

Outcome of pregnancy subsequent to abruptio placentae

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Abstract

Introduction: The process of child bearing is a beautiful experience for a woman but unfortunately it is fraught with some unpredictable dangers. One of them is an abruptio placenta which is defined as premature separation of a normally implanted placenta, before the delivery of the fetus. It occurs in up to 1.0% of all pregnancy and can be associated with severe maternal and fetal complications. **Material and Methods:** The study done on antenatal patients of Sultania Zanana Hospital, Bhopal from 1st april 2008 to 31st march 2009. Patients clinically diagnosed as abruptio placentae were included in the study and were followed throughout their stay in the hospital. **Result:** The study showed the incidence of abruptio placenta to be 1.6%. It was found 1.8 times more commonly in multigravida than primigravida patients. Incidence was found much higher in patients with PIH, Pre-eclampsia and eclampsia (4.35%). The association of maternal smoking and placental abruption has been well documented and in our study 9.6% of patients were found to be smokers. The incidence of abruptio placentae was 2.3% among multifetal gestation which is 1.43 times the incidence in general population. Preterm deliveries showed an increased incidence of abruptio placentae. Mortality rate of babies in our study was 52.05%. **Conclusion:** This study denoted that high parity, younger age, PIH, pre-eclampsia, eclampsia, multifetal gestation and smoking are the major risk factors for abruptio placentae. Thus proper antenatal care, proper booking, screening of high risk factors, timely referral are the various pillars need to be strengthened in our population to reduce the occurrence and the complication arising out of this catastrophe.

Key words: Pregnancy, Abruptio placenta, Gestational outcome

Introduction

The process of child bearing is a beautiful experience for a woman but unfortunately it is fraught with some unpredictable dangers. One of them is abruptio placentae which is defined as the premature separation of a normally implanted placenta before the delivery of the fetus [1]. It occurs in up to 1.0% of all pregnancies [2]. Despite years of research the basic cause of abruptio placentae is not known. Acute and chronic inflammatory processes of placenta [3] and lack of trophoblastic invasion of uterine vessels are the various theories being worked upon. It is said this complication occurs in much higher frequency among women of high parity, women with hypertension, preterm premature rupture of membranes, uterine infection, multifetal

gestation, with acquired forms of thrombophilia and following abdominal trauma.

The range of clinical presentation include a small area of abruption with minimal bleeding and little or no consequence to fetus or the mother to a massive abruption which may cause fetal death –in –utero and severe maternal morbidity or mortality. The danger to the mother is based mainly on severity of abruption. The risk to the fetus is based both on the severity of abruption and gestational age at which the abruption occurs [4].

Maternal complications of abruption placentae include hypovolumic shock, DIC, acute renal failure, adult respiratory distress syndrome, multisystem organ failure and death [5].

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The major causes of fetal morbidity are prematurity, fetal growth restriction, respiratory distress syndrome, anaemia and hyperbilirubinaemia. Risk factors for perinatal death in pregnancy with placental abruption are smoking, severe pre-eclampsia and small for gestational age fetus. The adjusted relative risk for stillbirth is 8-9 fold as compared to singletons without abruption [6].

Keeping this in mind, this study is designed to know the incidence of abruptio placentae in antenatal patients admitted to Sultania Zanana Hospital, Gandhi Medical College Bhopal, to assess the various etiological factors associated with it and to find out the maternal and fetal outcome.

Material and methods

The study was a prospective observational study done in Sultania Zanana Hospital, Gandhi Medical College, Bhopal, from 1st april 2008 to 31st march 2009.

Study design-hospital based prospective observational study.

Result

Table 1: Incidence of Abruptio Placentae

Total number of deliveries	8809
Total number of cases of abruptio placentae	145(1.6%)

The incidence of abruptio placentae was 1.6% of the total deliveries of Sultania Zanana Hospital, Bhopal for the year 2008-2009

Table 2: Age wise Distribution of Abruptio Placentae

Age(years)	Total births	Patients with abruptio placentae	Percentage
<20yrs	211	19	9%
20-25 yrs	4185	61	1.4%
26-30yrs	2938	52	1.7%
>30yrs	1145	13	0.9%

The incidence of abruptio placentae is higher in patients of less than 20 yrs of age.

Table 3: Parity –Wise Incidence of Abruptio Placentae

Parity	Total births	Patients with abruptio placentae	Percentage
Primigravida	3612	39	1.07%
Multigravida	5297	106	2%

The incidence of abruptio placenta is 1.8 times higher in multigravidas than primigravidas.

Study population-antenatal patients clinically diagnosed as case of abruptio placenta during the study period at sultania zanana hospital, Bhopal

Data collection-data is collected using a predesigned proforma. Cases of abruptio placentae were identified by daily monitoring of all new admissions to outdoor or emergency room of the hospital. During the in-patient admission period the cases diagnosed by clinical signs and symptoms as abruptio placentae were interviewed using a standardized and structured questionnaire regarding their age, social and economic class, booking status, obstetric history, previous medical record and complains. Then a brief general examination, per-abdomen and per vaginal examination, ultrasonography was done to confirm the diagnosis. These patients were then followed all through their hospital stay till discharge.

Inclusion criteria: All antenatal patients above 20 weeks gestation diagnosed as case of abruptio placentae

Exclusion criteria: All antenatal patients with bleeding per vaginum due to causes other than abruptio placentae.

Table 4: Risk Factors of Abruption Placentae

Number of patients		Incidence of abruption placentae	
Number of patients with gestational hypertension	874	19(2.1%)	
Number of patients with pre-eclampsia/ eclampsia	751	50(6.6%)	
Number of patients with twin gestation	87	2(2.3%)	

The incidence of abruption placentae is 1.3 times higher in patients with gestational hypertension and four times higher in patients with pre-eclampsia /eclampsia as compared to incidence in general population. Incidence of abruption placentae in multi fetal gestation was found to be 2.3% which is 1.43 times higher than incidence in general population.

Table 5: Perinatal Outcome in Patients with Abruption Placentae

Total no of babies delivered	146
Number of term babies	69(47.26%)
Number of preterm babies	77(52.73%)
Number of alive babies	70(47.94 %)
Number of babies required intensive care	14(9.58%)
Number of stillbirths	76(52.05%)

Table shows 52.73% of the total babies delivered were preterm , 9.58% of babies required nicu admissions and 52.05% of babies were stillborn.

Table 6: Incidence of Complications in Patients with Abruption Placentae

Number cases of anaemia	83(57.24%)
Number cases with hypovolumic haemorrhagic shock	25(17.24%)
Number cases developed renal failure	19(13.1%)
Number of cases developed coagulopathy	12(8.2%)
Number of mortalities among patients with abruption placentae	4(2.7%)

Table shows the incidence of anaemia to be 57.24% in patients with abruption placentae.17.24%patients developed haemorrhagic shock.13.1%patients developed renal failure, 8.2% patients developed coagulopathy and mortality was 2.7%

Discussion

Abruption placentae is defined as the premature separation of a normally implanted placenta before birth, after 20 weeks of gestation [7]. The degree of abruption ranges across a broad clinical spectrum from minor degree of placental separation to major abruption leading to maternal and fetal demise. The incidence is 0.6% to 1% of all pregnancies [8]. This condition is one of the leading causes of perinatal mortality and accounts for 10%-15% of all perinatal deaths [9]. The incidence of abruption placentae in our study came out to be 1.6%. As compared to other studies where incidence was,

0.6%to 1% acc to Ananth CV et al [8], 1% acc to Younis JS et al [2],0.5%to 1% acc to Scott J et al[9], the incidence in our study group was higher as ours was a tertiary care centre which deals with referred patients.

Increased incidence of placental abruption has been demonstrated in patients younger than 20 yrs of age and those older than 35 yrs of age according to Ananth CV et al [10]. Similarly in our study the incidence of abruption placentae is more in patients less than 20 yrs of age. The incidence is low in elderly patients in our study. This may be because of high fecundity, early and frequent child bearing; the women achieve high parity at lower age.

The incidence of abruptio placentae is reported to be higher in multipara than in primi gravida patients. According to Babinski et al[11] it is four times higher in multigravida than primigravida. In our study it is 1.8 times higher in multigravida than primigravida. The little disparity found may be due to the fact that not all the pregnant patients especially multigravidas report to the hospital in our population. Acc to the study conducted among peruvian women for high risk factors of abruptio placentae the incidence was 1.5 times higher in multigravida than primigravida [12] and it is consistent with our study.

It is more common in lower socio-economic status. The women with low rate of pregnancy weight gain had increased incidence of abruptio placentae [12].

The condition is more common in patients with pre-eclampsia, gestational hypertension and chronic hypertension. Ananth and associates [13] reported threefold increased incidence of abruption with chronic hypertension and fourfold increased risk with severe pre-eclampsia. According to study conducted among peruvian women the incidence of abruption was 1.5 times higher among patients with gestational hypertension and 2.6 times higher among patients with pre-eclampsia and eclampsia[12]. In our study the incidence is 1.3 times higher in patients with gestational hypertension and 4 times higher in pre-eclampsia and eclampsia.

Smoking increases the incidence of abruption. The association of maternal smoking and placental abruption has been well documented and in our study 9.6% of patients were found to be smokers.

Incidence of abruption increases in multifetal gestation. The incidence of abruptio placentae was 2.3% among multifetal gestation which is 1.43 times the incidence in general population, this is consistent with a study by Ananth et al[14] where incidence in multifetal pregnancy was twice than in singleton pregnancy.

The major causes of fetal morbidity were prematurity, fetal growth restriction, respiratory distress syndrome, anaemia and hyperbilirubinaemia [15]. In our study 52.73% of babies born were preterm, which is comparable to the study among Peruvian women (2002-2004)[12] where the rate of preterm delivery was 51.4%.

Percentage of low birth babies in our study was 52.05% which is again comparable to the study on Peruvian women where the rate was 48.6%.[12]

Mortality rate of babies in our study was 52.05% which is approximately twice that of the study in Peruvian women (25.88%)[12] probably due to late referral, admission in advanced labour, prematurity and intrauterine fetal death on admission (40.14%)

Maternal complication included hypovolumic shock-17.24%, acute renal failure in 13.1% patients, DIC in 8.0% patients and maternal deaths in 2.75% patients. According to Fleming AD [16] incidence of DIC was found to be 10%. Major morbidity were pulmonary edema, cesarean section and postpartum anaemia. In our study anemia was found to be in 57.4% patients.

Conclusion

This study denoted that high parity, younger age, PIH, pre-eclampsia, eclampsia, multifetal gestation and smoking are the major risk factors for abruptio placentae. The incidence, the rate of various complications and the rate of mortality which was more as compared to the statistics of other studies showed that antenatal care, proper booking, screening of high risk factors, timely referral are the various pillars need to be strengthened in our population to reduce the occurrence and the complication arising out of this catastrophe.

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