

Original Research Article

Study of antepartum haemorrhage and its maternal and perinatal outcome in tertiary care hospital

Shuchi Sharma, Jayita Das*, Suraj Bhardwaj

Department of Obstetrics and Gynecology, SLBS Government Medical College and Hospital, Ner Chowk, Mandi, Himanchal Pradesh, India

Department of General Surgery, Civil Surgery, Civil Hospital, Sunder Nagar, Mandi, Himanchal Pradesh, India

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*Correspondence:

Dr. Jayita Das,

E-mail: drjayitadas25@gmail.com

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ABSTRACT

Background: Obstetric hemorrhage is a worldwide leading cause of maternal morbidity and mortality. Antepartum hemorrhage includes placental abruption, placenta praevia, placenta accreta spectrum and other undetermined causes.

Methods: A retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, Shri Lal Bahadur Shastri medical college Mandi, Himachal Pradesh for period of two and half years from 1st January 2022 to 30th June 2024. Clinical data of the patients presenting with antepartum haemorrhage was obtained from the delivery records and analysed.

Results: Only 105 (1.02%) out of 10,206 pregnant women in the study period had antepartum hemorrhage. Out of 105 cases, 31 (29.5%) had abruption placenta, 70 (66.6%) had placenta praevia and 4 (3.8%) had other undetermined causes. The most common age group was 26-30 years and the majority were multiparous. Anemia was the most common complication in placental abruption and placenta praevia. NICU admissions were 25.8% in placental abruption and 20% in placenta praevia.

Conclusions: The maternal and perinatal outcome has improved with decline in the number of high-parity women and rise in the availability of antenatal care, sonography facilities and emergency transportation.

Keywords: APH, Placenta praevia, Placental abruption

INTRODUCTION

Obstetric hemorrhage is a worldwide leading cause of maternal morbidity and mortality.¹ The primary causes of APH includes: abruptio placenta (1 in 100 pregnancies)-40%, placenta previa (1 in 200 pregnancies)-20%, unclassified-35% and lower genital tract lesions-5%.² In the second half of pregnancy, three placental disorders contribute substantially to maternal mortality rates.³ These include placental abruption, placenta praevia and placenta accreta spectrum.³ Separation of the placenta either partially or totally from its implantation site before delivery is called placental abruption or abruptio placenta.³ Ananth and coworkers (2016) have defined severe placental abruption as displaying one or more of the

following, maternal sequelae that include disseminated intravascular coagulation (DIC), shock, transfusion, hysterectomy, renal failure or death, fetal complications such as nonreasoning fetal status, growth restriction or death or neonatal outcomes that include death, preterm delivery or growth restriction.^{1,2,4} Placenta praevia describes a placenta that is implanted somewhere in the lower uterine segment, either over or very near the internal cervical os.³ Placenta may be morbidly adherent in placenta accreta spectrum. Placenta accreta indicates that villi are attached to the myometrium. With placenta increta, villi actually invade the myometrium, and placenta percreta defines villi that penetrate through the myometrium and to or through the serosa.³ Presently increasing use of ultrasonography (USG) for placental

localisation and to diagnose abruptio placentae, improved obstetrical and anesthetic facilities, increasing use of blood and its products to correct anemia and advanced neonatal care facilities to make increased chances of survival of a preterm infant, all collectively have played important role in decreasing perinatal as well as maternal morbidity and mortality.⁴ Aim was to study the maternal and perinatal outcome of antepartum hemorrhage.

METHODS

Study type

A retrospective observational study.

Study place

The study was conducted in the Department of Obstetrics and Gynaecology, Shri Lal Bahadur Shastri medical college Mandi, Himachal Pradesh

Study duration

Study for a period of two and half years from 1st January 2022 to 30th June 2024.

Clinical data of antepartum haemorrhage was obtained from the delivery records and analysed. The patients with bleeding per vagina after 28 weeks of gestation but before the delivery of baby were included in the study.

The detailed record of clinical history, gestational age, maternal and perinatal outcomes were collected from hospital delivery register and case files. Age of the patient, occupation, education level, socio economic status, booking status, parity, BMI, previous history of stillbirth or abortion, ultrasound findings, type of APH, mode of delivery were recorded on detail performa. APGAR score,

birth weight of babies, complications resulting in the admission in NICU were also recorded. The cases were grouped as, placenta previa, abruptio placenta and undetermined causes.

Statistical analysis

Data was entered in excel and analysed by using software SPSS 17.

RESULTS

A total 10,206 women delivered in the tertiary care hospital during the study period. Only 105 (1.02%) out of 10,206 pregnant women in the study period had antepartum haemorrhage. Among 105 cases, 31(29.5%) had abruptio placenta, 70(66.6%) had placenta praevia, 4 (3.8%) had other undetermined causes. The most common age group was 26-30 years in abruption placenta and placenta praevia.

Incidence of APH was more in multipara patients in both types. Abruptio placenta was associated with pregnancy induced hypertension in (83%) cases. The most common risk factor for placenta praevia was previous caesarean in (28.5%) followed by malpresentation (8.5%) cases. In placenta praevia, caesarean section was done in all cases. The mode of delivery in placental abruption was vaginal delivery (83.8%) cases and caesarean section in only (16.2%) cases. Anaemia was the most common maternal complication observed in 83% of abruption placenta and 71% of placenta praevia cases. 3 cases of placenta praevia had associated placenta accrete. Peripartum hysterectomy was done in these 3 cases when stepwise devascularisation failed to stop hemorrhage. Prematurity was observed in 16% abruptio placenta cases and 14.2% in placenta praevia. 8 (25.8%) cases of abruptio placenta had intrauterine death.

Table 1: Types and frequency of APH.

Frequency	n=105	%
Abruptio placenta	31	29.5
Placenta praevia	70	66.6
Others	4	3.8

Table 2: Age distribution.

	n=105	<20 years	20-25 years	26-30 years	31-35 years	36-40 years	>40 years
Abruptio placenta	n=31	1 (3.3%)	4 (12%)	10 (32%)	8 (25%)	4 (12.9%)	4 (12.5%)
Placenta praevia	n=70	4 (5.7%)	4 (5.7%)	30 (42%)	20 (28.5)	10 (14.5)	2 (2.8%)
others	n=4				2 (50%)	2 (50%)	

Table 3: Parity.

	n=105	Primigravida	Multipara
Abruptio placenta	31	11 (35.4%)	20 (64.5%)
Placenta praevia	70	20 (28.5%)	50 (71.4%)
others	4	1 (25%)	3 (75%)

Table 4: Risk factors.

Risk factors	Abruptio placenta (n=31)	Placenta previa (n=70)	Others (n=4)
PIH	26 (83%)	2 (2.8%)	
Previous curettage		5 (7.1%)	
Previous LSCS		20 (28.5%)	
Previous APH	5 (16%)	5 (7.1%)	
Malpresentation	2 (6.4%)	6 (8.5%)	
Multiple pregnancy	2 (6.4%)	5 (7%)	

Table 5: Mode of delivery.

Mode of delivery	Abruptio placenta (n=31)	Placenta previa (n=70)	Others (n=4)
Vaginal delivery	26 (83.8%)		4 (100%)
Elective LSCS		50 (71.5%)	
Emergency LSCS	5 (16.2%)	20 (28.5%)	

Table 6: Maternal outcome.

Maternal outcome	Abruptio placenta (n=31)	Placenta previa (n=70)	Others (n=4)
Anaemia	26 (83%)	50 (71%)	2 (50%)
PPH	5 (16%)	5 (7.1%)	
Shock	1 (3.2%)		
Renal failure	1 (3.2%)		
HELLP	HELLP 1 (3.2%)		
DIC	0		
Placenta accreta	0	3 (4.2%)	
B/L uterine artery ligatio	2 (6.4%)	6 (8.5%)	
Peripartum hysterectomy		3 (4.2%)	

Table 7: Neonatal outcome.

Neonatal outcome	Abruptio placenta (n=31)	Placenta previa (n=70)
Prematurity	5 (16%)	10 (14.2%)
Antepartum IUD	8 (25.8%)	0
Fresh still birth	1 (3.2%)	0
Normal APGAR	8 (25.8%)	42 (60%)
NICU admission	8 (25.8%)	14 (20%)
Birth asphyxia	4 (12.5%)	2 (2.8%)
Neonatal death	1 (3.2%)	2 (2.8%)

DISCUSSION

In the present study the incidence of APH was 1.02% which is similar to the study by Yadav et al⁶ and Kulkarni AR et al, We observed abruptio placenta in only 29.5% whereas placenta praevia in 66.6% cases which is different from study by Kulkarni AR et al, and Anjankar PS et al.^{7,8} The incidence of abruptio placenta might have decreased because 99% of our patients were booked so better screening of hypertensive disorders of pregnancy and the other risk factors helped to reduce number of the cases. The most common age group was 26-30 years in abruptio placenta women and placenta praevia which was similar to the studies by Yadav et al⁶ and Kedar et al.¹¹ According to Williams, multiparity elevates the rate of placenta previa,

in our study also majority of the patients were multipara.³ Placental abruption was associated with pregnancy induced hypertension in 83% cases. In some cases that are associated with preeclampsia, impaired trophoblastic invasion with subsequent atherosclerosis is one underlying predisposition for placental abruption.⁹ In our study, placenta praevia with previous caesarean was observed in 28.5% cases. Furuhashi and colleagues (2002) reported a 22-percent recurrence rate and half recurred at a gestational age 1 to 3 weeks earlier than the first abruption.¹⁰ In our study, the prior abruption was in 16% and prior placenta previa was in 7.1% cases only. Caesarean section is definite mode of delivery in all patients with placenta praevia. 83% of the cases with placental abruption had vaginal delivery and 16% had caesarean section. According to Williams, with a living

viable-aged fetus when vaginal delivery is not imminent, emergency caesarean delivery is chosen by most and when fetal compromise will be evident.³ In our study incidence of HELLP was 3.2% of placental abruption. The hemolysis, elevated liver enzyme levels, low platelet count (HELLP) syndrome carries an increased risk for placental abruption.³ In present study, hemorrhagic shock and renal failure occurred in 1 patient. Delayed or incomplete treatment of hypovolemia is one of the causes of renal dysfunction.³ In our study 3 cases of placenta praevia who had associated placenta accreta had peripartum hysterectomy when stepwise devascularisation failed to stop hemorrhage. In placental abruption 16% was incidence of neonatal prematurity whereas 40% to 60% of abruptions occur prior to 37 weeks gestation.² In our study 8 (25.8%) antepartum intrauterine deaths occurred because of placental abruption.

CONCLUSION

The maternal and perinatal outcome has improved with decline in the number of high-parity women and rise in the availability of antenatal care, sonography facilities and emergency transportation. Lab investigations like haemoglobin, platelet and fibrinogen levels as well as pro thrombin time (PT) and partial thromboplastin time (PTT) guide product replacement. If prompt and intensive resuscitation with crystalloids and blood products is started, maternal morbidity like shock, renal failure and DIC can be prevented.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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