



## TO STUDY THE CORRELATION BETWEEN PAGE'S GRADING OF ABRUPTIO PLACENTAE AND MATERNAL AND FOETAL OUTCOME.

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Conflicts of Interest: Nil

### ABSTRACT:

The present study entitled "Page's Grading of Abruption Placentae and its correlation with Maternal and Foetal Outcome", is a hospital based cross sectional study carried out in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital, Gandhi Medical College, Bhopal.

**Keywords:** Page's grading, Abruption, Placentae, Maternal & Foetal.

### Introduction

Human Placenta is as vital to fetal life as trees are vital to human life. Placental abruption is a misfortunate condition in pregnancy that is unexpected and difficult to predict. Abruption placentae is defined as separation of placenta either partially or totally from its implantation site before delivery.<sup>1</sup> Abruption placentae is a latin term which literally means "**rending asunder of the placenta**". It denotes a sudden accident that is characteristic of most cases. It is one of the most devastating pregnancy complications.

Abruption placentae is a major cause of maternal morbidity and perinatal morbidity and mortality. It complicates one in 100-200 (0.5- 1%) of all pregnancies<sup>2</sup> and 1.2 % in multiple pregnancies<sup>3</sup>. Antepartum haemorrhage in second half of pregnancy occurs in 2-5 % of all pregnancies and placental abruption accounts for approximately one quarter of such cases.<sup>4</sup>

### Material & Method

The present study entitled "Page's Grading of Abruption Placentae and its correlation with Maternal and Foetal Outcome", is a hospital based cross sectional study carried out in the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital, Gandhi Medical College, Bhopal. The study was conducted over a period of 1 year from August 2015 to July 2016.

### Inclusion Criteria:

- All the patients who were admitted with the diagnosis of Abruption placentae or developed abruption after admission with gestational age of 28 weeks or above were included in the study.

### Exclusion Criteria:

- Patients of abruption placentae of less than 28 weeks gestation.
- Patients with confirmed other causes of antepartum haemorrhage-
  - a. Placenta praevia
  - b. pathology of lower genital tract
  - c. patients of bleeding disorders

### Results

**Table 1: Distribution of risk factors of patients according to page's grading**

Risk factors	Total	Grade 0	Grade 1	Grade 2	Grade 3	P value
Severe anaemia	69 (37.09%)	00 (0.0)	04 (10.8)	05 (14.3)	60 (57.7)	<0.001, S
Gestational HTN	13 (6.98%)	01 (10)	04 (10.8)	05 (14.3)	03 (2.88)	0.013,S
Preeclampsia	49 (26.34%)	01 (10)	05 (13.5)	09 (25.7)	34 (32.7)	0.026,S
Eclampsia	05 (2.68%)	00 (0.0)	01 (2.7)	00 (0.0)	04 (3.84)	0.27,NS
Chronic HTN	11(5.91%)	00 (0.0)	01 (2.7)	00 (0.0)	10 (9.6)	0.015,S
Diabetes	06 (3.22%)	01 (10)	00 (0.0)	03 (8.57)	02 (1.92)	0.25,NS
Hypothyroidism	06 (3.22%)	01 (10)	03 (8.1)	01(2.85)	01(1)	0.04,S
PROM	12 (6.4%)	00 (0.0)	04 (10.8)	02 (5.7)	06 (5.7)	0.66,NS
Polyhydramnios	05 (2.68%)	00 (0.0)	02 (5.4)	00 (0.0)	03 (2.8)	0.8,NS
Twins	03 (1.61%)	00 (0.0)	02 (5.4)	01(2.8)	00(0.0)	0.04,S
Oligohydramnios	02 (1.07%)	00 (0.0)	01(2.7)	01 (2.8)	00 (0.0)	0.1,NS
Trauma	07 (3.8%)	00 (0.0)	00 (0.0)	01 (2.8)	06 (5.76)	0.1,NS
Fibroid	03 (1.61%)	00 (0.0)	01 (2.7)	01(2.8)	01(1)	0.42,NS
Tobacco chewing	06 (3.22%)	00 (0.0)	02 (5.4)	00 (0.0)	04 (3.84)	0.58,NS
Previous 1 LSCS	07 (3.76%)	00 (0.0)	01(2.7)	03 (8.5)	03 (2.8)	0.4, NS
past h/o abruptio	06 (3.22%)	00 (0.0)	00 (0.0)	01 (2.8)	05 (4.8)	0.16, S

This table shows that most common risk factors in patients of abruptio placentae were severe anaemia (37.09%) and preeclampsia (26.34%). Maximum no of patients of severe anaemia (57.7%), preeclampsia (32.7%), eclampsia (3.84%), chronic hypertension (9.6%), trauma (5.76%), and past H/O abruptio (4.8%) were found in Page's grade 3.

By using chi square test statistically significant association of severe anaemia ( $p=<.001$ ),

preeclampsia ( $p=0.026$ ), chronic hypertension ( $p=0.015$ ), gestational hypertension ( $p=0.013$ ), twins ( $p=0.049$ ), hypothyroidism ( $p=.049$ ) was found with Page's grade 3. No significant association of risk factors like eclampsia, diabetes, PROM, polyhydramnios, oligohydramnios, fibroid, abdominal trauma, tobacco chewing, h/o abruptio, and previous 1 LSCS was found with grade 3.

**Table 2: Distribution of type of abruptio according to page's grading**

Type of abruptio	Total	Grade 0	Grade 1	Grade 2	Grade 3
Revealed	84 (47.7%)	00 (0.0)	26(70)	24(68.5)	34(32.7)
Mixed	63 (35.8%)	00 (0.0)	08(21.6)	06(17.1)	49(47.4)
Concealed	29 (16.5%)	00(0.0)	03(8.1)	05(14.2)	21(20.2)
	<b>176</b>	<b>00</b>	<b>37</b>	<b>35</b>	<b>104</b>

This table shows that 47.7 % had revealed abruptio, 35.8 % had mixed abruptio, 16.5 % had concealed abruptio. The 10 patients of grade 0 were not initially diagnosed with abruptio but were diagnosed post delivery by examination of placenta. In grade 1 and grade 2 maximum of patients 70 % and 68.5% had revealed abruptio. While in grade 3 maximum of patients 47.4 %

had mixed abruptio. In concealed abruptio maximum of patients 20.2% were in grade 3.

### Discussion

#### Page's grading of severity of Abruptio Placentae:

The patients were assigned Page's grade according to severity of presentation.

In the present study the patients in Page's grade 0 were 10 (5.38%), grade 1 were 37 (19.89%), grade 2 were 35 (18.82%), grade 3 were 104 (55.91%).

The results in present study are similar to a study by **Z Saadia, A Z khan et al<sup>5</sup> in 2003** where 24 % of patients had grade 0-1 degree of abruption and 75% had grade 2-3 degree of abruption. In a study by **Saeed M. et al (2009)<sup>6</sup>** 30 % had mild abruption, 50% had moderate abruption and only 20% had severe abruption.

**Jerry et al<sup>7</sup> in 2014** used Gaufberg V Slaya, a modification of Sher and Stadland criteria for classification of severity of abruptio placentae. In this study 0% patients were in class 0, 31 % in class 1, 11 % in class 2 and 58 % in class 3. In a study by **Ananth CV, Lavery JA et al<sup>8</sup> in 2016** the prevalence rates of mild and severe abruption were 3.1 and 6.5 per 1000 respectively.

Thus more number of patients presenting with grade 3 increases the risk of poor maternal and fetal outcome. Morbidity is increased when fetus is dead on admission.

### Conclusion

All measures should be taken to improve the obstetric care in high risk population. There is a need of appropriate antenatal and intrapartum care to reduce maternal and fetal complications of this obstetric enigma. The page's grading of severity of abruptio placentae reflects the risk to maternal and fetal life. Management of abruptio placentae should be done in centres with advanced maternal and neonatal facilities. Institutional preparedness and the availability of blood and blood products significantly improve maternal and foetal survival.

### References

1. Cunningham GF, MacDonald PC, Gant NF, Levano KJ, Gilstrap LG, editors. Williams' Obstetrics. 24th ed. Norwalk GT: Appleton and Lange; 2014. p. 793.
2. Pariente G, Wiznitzer A, Sergienko R, Mazor M, Holcberg G, Sheiner E. Placental abruption: Critical analysis of risk factors and perinatal outcomes. *J Matern Fetal Neonatal Med.* 2011;24:698–702.
3. Ananth CV, Smulian JC, Demissie K, Vintzileos AM, Knuppel RA. Placental abruption among singleton and twin births in the United States: Risk factor profiles. *Am J Epidemiol* 2001;153:771-778.
4. Konje, JC, Taylor, DJ. Bleeding in late pregnancy. In: James DK, Steer PJ, Weiner CP, Gonik B, (eds). High risk pregnancy, third edition. Edinburgh, UK: WB Saunders Co; 2006. 1259-75.
5. Saadia Z, Khan AZ, Nahid F. Fetal outcome varies with different grades of placental abruption. *Ann King Edward Medical Coll* 2003; 9(1) : 40-42
6. Muhammad S, Tabinda Rana. Fetomaternal outcome in pregnancies complicated with placental abruption. *PJMHS* 2015 ; 1-4
7. Jerry C, Emmanuel K S, Eric K Ofori, Edmund K Band William K A : Maternal and fetal prognosis in abruptio placentae at Korle- Bu teaching hospital, Ghana. *AJRH*, December 2014 ; 18(4): 115- 122
8. Ananth CV, Lavery JA, Vintzileos AM, et al. Severe placental abruption: clinical definition and associations with maternal complications. *Am J Obstet Gynaecol* 2016; 214:272.e1-9