Research Article

The clinical study of antepartum haemorrhage

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Abstract

Introduction: Antepartum Haemorrhage (APH) is defined as bleeding from or into the genital tract after 28th week of pregnancy till the end of 2nd stage of labour. APH is a grave obstetrical emergency and is one of the leading causes of maternal and perinatal morbidity and mortality. APH can be due to placenta praevia, abruptio placentae, indeterminate causes or local causes of genital tract. This study is carried out to have a statistical impression of the consequences of antepartum haemorrhage on mother and foetus in a tertiary care center (MGM Hospital, Aurangabad, India). **Objectives:** This is a prospective observational study carried out in MGM Medical College, Aurangabad, India from January 2014 to June 2014. **Results:** During the study period, there were 1211 deliveries, out of which complete data from 50 diagnosed patients with antepartum haemorrhage were studied. In my study the incidence of antepartum haemorrhage was 4.1%. Out of 50 deliveries, 21 (42%) were diagnosed with placenta praevia, 29 (58%) had abruptio placentae as causes of antepartum haemorrhage. The mean age was 25 years. 76% of the patients were registered. During the antenatal period 52% had anaemia, 30% had oligohydramnios, 18% had malpresentation, 28% had hypertensive disorder in present pregnancy.80% have delivered by LSCS. 70% were preterm LSCS. The postnatal complications were PPH (16%), HELLP syndrome (6%), DIC (6%), Shock (4%). 66% required blood transfusion.53% of the live babies were low birth weight.46% were admitted to NICU. 16% had birth asphyxia 13% had IUGR. The perinatal mortality was 40%. **Conclusion:** From this study it was evident that, Antepartum Haemorrhage has serious life threatening complications and if diagnosed earlier in pregnancy and proper antenatal care is provided the maternal and perinatal outcome is surely to improve.

Keywords: Antepartum haemorrhage, abruptio placantae, placenta praevia, postpartum haemorrhage.

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INTRODUCTION

Antepartum Haemorrhage (APH) is defined as bleeding from or into the genital tract after 28th week of pregnancy till the end of 2nd stage of labour. APH is a grave obstetrical emergency and is one of the leading causes of maternal and perinatal morbidity and mortality. APH can be due to placenta praevia, abruptio placentae, indeterminate causes or local causes of genital tract. Placenta praevia refers to the condition when the placenta is situated wholly or partially in the lower uterine segment and accounts for one third of all cases of APH. 4 degrees of placenta praevia have been recognised:

1. Total placenta praevia: The internal cervical os is covered completely by placenta.
2. Partial placenta praevia: The internal cervical os is partially covered by placenta.
3. Marginal placenta praevia: The edge of the placenta is at the margin of the internal os.
4. Low-lying placenta praevia: The placenta is implanted in the lower uterine segment such that the placenta edge actually does not reach the internal os but in close proximity to it.[2]

An Abruptio placentae is the condition where the bleeding occurs due to premature separation of normally situated placenta.[3] Placenta accrete and vasa praevia are also important causes of bleeding in the second half of pregnancy and labour.[2] In India, the incidence of Antepartum Haemorrhage is documented to be 2.5% of all pregnancies. The most common maternal complications were found to be preterm labour and postpartum haemorrhage, and the most common foetal complications were prematurity and perinatal mortality.[5] Factors associated with increased risk of antepartum

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haemorrhage include; increased maternal age, high parity, previous caesarean section, threatened abortion, hypertensive disorders in pregnancy, previous uterine instrumentation and cigarette smoking.[5] There has been a significant reduction in maternal and perinatal mortality due to APH in developed countries due to better outcome of these cases. But in India, the morbidity rate is significantly high due to many factors like difficulties in transport in case of emergencies, associated antenatal and postnatal complications and limited medical resources. This study is carried out to have a statistical impression of the consequences of antepartum haemorrhage on mother and foetus in a tertiary care center (MGM Hospital, Aurangabad, India).

AIMS AND OBJECTIVES

- To find out the incidence of APH.
- To find the association of various clinical factors in APH.
- To study the various complications of APH.

MATERIALS AND METHODS:

This study is a prospective observational study carried out on patients visiting obstetrics and Gynaecology department in Mahatma Gandhi Mission's Medical College and Hospital, Aurangabad, India presenting with antepartum haemorrhage from January 2014 to June 2014.

CRITERIA FOR INCLUSION

- Patients visiting the tertiary care centre with per vaginum bleeding after 28th week of gestational period till the end of 2nd stage of labour.
- Patients presenting with or referred as previously diagnosed placenta praevia,abruptio placentae as a cause of bleeding per vaginum.

CRITERIA FOR EXCLUSION

- Patients visiting the tertiary care centre with per vaginum bleeding before 28th week of gestational period.

After taking an informed concent from the patients, data was filled in a pretested proforma.

All data collected was analysed and represented as percentage and chi square test.

RESULTS

During the study period, there were 1211 deliveries, out of which complete data from 50 diagnosed patients with antepartum haemorrhage were studied. In my study the incidence of antepartum haemorrhage was 4.1%. Out of 50 deliveries, 21(42%) were diagnosed with placenta praevia, 29 (58%) had abruptio placentae as causes of antepartum haemorrhage.

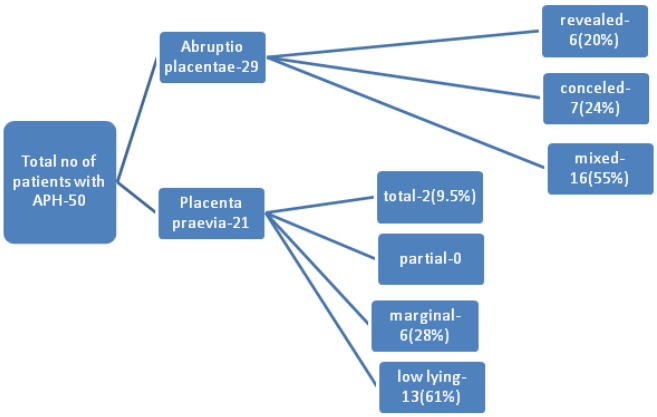

Table 1

Age group	Abruptio placentae(n=29)	Placenta Praevia(n=21)	Total(n=50)
<=19 yrs	0(0%)	1(4.7%)	1(2%)
20-24 yrs	13(44%)	7(33%)	20(40%)
25-30 yrs	12(41%)	11(52%)	23(46%)
>30 yrs	4(13%)	2(9.5%)	6(12%)

(χ^2=3, p=0.392) The mean age of APH was 25 years. Maximum number of patients of Abruptio placentae belong to 20-24 yrs age group and that of Placenta praevia belong to 25-29 years age group.

Table 2

	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Registered	19(65%)	19(90%)	38(76%)
Unregistered	10(35%)	2(10%)	12(24%)

(χ^2=4.1 p=0.046) 65% of Abruptio placentae and 90% of placenta praevia are registered.

Table 3

Gravida	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
1	8(27%)	5(17%)	13(26%)
2	6(20%)	7(24%)	13(26%)
3	9(31%)	4(13%)	13(26%)
4	4(13%)	5(17%)	9(18%)
>=5	2(6.8%)	0	2(4%)

(χ^2=2.74 p=0.558) 72% of abruptio placentae were multigravida and 76% of placenta praevia were multigravidas.

Table 4

Gestational age(weeks)	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
<28	3(10%)	1(4.7%)	4(8%)
28-29.6	2(6.8%)	0	2(4%)
30-31.6	4(13.7%)	0	4(8%)
32-33.6	7(24%)	3(14%)	10(20%)
34-35.6	4(13%)	8(38%)	12(24%)
36-37.6	3(10%)	0	3(6%)
38-39.6	6(20%)	6(28%)	12(24%)
>39.6	0	0	0

The mean gestational age for abruptio placentae in our study was 33 weeks and for placenta praevia is 35 weeks.

Table 5

Obstetric history	Abruptio placentae	Placenta praevia	Total
previous LSCS	11(38%)	6(28%)	17(34%)
previous vaginal delivery	11(38%)	7(33%)	18(36%)
previous MTP/ abortion	7(24%)	6(28%)	13(26%)

(χ^2=0.473 p=0.607) 38% of abruptio placentae had a history of previous LSCS and previous vaginal delivery each and 33% of placenta praevia had a history of previous vaginal delivery.

Table 6

Presenting complaints	Abruptio placentae	Placenta praevia	Total
Bleeding per vagina	21(72%)	13(61%)	34(68%)
Decreased foetal movements	4(13%)	1(4.7%)	5(10%)
Pain in abdomen	24(82%)	17(80%)	41(82%)

(χ^2=1.2 p=0.368) 82% and 72% of patients of Abruptio placentae presented with pain in abdomen and bleeding per vagina respectively. And 80% and 61% of patients of placenta praevia presented with complaints of pain in abdomen and bleeding per vagina respectively.

Table 7

Mode of Diagnosis	Abruptio placentae(n=29)
Clinical	6(20%)
Clinical diagnosis but confirmed on Ultrasonography	9(31%)
Clinical diagnosis but USG inconclusive	5(17%)
Ultrasonography	5(17%)
Postpartum	4(13%)

20% of Abruptio placentae patients were diagnosed only clinically and ultrasonography was not done, 31% of patients were under clinical suspicion and were confirmed on ultrasonography. 17% of patients were clinically suggestive of Abruptio placentae but ultrasonography was inconclusive. 17% of patients were diagnosed only on the basis of ultrasonography without clinical suspicion and 13% of patients were diagnosed postoperatively.

Table 8

USG Report	Abruptio placentae(n=29)
Retroplacental clot	7(24%)
Subchorionic bleed	2(6.8%)
Intraplacental haematoma	5(17.2%)

On USG report, 24% of patients showed presence of RP clot, 17.2% showed intraplacental haematoma and 6.8% showed evidence of subchorionic bleed.

Table 9

Usg report	Placenta praevia(n=21)
low-lying(type 1)	13(70%)
Marginal(type 2)	6(28.5%)
Partial(type 3)	0
Central(type 4)	2(9.5%)

Almost 70% of the patients of placenta praevia had low-lying placenta (type 1), 28.5% had type 2 placenta praevia and 9.5% had central placenta praevia.

Table 10

Associated antenatal conditons	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total (n=50)
H/o bleeding episodes in present pregnancy	0	3(14%)	3(6%)
Anaemia	19(65%)	7(33%)	26(52%)
Hypertensive disorders in present pregnancy	13(44%)	1(4.7%)	14(28%)
Oligohydramnios	10(34%)	5(23%)	15(30%)
Medical renal disease	1(3.4%)	0	1(2%)
Malpresentation	5(17%)	4(19%)	9(18%)
Polyhydramnios	0	1(4.7%)	1(2%)

(χ^2=15 p=0.02) 65% of Abruptio placentae patients had anaemia antenatally, 44% had hypertensive disorder,34% had oligohydromnios, 17% had malpresentation. 33% of patients of placenta praevia had anaemia in antenatal perios, 23% had oligohydromnios, 19% had malpresentation and 14% had history of bleeding episodes.

Table 11

Mode of delivery	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Vaginal	8(27%)	2(9.5%)	10(20%)
Lscs	21(72%)	19(90.4%)	40(80%)

(χ^2=2.7 p=0.013) Maximum patients have delivered by lower segment caesarean section.

Table 12

Vaginal delivery	Abruptio placentae(n=8)	Placenta praevia(n=2)	Total(n=10)
Preterm	6(75%)	2(100%)	8(80%)
Fullterm	2(25%)	0	2(20%)

(χ^2=0.6, p=0.317) 75% of patients with Abruptio Placentae had preterm vaginal deliveries and all the vaginal deliveries of placenta praevia patients were preterm deliveries.

Table 13

Lscs	Abruptio placentae(n=21)	Placenta praevia(n=19)	Total (n=40)
Preterm	16(76%)	12(63%)	28(70%)
Fullterm	5(23%)	7(36%)	12(30%)

(χ^2=0.08 p=0.317) 76% of LSCS were preterm in abruptio placentae patients and 63% were preterm in placenta praevia patients.

Table 14:

Lscs	Abruptio placentae(n=21)	Placenta praevia(n=19)	Total(n=50)
Emergency	21(100%)	17(90%)	38(76%)
Elective	0	2(10%)	2(4%)

(χ^2=2.9 p=0.013) All LSCS of abruptio placentae and 90% of placenta praevia LSCS were emergencies.

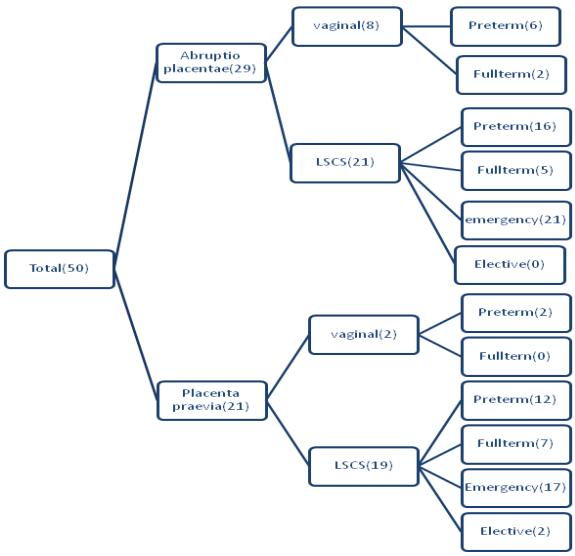

Table 15

Indication of LSCS	Abruptio Placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Abruptio plcaentae	21(72%)	0	21(42%)
IUFD	10(34.4%)	0	10(20%)
severe preeclampsia	3(10%)	2(9.5%)	5(10%)
placenta praevia	0	19(90%)	19(38%)
previous LSCS	3(10%)	5(23%)	8(16%)
oligohydromnios	0	3(14%)	3(6%)

(χ^2=53 p<0.0005) Amongst all the patients, the indication for LSCS was placenta praevia (38%), previous LSCS(16%), abruptio placentae (42%), IUFD(20%), severe preeclampsia(10%) and oligohydromnios (6%).

Table 16

Postnatal complications	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Pph*	5(17%)	3(14%)	8(16%)
Hellp syndrome**	3(10%)	0	3(6%)
Dic#	3(10%)	0	3(6%)
Shock	2(6.8%)	0	2(4%)
Renal failure	0	0	0

*Post partum haemorrhage, **HELLP syndrome- Haemolysis, Elevated liver enzymes, Low Platelet, #Disseminated Intravascular Coagulation.

17 % of patients of abruptio placentae had PPH and 10% had HELLP and 10% had DIC. Whereas, 14% patients of placenta praevia had PPH.

Table 17

Blood transfusion	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Yes	24(82%)	9(31%)	33(66%)
No	5(17.2%)	12(57%)	17(34%)

(χ^2=8.6 p=0.005) 82% of abruptio placentae patients required blood transfusion and 31% of placenta praevia patients required blood transfusion.

Table 18

Baby	Abruptio placentae(n=29)	Placenta praevia(n=21)	Total(n=50)
Dead	17(58%)	3(14%)	20(40%)
Alive	12(41%)	18(85%)	30(60%)

(χ^2=9.9p=0.003)58% of babies of abruptio placentae were dead, 41% were alive and 14% of placenta praevia babies were dead.

Table 19

Birth weight(kg)	Live	Still birth	Total
>=2.5	14(28%)	0	14(28%)
2-2.5	7(14%)	5(10%)	12(24%)
1.5-2	6(12%)	8(16%)	14(28%)
1-1.5	2(4%)	5(10%)	7(14%)
<1	1(2%)	2(4%)	3(6%)

This table compares the % of live babies and % of still births with respect to birth weight. Those babies having birth weight greater than or equal to 2.5 kg were all live births (28%) and no still births. Maxmimum number of still births (16%) present with birth weight of 1.5-2 kg and 2-2.5 kg birth weight showed 14% live births and 10% still births.

Table 20

		Live			
Gestational age	Total no of babies	Average birth weight	NICU	Birth asphyxia	IUGR
<28	1	1.3 kg	1(100%)	0	0
28-29.6	1	900gm	1(100%)	1(100%)	1(100%)
30-31.6	4	1.5 kg	4(100%)	2(50%)	2(50%)
32-33.6	1	2 kg	1(100%)	0	0
34-35.6	10	2.1kg	3(30%)	1(10%)	0
36-37.6	4	2.08kg	2(50%)	0	1(25%)
38-39.6	9	2.2kg	2(22%)	1(11%)	0
>39.6	0	0	0	0	0

Considering only the live babies, this table compares gestational age with average birthweight and complications. There were 10 live babies in the 34-35.6 week gestational age where 30 % were admitted to NICU and 10% had birth asphyxia. From 28 weeks to 33.6 weeks gestational, all live babies required NICU admission.

Table 21

Couvelaire uterus	Abruptio placentae(n=29)
Present	4(13%)
Absent	25(86%)

13% of patients of Abruptio placentae had couvelaire uterus.

Table 22

	Abruptio placentae with IUFD	Abruptio placantae with live foetus
Couvelaire Uterus	4(100%)	0

All those patients with couvelaire uterus had associated Intrauterine foetal death.

DISCUSSION

There were 50 women with Antepartum Haemorrhage and the incidence was in our study 4.1%. The study done by S Singhal (2007)[3] reported an incidence of 3%. The incidence obtained in our study may be a increased due to higher number of referrals in a tertiary care centre. Out of 50 deliveries, 21 (42%) were diagnosed with placenta praevia, 29(58%) had abruptio placentae as causes of antepartum haemorrhage. Out of 29 Abruptio placentae patients, there were 55%,24% and 20% mixed, concealed and revealed type respectively. After the review of USG reports of placenta praevia patients there were 9.5%.61% and 28% central, low lying and marginal type respectively. The mean age group was 25 years.In our study we found that 35% of abruptio placentae and 10% of placenta praevia patients were unregistered. There was a greater incidence of APH in multigravida patients as compared to primigravida The mean gestational age for abruptio placentae was 33 weeks and for placenta praevia is 35 weeks. Also a study done by B Bako (2008)[5] has shown that maximum deliveries have occurred in 28-32 weeks gestational age in abruptio placentae patients and maximum patients of placenta praevia have delivered after 37 weeks gestational age. 38% of abruptio placentae had a history of previous LSCS and previous vaginal delivery each and 28% of placenta praevia had a history of previous LSCS. A study done by B Bako (2008)[5] reported a 29% of abruptio placentae with previous LSCS and 70% of placenta praevia with previous LSCS. Maximum patients of APH presented with chief complaints of pain in abdomen and bleeding per vagina. In our study 82% of patients of Abruptio placentae

presented with pain in abdomen. And 80% of patients of placenta praevia presented with pain in abdomen. In a study done by B Bako (2008)[5], the incidence of pain in abdomen in abruptio placentae was 96% and in placenta praevia was 33%. 31% of abruptio placentae patients were diagnosed clinically and by ultrasonographically. 20% have been diagnosed clinically only. In total, 69% of patients were diagnosed clinically and 17% were diagnosed ultrasonographically meaning ultrasonography contributes to the diagnosis of abruptio placentae. The analysis of USG report of abruptio placentae patients showed that 24% patients had retroplacental clot, 17.2% had intraplacental haematoma, 6.8 % had subchorionic bleed. The pregnancy of abruptio placentae patients have been complicated with anaemia, hypertensive disorders, oligohydromnios, malpresentation and renal disease with a prevalence of 65%,44%,34%,17% and 3.4% respectively. The pregnancy of placenta praevia patients have been complicated with anaemia, oligohydromnios, malpresentation, bleeding episodes, hypertensive disorders and polyhydromnios with a prevalence of 33%,23%,19%,14%, 4.7% and 4.7% respectively. Majority of the pregnancies were terminated by lower section caesarean section(LSCS). Out of all the vaginal delieveres (20 % of all deliveries) 80% of the deliveries were preterm deliveries. There were 80% LSCS deliveries out of which, 70% were preterm deliveries. 72% of the patients had preterm delivery, but the study by S Singhal (2007)[3] reported 41% of preterm delivery, but similar results were seen in study by Fouzia Sheikh *et al* (2010)[7]. 95% of LSCS deliveries were emergency deliveries. Amongst all the patients, the indication for LSCS was placenta praevia (38%), previous LSCS(16%), abruptio placentae (42%),IUFD(20%), severe preeclampsia (10%) and oligohydromnios (6%).Almost 16% of the patients had PPH, similar to the study by Fouzia Sheikh *et al* (2010)7 who reported 19%.However,S Singhal (2007)3 have reported 21% of patients having PPH.66% required blood transfusion, whereas the value is a slight high in studied done by Fouzia Sheikh *et al* (2010)6 and S Singhal (2007)3. The perinatal mortality was 58% in Abruptio placentae patients and 14% in placenta praevia patients. A study done by B Bako (2008)[5] reported a perinatal mortality of 40% and a study by S Bhandari[6] reported a perinatal mortality of 67% in abruptio placenta patients and 32% in placenta praevia patients. We compared percentage of live babies and the % of still births with respect to birth weight. Those babies having birth weight greater than or equal to 2.5 kg were all live births (28%) and no still births. Maxmimum number of still births (16%) present with birth weight of 1.5-2 kg and 2-2.5 kg birth weight showed 14% live births and 10% still births. Considering only the live babies, comparing the gestational age with the average birth weight and complications, there were 10 live babies in the 34-35.6 week gestational age where 30 % were admitted to NICU and 10% had birth asphyxia. From 28 weeks to 33.6 weeks gestational, all live babies required NICU admission. 13% of patients of Abruptio placentae had couvelaire uterus All those patients with couvelaire uterus had associated Intrauterine foetal death. No maternal deaths occurred during the period of study. This may be because of effective management, early treatment.

CONCLUSION

It is very clear that Antepatum Haemorrhage is a grave condition with serious consequences to mother and foetus.Abruptio Placentae results into more serious complications than placenta praevia. There is a high incidence of operative interference in these high risk patients. It is extremely essential for mothers to receive adequate antenatal care in India for early diagnosis of placenta praevia. It is essential to strengthen the emergency transport facilities from periphery to tertiary care center. Correct intervention at the appropriate time in these patients is crucial to bring out a good outcome of pregnancy. Facilities of well equipped NICU is necessary to reduce the perinatal mortality. It involves education of the population about the importance of antenatal care.

LIMITATION OF THE STUDY

Adequate data regarding the neonatal outcome, NICU admission details and prognosis could not be obtained.

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