

FETOMATERNAL OUTCOMES AND RISK FACTORS OF ABRUPTIO PLACENTAE: A CROSS-SECTIONAL STUDY

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Abstract

Objective: To determine the fetomaternal outcomes and risk factors of abruptio placentae

Study design: A cross-sectional study

Place and duration: Obstetrics and Gynecology department of Liaquat university hospital Hyderabad from January to June 2019

Methodology: Using a non-probability purposive sampling technique, 100 pregnant women with an ultrasound gestational age of 24 weeks or greater, a retro placental clot, and/or painful vaginal bleeding were included in the study. The study excluded women who presented with vaginal bleeding due to conditions other than abruptio placentae. After receiving emergency care, patients underwent a thorough evaluation based on their medical history, clinical examination, and laboratory tests, including coagulation profile, and ultrasound.

Results: The age of the women were between 18-45 years. A total of 12 (28.5%) women have a parity of >7. Overall 27 (14.1%) women presented between 38-40 weeks of pregnancy. Hypertension was present in 25 (59.3%) of cases, while 16 (38%) of women were anemic. A total of 13 (33%) women had grade 1 abruption. There were 21 (44.9%) intrauterine deaths. A total of 2(4.7%) women went into DIC, 2 (4.7%) had renal failure and 1 (2.3%) woman died due to abruptio placenta.

Conclusion: Anemia, grand multiparity, hypertension, and gestational age >37 weeks are all found to be primary risk factors for placenta abruptio, although maternal age does not appear to be associated in any way.

Keywords: Abruptio placenta, pregnant women, complication, morbidity

Introduction

Abruptio placentae, also known as placental abruption, is characterized by bleeding, uterine contractions, and fetal discomfort in patients. Placental abruption must be taken into consideration if bleeding is observed in the second half of pregnancy because it is a substantial cause of third-trimester bleeding and is linked to fetal and maternal morbidity and mortality. Abruptio placentae (AP), which occurs between 20 weeks of pregnancy and delivery, denotes the early detachment of a properly implanted placenta.^{1, 2} A total of 1% of pregnancies worldwide and up to 7% in Pakistan are in danger because of it.^{3,4} Although the specific cause is still unknown, a number of risk factors have been identified, and one or more of them may be present at any given time.⁵ Maternal hypertension, trauma, smoking, alcohol use, cocaine use, retro placental fibromyoma, and post amniocentesis are some examples.⁶

Placental abruption accounts for roughly 10% of preterm births and 10% to 20% of perinatal fatalities in developed nations.⁷ The frequency of placental abruption has been rising in several nations. The etiopathogenesis of placental abruption is complicated and poorly understood, despite the existence of a number of risk factors.⁸

Asphyxia at birth, intrauterine growth restriction, fetal distress, low APGAR scores, transfers to neonatal intensive care units, stillbirth, congenital anomalies, and perinatal death, which can range from 4.4 to 67.3%, are other adverse outcomes for the fetus that have been associated with abruptio placentae.⁹

In order to carry out effective preventive treatments in this area, it will be necessary to look into potential determinants of preterm placenta risk factors. This is because preterm placenta risk factors can be

linked to differences in socio-cultural and economic backgrounds as well as the effectiveness of the healthcare system. Finding the risk factors for placental abruption in the community of Pakistani women was the aim of this investigation.

Methodology:

This cross-sectional study was conducted at the Obstetrics and Gynecology department of Liaquat university hospital Hyderabad from January to June 2019. Using a non-probability purposive sampling technique, 100 pregnant women with an ultrasound gestational age of 24 weeks or greater, a retro placental clot, and/or painful vaginal bleeding were included in the study. The study excluded women who had vaginal bleeding from causes other than abruptio placentae. A local examination of the placenta at birth for signs of separation and the presence of retro placental blood clots supported the diagnosis of placental abruption based on the clinical signs and symptoms of bleeding pervaginum, tight, and tender abdomen.

A thorough history was taken after outlining the study's goal, methodology, risks, and benefits as well as the need for informed permission. Age, parity, booking status, prior obstetric history, gestational length, the volume of vaginal bleeding, and history of prior antepartum haemorrhage episodes were noted for each woman. Clinical signs of shock, like high blood pressure, pallor, or jaundice were also documented.

On emergency lines, patients with placental abruption were treated. Maintaining the intravenous line allowed for the treatment of hypovolemia with a plasma expander and, where available, cross-matched blood was used. After receiving emergency care, patients underwent a thorough evaluation based on their medical history, clinical examination, and laboratory tests, including

coagulation profile, and ultrasound. All factors were calculated in terms of frequencies and percentages, including hypertension, socioeconomic status, and maternal outcomes or complications such as DIC, acute renal failure, shock, PPH, postpartum infection, postpartum anaemia, and maternal death.

Results:

The age of women was between 18-45 years. A total of 12 (28.5%) women have a parity of >7. Overall 27 (14.1%) women presented between 38-40 weeks of pregnancy. Hypertension was present in 25 (59.3%) of cases, while 16 (38%) of women were anemic. (As shown in Table 1). A total of 13 (33%) women had grade 1 abruption. There were 21 (44.9%) intrauterine deaths. (As shown in Table 2). The distribution of cases by coagulation disturbance is mentioned in Table 3 A total of 2(4.7%) women went into DIC, 2 (4.7%) had renal failure and 1 (2.3%) women died due to abruptio placenta. (As shown in Table 4)

Table 1: Demographic data of study participants

Age (Years)	Number	Percentage
<20	4	11.8
21-25	7	16.6
25-30	10	23.7
>30	18	42.75
Parity		
Primigravida	8	19
P1-P4	10	23.7
P5-P7	10	25.7
>P7	12	28.5
Gestational Age (Weeks)		
28-32	4	9.5
33-37	9	21.3
38-40	27	14.1
Risk Factors		
Hypertension	25	59.3

Anemia	16	38
Smoking	5	11.8
Low socioeconomic status	8	19
Trauma	1	2.3
Mode of delivery		
Vaginal	27	64.1
Cesarean-section	12	35.9
Post-partum hemorrhage		
Mild	9	21.5
Moderate	2	5
Severe	4	7

Table 2: Abruptio placenta and related factors

Grade of abruption	Number	Percentage
I	13	33
II	17	42
III	10	23.7
Relation with hypertension		
No proteinuria	25	59.3
PIH		
Preeclampsia	7	16.6
Eclampsia	4	9.5
Fetal Status		
Alive	19	45.1
IUD	21	44.9
Neonatal death	4	9.5
Urine output		
<30ml/hr	2	4.7
Anemia		
Mild anemia	7	16.6
Moderate Anemia	4	9.5
Severe Anemia	5	11.8

Table 3: Distribution of cases by coagulation disturbance

Investigation	Number	Percentage
PT (seconds)		
15-20	5	11.8

>20	2	4.7
APTT (seconds)		
38-42	5	11.8
>42	2	4.7
Serum fibrinogen (mg/dl)		
15-200	5	11.8
<150	2	4.7
FDP (ug/dl)		
10-12	5	11.8
>12	2	4.7
Platelets (mm³)		
100,000-150,000	5	11.8
<100,000	2	4.7

Table 4: Maternal outcome in case of abruptio placenta

Postpartum anemia	16	38%
Hypovolemic shock	15	35.6%
PPH	12	28.5
Premature rupture of membrane	6	14.2
Postpartum infection	3	7.1
DIC	2	4.7
Renal failure	2	4.7
Couvellaire uterus	1	2.3
Maternal mortality	1	2.3

Discussion

In this study, the age of women was between 18-45 years. A total of 12 (28.5%) women have a parity of >7. Overall 27 (14.1%) women presented between 38-40 weeks of pregnancy. According to a local survey, the majority (44%) of women with abruptio placentae were in the 26-30 age range. A total of 43 women (54%) were in their

second, third, or fourth trimester of pregnancy. The average gestational age was 34 weeks and 4.21 days. Overall 40 (49%) women gave birth at or after 37 full weeks of gestation, while 41 (51%) delivered preterm before 37 weeks.¹⁰

In this study, hypertension was present in 25 (59.3%) of cases, while 16 (38%) of women were anemic. A total of 13 (33%) women had grade 1 abruption. There were 21 (44.9%) intrauterine deaths. According to the local study a total of 2(4.7%) women went into DIC, 2 (4.7%) had renal failure and 1 (2.3%) woman died due to abruptio placenta. Saira Dars et al found in their study that the most frequent risk factor along with abruptio placenta was pregnancy length greater than 37 weeks, which was followed by hypertension (59.13%), grand multiparity (53.91%), anaemia (38.26%), poverty (19.13%), smoking (12.17%), and trauma (2.61%). Postpartum anaemia (44.35%), shock (35.65%), PPH (28.70%), DIC (4.35%), renal failure (4.35%), and maternal mortality (2.61%) were the maternal outcomes.¹¹ In one more local study, in 44% of individuals, hypertension was the most prevalent related risk factor. Strong associations between abruption and anaemia, multiparity, and advanced maternal age have also been found. Grand multipara (>P5) and the age group of 31 to 40 years had the highest prevalence of placental abruption.¹²

According to a local study, due to postpartum haemorrhage, two mothers died. The perinatal mortality was 66% (54/81) of all births. The probability of abruptio placentae was shown to be significantly increased by parity and gestational age (p 0.031 and p 0.001, respectively).¹⁰ Paras Soomro et al found that there were 141 documented cases of abruption placentae, with a prevalence of 2.87%. The average age of women was 32.12 5.29 years, and 58.87% of them were between the ages of

21 and 30. The majority of cases had grade 2 or 3 placental abruptions. While the full cure rate was 50%, there were 40 neonatal/fetal fatalities and 23.4% maternal mortality.¹³ In an international study, 78 (1%) of the 7301 births that were included in the study were complex placental abruptions. Placental abruption was more common in women over the age of 35 (OR = 3.650, 95% confidence interval [CL] = 1.57-6.83) and those who had previously undergone a caesarean section.¹⁴

Conclusion: Anemia, grand multiparity, hypertension, and gestational age >37 weeks are all found to be primary risk factors for placenta abruptio, although maternal age does not appear to be associated in any way.

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Conflict of interest

None

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