)	70 (95.9%)	
5-6	16 (18%)	73 (82%)	

Frequency of placental abruption was more (13.4%) in patients of higher age (31-35 years) compared to (10.5%) patients of lower age (25-30 years). Statistically this finding was not significant (p=0.360).

DISCUSSION

The current study found that about 11.63% grand multigravida women had presented with placental abruption. Sarwar *et al*[12] repor-ted that overall incidence of abruptio placentae was 4.4% while among these women 39.6% were grand multipara women. In another study, Sultan *et al*[13] and coworker reported that 12.6% cases of placental abruption were seen in grand multipara women. A study conducted by Bibi *et al*[14] in 2006 reported 4.7% incidence of abruptio placentae. This shows that the incidence of abruptio placentae which the current study has found is mimicking with those found by other studies. The small difference is due to the design of study, time duration and the regional differences.

The frequency of placental abruption was highest (16.4%) during 33-36 weeks gestational age but lower than this if gestational age was lower (28-32 weeks) or higher (37 or more weeks). The p-value was 0.378. This was not understandable at this level of study. It requires further research in larger studies with larger samples and continuous follow up of patients. In current study both the extremes of gestational age had lower incidence of placental abruption.

With increasing number of pregnancy, the rate of abruptio placentae increased to as high as (39.1%) among 8th -9th pregnancy compared to a lower rate of 7.2% & 7.6% in 6th-7th & 5th pregnancy respectively. The finding was statistically significant with p-value of 0.001 (table-III). Likewise; higher parity was significantly associated with higher rates of placental abruption among these grand multipara women with a p-value of 0.023 (table-IV). This finding was universally same and self-explanatory as the higher the gravidity and higher the parity[12-16]; higher will be wear and tear of uterine tissues and ultimately higher rates of placental abruption[17-19].

CONCLUSION

The current study has found that frequency of placental abruption is not very uncommon in our population of multigravida women. Further increasing age, increasing gravidity & high parity are definite associated with higher risk of developing abruptio placentae.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

REFERENCES

1. Saftlas AF, Olson DR, Atrash HK. National trends in the incidence of abruptio placentae, 1979–1987. Obstet Gynecol 1991; 78(6): 1081-86.
2. Sholl J. Abruptio placentae: clinical management in non-acute cases. Am J Obstet Gynecol 1987; 156(1): 40-51.
3. Jabeen M, Gul F. Abruptio placentae: Risk factors and perinatal outcome. J Postgrad Med Inst 2004; 18(4): 669-76.
4. Liaquat NF, Shoib T, Shuja S. A study of abruptio placentae. J Surg Pakistan 2006; 11(1): 27-30.
5. Ananth CV, Wilcox AJ. Placental abruption and perinatal mortality in the United States. Am J Epidemiol 2001; 153(1): 332.
6. Akhtar R. Outcome of grandmultigravidity multiparity a retrospective study. J Dhaka Med Coll 2013; 22(1): 67-71.
7. Fleming AD. Abruptio placentae. Crit Care Clin 1991; 7(4): 865-75.
8. Williams MA, Hickok DE, Zingheim RW. Maternal serum CA 125 levels in the diagnosis of abruptio placentae. Obstet Gynecol 1993; 82(5): 808-12.
9. Irum, Kausar S, Ali R, Shaheen S. Risky gr multiparas. Professional Med J 2013; 20(3): 416-21.
10. Ananth CV, Peltier MR, Kinzler WL. Chronic hypertension and risk of placental abruption: Is the association modified by ischemic placental disease? Am J Obstet Gynecol 2007; 197(3): 273.e1-7.
11. Bunai Y, Nagai A, Nakamura I. Fetal death from abruptio placentae associated with incorrect use of a seatbelt. Am J Forensic Med Pathol 2000; 21(3): 207-09.
12. Sarwar I, Abbasi AN, Islam A. Abruptio placentae its complications at Ayub teaching hospital abbottabad. J Ayub Med Coll Abbottabad 2006; 18(1): 27-31.
13. Sultan S, Ojha J. Gr multi parity still obstetric challenge - a clinical study of gr multi para in a tertiary care center. Pak J Med Health Sci 2014; 8(3): 706-8.
14. Bibi S, Ghaffar S, Pir MA, Yousfani S. Risk factors clinical outcome of placental abruption: a ret-respective analysis. J Pak Med Assoc 2009; 59(10): 672-4.
15. D'Souza K, Monteiro FN, Jayaprakash K, Bhagavath P, Krishnan S. Spectrum of Gr Multiparity. J Clin Diagnos Res 2011 (Suppl-1); 5(6): 1247-50.
16. Dars S, Sultana F, Akhter N. Abruptio Placentae: risk factors maternal outcomes at a tertiary care hospital. J Liaquat Uni Med Health Sci 2013; 12(03): 198-202.
17. Odukogbe AA, Adewole IF, Ojengbede OA, Olayemi O, Fawole BO, Ahmed Y, et al. Grandmultiparity–trends and complications: A study in two hospital settings. J Obstet Gynaecol 2001; 21(4): 361-67.
18. Bugg GJ, Atwal GS, Maresh M. Grandmultiparas in a modern setting. Int J Obs Gynae 2002; 109(3): 249–53.
19. Ozkan ZS, Atilgan R, Goktolga G, Simsek M, Sapmaz E. Impact of grandmultiparity on perinatal outcomes in eastern region of Turkey. J Matern Fetal Neonatal Med 2013; 26(13): 1325-27.