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Original Research Article

Antepartum Hemorrhage at Tertiary Care Hospital- A Retrospective Study of Maternal and Fetal Outcome

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Abstract

Antepartum Hemorrhage (APH) has always been one of the most feared obstetric emergencies which contribute to significant maternal and perinatal mortality and morbidity. ***Aims and objectives***: To determine the causes of Antepartum Hemorrhage. To study the maternal and fetal outcome in various types of antepartum hemorrhage. ***Methods:*** It is a study conducted in OPD,Labour room and Intensive Care Unit(ICU) admissions in Department of Obstetrics and Gynaecology, Government General Hospital, Kakinada over a period of one year from April 2018 to March 2019 were analysed retrospectively. All cases of APH with gestational age more than 28 weeks whether diagnosed previously or during antental visits or during delivery, referred from other hospitals, emergency admissions are included in the study. Data was statistically analysed using SPSS 20 software. ***Results:*** The present study included 70 patients who was diagnosed as having placenta previa, abruptio placentae or APH due to undetermined causes presented with or without bleeding per vaginum in OPD, labour room,ICU. Majority of the patients (57.1%) had Placent previa while 41.4% had abruptio placentae; one case of APH is due to undetermined cause. Most of the cases of APH (64.3%) belong to the mean age group of 20-24 years both in placenta previa(57.5%) and abruptio placenta(75.9%) .65% of the cases are unbooked cases in placenta previa and 72.4% of the cases are unbooked cases in abruptio placenta. 90% of the cases of placenta previa are delivered by Caesarean section.55.8% of the cases of abruptio placenta are delivered by vaginal route. There were 3 maternal deaths (4.1%) 21 (30%) neonatal deaths. ***Conclusion:*** The most common cause of APH is placenta previa followed by abruptio placenta which was more common in unbooked cases with maternal risk factors. Antenatal booking,early identification of high risk cases and timely referral to tertiary care centres with good neonatal intensive care facilities, early intervention, blood and blood components transfusion, have a role in reducing maternal and perinatal morbidity and mortality.

Keywords: APH, Placenta previa, abruption.

INTRODUCTION

Antepartum Hemorrhage (APH) has always been one of the most feared complications in obstetrics. Any bleeding from the genital tract during pregnancy after period of viability until the delivery of the baby is defined as antepartum hemorrhage. APH could be due to placenta previa, abruptio placentae, indeterminate causes or local causes although these are not common. APH complicates about 3-5% [1] of all the pregnancies with incidence of placenta previa about 0.33- 0.55%[2], incidence of abruptio placentae is about 0.6-1%[3].

Hemorrhage is one of the leading causes of maternal morbidity and mortality. Hemorrhage emerges as the major cause of severe maternal morbidity in almost all near miss audits in both developed and developing countries [4]. According to World Health Organisation(WHO) hemorrhage was a direct cause of maternal mortality in 25% cases. Antepartum hemorrhage contributes to significant amount of maternal and perinatal mortality and morbidity.

The maternal complications in patients with APH are malpresentations, preterm labour, postpartum hemorrhage, sepsis, shock, retained placenta, acute renal failure, and disseminated intravascular coagulation. Fetal complications are prematurity, low birth weight, birth asphyxia, congenital malformations, and intrauterine death [5].

Maternal mortality due to APH in India is about 4.08/1000 live births. In developing countries widespread pre-existing anemia, decreased awareness among the people, difficulty in accessing the medical care is responsible for high maternal mortality rate. Perinatal mortality is about 60/1000 livebirths in India [6].

APH is one of the complications of pregnancy that has to be managed before it can be diagnosed. Although APH cannot be prevented maternal and perinatal morbidity and mortality can be significantly reduced by aggressive expectant management. Presently increased use of ultrasonography techniques, improved obstetrical and anaesthetic facilities, increased use of blood and its products, advanced neonatal care facilities collectively played an important role in reducing maternal and perinatal morbidity and mortality [7].

AIMS AND OBJECTIVES

To study and determine the causes of Antepartum Hemorrhage. To study the maternal and fetal outcome in various types of antepartum hemorrhage.

METHODS

STUDY DESIGN

It is a retrospective study conducted in OPD,Labour room and Intensive Care Unit(ICU) in Department of Obstetrics and Gynaecology, Government General Hospital, Kakinada

STUDY PERIOD

The study was conducted over a period of one year from April 2018 to March 2019(70 cases).

INCLUSION CRITERIA

All cases of APH with gestational age more than 28 weeks

EXCLUSION CRITERIA

All cases of APH with gestational age of less than 28 weeks

RESULTS

The present study included 70 patients who was diagnosed as having placenta previa, abruptio placentae or APH due to undetermined causes presented with or without bleeding per vaginum in OPD, labour room, ICU. Majority of the patients (57.1%) had Placent of one year from April 2018 to March 2019.

Table-1: Distribution of patients according to Cause of APH

TYPE OF APH	NUMBER	PERCENTAGE
PLACENTA PREVIA	40	57.1%
ABRUPTIO PLACENTA	29	41.4%
UNDETERMINED CAUSE	1	1.4%
TOTAL	70	100%

Majority of the patients (57.1%) had Placenta previa while 41.4% had abruptio placentae, one case of APH is due to undetermined cause.

Table-2: Booked versus Unbooked patients

	BOOKED		**UNBOOKED**		**TOTAL**	
TYPE OF APH	NUMBER	%	NUMBER	%	NUMBER	%
PLACENTA PREVIA	14	35%	26	65%	40	100%
ABRUPTIO PLACENTA	8	27.6%	21	72.4%	29	100%
UNDETERMINED CAUSE	0	0	1	100	1	100%
TOTAL	22	31.4%	48	68.6%	70	100%

65% of the cases are unbooked cases in placenta previa and 72.4% of the cases are unbooked cases in abruptio placenta but the difference is statistically not significant (p value-0.514).

Table -3: Distribution of patients according to age group(in years):

	PLACENTA PREVIA		**ABRUPTIO PLACENTA**		**UNDETERMINED CAUSE**		**TOTAL**	
AGE GROUP	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
20-24	23	57.5%	22	75.9%	0	0	45	64.3%
25-29	13	32.5%	6	20.7%	1	100%	20	2.6%
30-35	3	7.5%	1	3.4%	0	0	4	5.7%
>35	1	2.5%	0	0	0	0	1	1.4%
TOTAL	40	100%	29	100%	1	100%	70	100%

Mean age group of distribution is between 20-24 years in both placenta previa(57.5%) and abruptio placenta(75.9%). The difference is not statistically significant (p value-0.257).

Table-4: Distribution according to number of pregnancies

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
PRIMI	14	35%	14	48.3%	0	0	28	40%
G2	16	40%	11	37.9%	1	100	28	40%
G3	6	15%	4	13.8%	0	0	10	14.3%
G4	3	7.5%	0	0	0	0	3	4.3%
≥G5	1	2.5%	0	0	0	0	1	1.4%
TOTAL	40	100%	29	100%	1	100	70	100%

35% of the cases of placenta previa are primigravida and 48.3% cases of abruptio placenta are primigravida. The difference is clinically significant but statistically not significant (p value-0.409).

Table-5: Gestational age at the time of admission (in weeks):

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE			
GESTATIONAL AGE	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
28-32	5	12.5%	4	13.8%	1	100%	10	14.3%
33-36	19	47.5%	15	51.7%	0	0	34	48.6%
>36	16	40%	10	34.5%	0	0	26	37.1%
TOTAL	40	100	29	100	1	100%	70	100%

47.5% cases of placenta previa are admitted between 33-36 weeks of gestational age and 51.7% cases of abruptio placentae are admitted between 33-36 weeks of gestational age. The difference is statistically not significant.

Table-6: Gestational age at the time of termination (in weeks)

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE			
GESTATIONAL AGE	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
28-32	4	10%	4	13.8%	1	100%	9	12.9%
33-36	16	40%	15	51.7%	0	0	31	44.3%
>36	20	50%	10	34.5%	0	0	30	42.8%
TOTAL	40	100	29	100	1	100%	70	100%

40% cases of placenta previa are terminated between 33-36 weeks of gestational age and 51.7% cases of abruptio placentae are terminated between 33-36 weeks of gestational age. The difference is statistically not significant (p value-0.601).

Table-7: According to Fetal Heart Sound(FHS)

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE		TOTAL	
FHS	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Good	33	82.5%	7	24.1%	0	0	40	57.1%
Absent	3	7.5%	17	58.6%	1	100%	21	30%
Distress	4	10%	5	17.2%	0	0	9	12.9%
Total	40	100%	29	100%	1	100%	70	100%

82.5% of the cases of placenta previa are admitted with good fetal heart rate. Most of the cases of abruptio placentae (58.6%) are admitted with absent fetal heart rate. The difference is statistically significant (p value-0).

Table-8: Associated factors

	PLACENTA PREVIA	ABRUPTIO PLACENTA	UNDETERMINED CAUSE
	NUMBER	NUMBER	NUMBER
Anemia	8	3	0
PIH	0	14	0
Previous D&C	2	2	0
Previous LSCS	11	2	1
Uterine Anomaly	1	0	0

Table-9: Mode of delivery

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Vaginal	4	10%	16	55.2%	0	0	20	28.6%
LSCS Elective	14	35%	0	0	0	0	14	20%
Emergency	22	55%	13	44.8%	1	100%	36	51.4%
Total	40	100%	29	100%	1	100%	70	100%

90% of the cases of placenta previa are delivered by Caesarean section.55.8% of the cases of abruptio placenta are delivered by vaginal route. The difference is statistically significant (p value-0).

Table-10: Indication for Caesarean section

	PLACENTA PREVIA		ABRUPTIO PLACENTA		UNDETERMINED CAUSE		TOTAL	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Elective	14	35%	0	0	0	0	14	28%
Emergency								
Fetal Distress	5	22.7%	4	30.8%	0	0	9	25%
Hemorrhage	12	54.6%	9	69.2%	1	100%	22	61.1%
Malpresentation	3	13.6%	0	0	0	0	3	8.3%
PROM	2	9.1%	0	0	0	0	2	5.6%

Most of the cases of placenta previa are delivered by elective caesarean section(35%).13 cases of abruptio placenta delivered by emergency caesarean section(44.8%).This is statistically significant(p value-0.024).

Table-11: Maternal Outcome

	PLACENTA PREVIA	ABRUPTIO PLACENTA	UNDETERMINED CAUSE
Anemia	15	12	
Shock	3	1	
Couvellaire	0	1	
Caesarean Hysterectomy	2	0	
PPH	9	6	
Renal failure	1	1	
Maternal Death	2	1	

Table-12: Fetal Outcome

	PLACENTA PREVIA	ABRUPTIO PLACENTA	UNDETERMINED CAUSE
Prematurity	13	13	
Low birth weight	15	14	
Birth Asphyxia	6	4	
Jaundice	15	3	
Respiratory Distress syndrome	3	1	
Early neonatal death	1	1	
Still Birth	0	0	
IUFD	3	18	1

DISCUSSION

In the present study various causes of APH were determined clinically, radiologically during pregnancy and during the delivery. Incidence of placenta previa is 57.1% followed by abruptio placenta 41.4% and one case of APH is due to undetermined

cause 1.4%. Taylor *et al*. [8] observed a high incidence of Placenta previa in women of Asian origin.

In the present study 68.6% cases were unbooked and 31.4% cases were booked. 72.4% cases of abruptio placenta were unbooked, 65% cases of placenta previa were unbooked and the case with undetermined cause is unbooked. The difference is statistically not significant (p value-0.514). Baskette *et al*. [9]. Reported that 75% cases were unbooked and stressed the importance of regular antenatal checkups.

Most of the cases of APH (64.3%) belong to the mean age group of 20-24 years both in placenta previa(57.5%) and abruptio placenta(75.9%) and the unclassified hemorrhage belongs to the age group of 25-29 years. The difference is not statistically significant (p value-0.257). William *et al*. [10] reported increasing risk of abruptio placenta with increasing age.

35% of the cases of placenta previa are primigravida and 48.3% cases of abruptio placenta are primigravida. The difference is clinically significant but statistically not significant (p value-0.409).Chakraborthy *et al*.[11] reported that prevalence of APH is more common in multigravidas.

47.5% cases of placenta previa and 51.7% cases of abruptio placenta were admitted in between 33-36 weeks of gestation. 50% cases of placenta previa were terminated after 36 weeks of gestation, 40% were terminated between 33-36 weeks of gestation. 51.7% cases of abruptio placenta were terminated between 33-36 weeks of gestation. The difference is statistically not significant (p value-0.601).

FHS is an indicator of fetal wellbeing on which the obstetric management of the APH case is partially dependant. In placenta previa 82.5% cases had good FHS at the time of admission, 10% had fetal distress and 7.5% had absent FHS. In abruptio placenta 58.6% had absent FHS, 24.1% had good FHS, 17.2% had fetal distress. The difference is statistically significant (p value-0). The case with unclassified hemorrhage had absent FHS.

Out of the 40 cases of placenta previa, 11(27.5%) had previous caesarean section. Out of the 29 cases of abruptio placenta 2(6.9%) had previous caesarean section. One case of unclassified hemorrhage had previous caesarean section. Gilliam *et al.* [12] found that 20% cases had a history of previous caesarean section.

2 cases (5%) of placenta previa and 2 cases(6.9%) of abruptio placenta had a history of previous abortion. Kedar K *et al*. [13] reported that 11.7% cases of placenta previa and 2.94% cases of abruptio placenta.

14 cases (48.3%) of abruptio placenta had hypertensive disorders of pregnancy Placenta previa is not associated with hypertensive disorders of pregnancy. Hibbard *et al*. [14] found hypertensive disorders of pregnancy complicating 7.4% patients with APH.

In placenta previa 4 cases (10%) were delivered vaginally, 36 cases (90%) were delivered by Caesarean section out of which 14(35%) were delivered by elective section and 22 cases (55%) were delivered by emergency section. In abruptio placenta 16 cases (55.2%) were delivered vaginally and 13 cases (44.8%) cases were delivered by emergency caesarean section. The difference is statistically significant (p value-0).

Hemorrhage (61.1%) is the most common indication for caesarean section followed by fetal distress (25%). Malpresentation in 3 cases of placenta previa and PROM in 2 cases of placenta previa are the indications for caesarean section. Cotton *et al*. [15] reported hemorrhage as an indication for caesarean section in 70.6% cases of APH in their study.

In the present study anemia is the most common complication seen in 15 cases of placenta previa and 12 cases of abruptio placenta. The difference is clinically significant but statistically not significant (p value-0.908). Postpartum hemorrhage is the second most common complication seen in 9 cases of placenta previa and 6 cases of abruptio placenta. The difference is clinically significant but statistically not significant (p value-0.857).Chakraborthy *et al*. [11] reported an incidence of 16.25% cases of APH.

Caesarean hysterectomy is done in two cases (5%) of placenta previa who had placenta accreta. A 2016 study conducted using the National Inpatient Sample found that the overall rate of placenta accreta in the United States was 1 in 272 due to increased cesarean rate. Couvellaire uterus is seen in one case (1.4%).Rai *et al*. [17] reported couvellaire uterus in 10.5% of APH patients.

Maternal death is seen in 3 cases (4.2%), 2 cases of placenta previa and 1 case of abruptio placenta due to haemorhagic complications.

In the present study 15 cases of placenta previa, 14 cases abruptio placenta were of low birth weight. The difference is not statistically significant (p value-0.371).13 cases of placenta previa and 13 cases of abruptio placenta were preterm.

Neonatal jaundice is the most common complication seen in 15 cases of placenta praevia and 3 cases of abruptio placenta. Birth asphyxia is seen in 6 cases of placenta previa and 4 cases of abruptio placenta. Respiratory distress is seen in 3 cases of placenta previa and 1 case of abruptio placenta.

19 cases of abruptio placenta and 3 cases of placenta previa presented with IUFD. The difference is clinically significant (p value-0). Early neonatal death is seen in one case of placenta previa and one case of abruptio placenta.

CONCLUSION

The most common cause of APH is placenta previa followed by abruptio placenta but more maternal and neonatal morbidity and mortality seen in abruptio. Regular antenatal checkups, early identification high risk cases and timely referral to tertiary care centres, early intervention, expectant management till fetal maturity in necessary cases, blood and blood components transfusion, good neonatal intensive care facilities will reduce the maternal and neonatal morbidity and mortality.

REFERENCES

1. Calleja-Agius, J., Custo, R., Brincat, M. P., & Calleja, N. (2006). Placental abruption and placenta praevia. *European Clinics in Obstetrics and Gynaecology*, *2*(3), 121-127.
2. Crane, J. M., Van den Hof, M. C., Dodds, L., Armson, B. A., & Liston, R. (1999). Neonatal outcomes with placenta previa. *Obstetrics & Gynecology*, *93*(4), 541-544.
3. Salihu, H. M., Bekan, B., Aliyu, M. H., Rouse, D. J., Kirby, R. S., & Alexander, G. R. (2005). Perinatal mortality associated with abruptio placenta in singletons and multiples. *American journal of obstetrics and gynecology*, *193*(1), 198-203.
4. Brace, V., Kernaghan, D., & Penney, G. (2007). Learning from adverse clinical outcomes: major obstetric haemorrhage in Scotland, 2003–05. *BJOG: An International Journal of Obstetrics & Gynaecology*, *114*(11), 1388-1396.
5. Cunningham, F., Lenovo, K., Bloom, S., Hauth, J., Glistrap, L., Rouse, D.(2009). Obstetric Hemorrhage. Williams Obstetrics 23rd edition, Newyork, Mc Graw Hill Professionals.
6. Park, K. Maternal and child health. In: Park's textbook of preventive and social medicine. 17th edition.
7. Dutta, D.C. Antepartum hemorrhage. In: Hiralal Konar, editor. Textbook of obstetrics, 6th edition: 243-61.
8. Taylor, V. M., Peacock, S., Kramer, M. D., & Vaughan, T. L. (1995). Increased risk of placenta previa among women of Asian origin. *Obstetrics & Gynecology*, *86*(5), 805-808.
9. Baskett, T. F. (1977). Grand multiparity—a continuing threat: a 6-year review. *Canadian Medical Association Journal*, *116*(9), 1001.
10. Williams, M. A., & Mittendorf, R. (1993). Increasing maternal age as a determinant of placenta previa. More important than increasing parity?. *The Journal of reproductive medicine*, *38*(6), 425-428.
11. Chakraborty, B. D. K. C. (1993). Evaluation of third trimester bleeding with reference to maternal and perinatal outcome. *J Obstetr Gynecol India*, *42*, 166-171.
12. Gilliam, M., Rosenberg, D., & Davis, F. (2002). The likelihood of placenta previa with greater number of cesarean deliveries and higher parity. *Obstetrics & Gynecology*, *99*(6), 976-980.
13. Kedar, K., Uikey, P., Pawar, A., & Choudhary, A. (2016). Maternal and fetal outcome in antepartum haemorrhage: a study at tertiary care hospital. *Int J Reprod Contracept Obstet Gynecol*, *5*(5), 1386-91.
14. Hibbard, B. M., & Jeffcoate, T. N. A. (1966). Abruptio placentae. *Obstetrics & Gynecology*, *27*(2), 155-167.
15. Cotton, D. B., Read, J. A., Paul, R. H., & Quilligan, E. J. (1980). The conservative aggressive management of placenta previa. *American journal of obstetrics and gynecology*, *137*(6), 687-695.
16. Mogos, M. F., Salemi, J. L., Ashley, M., Whiteman, V. E., & Salihu, H. M. (2016). Recent trends in placenta accreta in the United States and its impact on maternal–fetal morbidity and healthcare-associated costs, 1998–2011. *The Journal of Maternal-Fetal & Neonatal Medicine*, *29*(7), 1077-1082.
17. Rai, L., Duvvi, H., Rao, U. R., & Nalini, V. (1989). Severe abruptio placentae—still unpreventable. *International Journal of Gynecology & Obstetrics*, *29*(2), 117-120.