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A Retrospective Study of Maternal & Perinatal Outcome in Antepartum Haemorrhage

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Abstract:
Objective:*To study the perinatal and maternal outcome in cases of antepartum haemorrhage(APH) at Government general hospital, Guntur.*
Materials and methods*:A retrospective study was undertaken on maternal and perinatal outcome in 100 women with antepartum haemorrhageafter 28 weeks of gestation admitted to Government General hospital, Gunturbetween October 2016and September 2017.*
Results :*Abruptio placenta(AP) formed the largest group(55%) followed by placenta previa(PP). Caesarean section was the commonest mode of delivery(55%)in patients of APH. Maternal mortality was 1%. Perinatal mortality was 27%. Maternal and perinatal morbidity was quite high.*
Conclusion*:Antepartum haemorrhage is an important cause of maternal and fetal morbidity and mortality, despite modern improvements in obstetric practice andtransfusion services. The initial management of ante-partum haemorrhage shouldconcentrate on resuscitation and accurate diagnosis. Every unit should have a clear protocol for themanagement of massive haemorrhage, which should be regularly updated andrehearsed.*
Keywords: *Antepartum haemorrhage(APH), Abruptio placenta(AP), Placenta previa(PP Unclassified haemorrhage(UH).*

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I. Introduction

Antepartum haemorrhage is defined as any bleeding from or into thegenital tract after the period of viability which is 20 weeks in US,22 in Malaysia, 24 inUK,28 in Indiaand before the end of 2nd stage of labour[1]. Antepartum haemorrhage is still a grave obstetric emergency contributing to a significant amount of maternal and perinatal morbidity andmortality in our country.According to thecentre for disease control and prevention,haemorrhagewas a direct cause of maternal death in about 30%of cases[2]. Antepartum hemorrhage (APH) constitutes about 2-5% of all pregnancies[2-5]. Placentaprevia complicates 0.33%to0.55% of all pregnancies and incidence ofplacental abruption is approximately 0.5-1%[6].APH can be due to placentapraevia, abruptio placenta, indeterminate cause or local causes of genitaltract. Placenta previa refers to the condition when the placenta is situated wholly or partially in the lower uterine segment and accounts for one third ofall cases of APH. Abruptio placenta is the condition where bleeding occurs due to premature separation of normally situated placenta and it also contributes tonearly one third of cases . Various extra placental causes are cervical polyp,carcinoma cervix, varicose veins, local trauma, condylomata, cervical erosionetc forming another one third.[7]

The maternal complications in patients with APH are malpresentation,premature labor, postpartum hemorrhage, sepsis, shock and retained placenta. Various foetal complications are premature baby, low birth weight, intrauterine death, congenital malformations and birth asphyxia.[2]InIndia, maternal mortality is still very high and is 4.08/1000livebirths[8]. Indeveloping countries widespread preexistinganaemia, difficulties withtransport, restricted medical facilities, decreased awareness on part of patientand relatives are largely responsible for high maternal mortality .Perinatal mortality is less than 10 per 1000 total births in developedcountries while it is much higher in India 60/1000 total births.[8]

II. Materials And Methods

100 cases of antepartum hemorrhage admitted between October 2016 to September 2017 in government general hospital, Guntur were studied retrospectively for their maternal and perinatal outcome.
Inclusion criteria :
• All cases of APH with gestational age > 28 weeks

Exclusion criteria :
• All cases of APH with gestational age < 28 weeks
• Patient suffering from any other bleeding disorder
• Bleeding from a source other than uterus.

After admission of the patient, a detailed history and meticulous examination was done to arrive at a probable diagnosis.Initial resuscitation with volume replacement and blood products is carried out. Simultaneous investigations like ultrasound , complete haemogram were done to confirm the diagnosis.Based on the haemodynamic status of the patient, either expectant management or mode of delivery is decided and proceeded.

III. Results

Table - 1: Distribution Of Patient According To Cause Of APH

Causes	**No. of patients**	**Percentages**
Abruptio placenta	55	55%
Placental praevia	40	40%
Unclassified haemorrhage	5	5%
Total	**100**	**100%**

55% of the patients had abruptio and comprised the largest group.

Table -2: Distribution OfPatients According To Agegroup

		20-24	25-29	30-34	>35	Total
Abruptio placenta	No.	16	13	13	13	55
	%	29.1	23.6	23.6	23.6	100
Placenta praevia	No	13	18	7	2	40
	%	32.5	45.0	17.5	5.0	100
Unclassified hemorrhage	No	1	3	1	0	5
	%	20.0	60.0	20.0	15.0	100
Total	No	30	34	21	15	100
	%	30.0	34.0	21.0	15.0	100

MEAN AGE ± S.D:27.6±4.9YEARS RANGE: 20-40YEARS.

More no. of cases belonged to age group 25 -29 in placenta praevia. Abruptio didn't have significant difference in the age groups.

Table - 3: Disribution Of APH Patients According To Parity

		Parity						Total
		0	1	2	3	4	>5	
Abruptio placenta	No.	10	18	13	8	2	4	55
	%	18.2	32.7	23.6	14.5	3.6	7.3	100
Placenta praevia	No	7	12	18	3	0	0	40
	%	17.5	30.0	45.0	7.5	0	0	100
Unclassified hemorrhage	No	1	1	2	0	1	0	5
	%	20.0	20.0	40.0	0	20.0	0	100
Total	No	18	31	33	11	3	4	100
	%	18.0	31.0	33.0	11.0	3.0	4.0	100

Mean parity± S.D:1.6±1.3 RANGE:0-6

Maximum no. of APH patients were P1 AND P2. Distribution of APH patients according toparity was not found to be significant in various groups (p-value-0.099,chi square test). 82% of patients of APH were multiparous in comparison to 18% who were nulliparous.

Table – 4 : Gestational Age At Admission (Weeks)

Gestational age at admission		APHtype			Total
		AP	PP	UH	
29-32	No.	10	5	0	15
	%	18.20%	12.50%	0.00%	15.00%
33-36	No.	21	20	3	44
	%	38.20%	50.00%	60.00%	44.00%
37-40	No.	22	14	2	38
	%	40.00%	35.00%	40.00%	38.00%
>40	No.	2	1	0	3
	%	3.60%	2.50%	0.00%	3.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

Maximum patients (44%)are of 33-36 weeks of gestation at the time of admission.Mean POG(period of gestation) at the time of admission was 35.1±3.4 weeks in AP group,35.0±2.7 weeks in PP group and was maximum in UH group 36.2±1.8 weeks.
Mean POG of all patients was 35.1±3 weeks at admission.

Table – 5 : According To Fetal Heart Sounds (Fhs)

FHS		APHtype			Total
		AP	PP	UH	
Present	No.	24	31	5	60
	%	43.60%	77.50%	100.00%	60.00%
Absent	No.	17	3	0	20
	%	30.90%	7.50%	0.00%	20.00%
Fetal distress	No.	14	6	0	20
	%	25.50%	15.00%	0.00%	20.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

In 60% of patients of APH, FHS was normal. Foetal distress was noted in20% while FHS was absent in 20% cases at the time of admission.
All patients of UH had normal FHS.

In 24(43.6%) patients of AP(abruptio placenta) the FHS were normal. 17 patients had absent FHS, and 14 had fetal distress. Fetal heart sounds were present in 31 cases of placenta previa,absent in 3 cases and fetal distress was found in 6 cases.

Table – 6 : Mode Of Delivery In APH

Delivery mode		APH type			Total
		AP	PP	UH	
LSCS	No.	19	36	0	55
	%	34.50%	90.00%	0.00%	55.00%
NVD	No.	35	4	5	44
	%	63.60%	10.00%	100.00%	44.00%
VENTOUSE DELIVERY	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

Maximum patients of APH were delivered by Caesarean section 55% which compromises of 90% of placenta previa and 34.5% of abruption.

Table – 7: Maternal Outcomes

Maternal outcome		APHtype			Total
		AP	PP	UH	
-	No.	23	14	4	41
	%	41.8%	35.00%	80.00%	41.00%
Placenta accreta	No.	0	1	0	1
	%	0.00%	2.50%	0.00%	1.00%
Atonic PPH	No.	21	15	1	37
	%	38.20%	37.50%	20.00%	37.00%
CouvelaireUt	No.	2	0	0	2
	%	3.60%	0.00%	0.00%	2.00%
HaemShock	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
Coagulation failure	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
P.sepsis	No.	3	8	0	11
	%	5.50%	20.00%	0.00%	11.00%
Renal Fail	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
Ret.Placenta	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
Scar dehiscence	No.	0	2	0	2
	%	0.00%	5.00%	0.00%	2.00%
Vag.Haem	No.	2	0	0	2
	%	3.60%	0.00%	0.00%	2.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

Atonic PPH was the most common complication in both the groups, 35%. Other complications like haemorrhagic shock, coagulation failure and renal failure were more common in abruption group.
Puerperal sepsis was seen in 20% of placenta previa and 5% of abruption groups.

Table – 8 : Number Of Blood Units Transfused

No. of blood transfusion (unit)		APH type			Total
		AP	PP	UH	
0	No.	22	21	4	47
	%	40.00%	52.50%	80.00%	47.00%
1	No.	15	12	1	28
	%	27.30%	30.00%	20.00%	28.00%
2	No.	12	7	0	19
	%	21.80%	17.50%	0.00%	19.00%
3	No.	2	0	0	2
	%	3.60%	0.00%	0.00%	2.00%
4	No.	4	0	0	4
	%	7.30%	0.00%	0.00%	4.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

53% of patients of APH required blood transfusion.Maximum no. of patientsreceived one unit ofblood (28%) and maximum no. ofunits (four) were received by 4(4%) ofpatients.60% of patients of AP received blood transfusion as compared to 47.5% of patientswith PP. Only one patient(20%) in the UCH group received blood transfusion.

Perinatal outcome:

Table – 9: Neonatal Complications

Neonatal morbidity		APHtype			Total
		AP	PP	UH	
Normal	No.	20	12	3	30
	%	36-0%	30.00%	60.00%	30.00%
BA(Birth asphyxia)	No.	5	0	0	5
	%	9.00%	0.00%	0.00%	5.00%
MAS(meconium aspiration syndrome)	No.	4	4	0	8
	%	7.30%	10.00%	0.00%	8.00%
MAS+BA	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
NJ(Neonatal jaundice)	No.	2	4	0	6
	%	3.60%	10.00%	0.00%	6.00%
NJ +NS	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
NS(neonatal sepsis)	No.	1	0	0	1
	%	1.80%	0.00%	0.00%	1.00%
PREM(prematurity)	No.	8	10	1	19
	%	14-6%	25.00%	20.00%	19%
PREM+HMD(hyaline membrane disease)	No.	1	3	0	4
	%	1.80%	7.50%	0.00%	4.00%
PREM+HMD +NS	No.	0	1	0	1
	%	0.00%	2.50%	0.00%	1.00%
PREM+NJ	No.	0	1	0	1
	%	0.00%	2.50%	0.00%	1.00%
PREM+NJ +NS	No.	0	1	1	2
	%	0.00%	2.50%	20.00%	2.00%
PREM+NS	No.	0	1	0	1
	%	0.00%	2.50%	0.00%	1.00%
PREM+RDS	No.	2	0	0	2
	%	3.60%	0.00%	0.00%	2.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

Prematurityalone was the commonestcomplicationamongst the neonates of APH patients (19%) followed by meconium aspiration syndrome (8%) and birth asphyxia(5%).Neonatal jaundice was seen in5.4 % of patients of AP and 10% of cases ofPP.

Table – 10 : Apgar Score In Various Causes Of APH

Apgar 1 Min		APHtype AP	PP	UH	Total
4—7	No.	12	12	0	24
	%	21.80%	30.00%	0.00%	24.00%
< 3	No.	21	3	0	24
	%	38.20%	7.50%	0.00%	24.00%
> 7	No.	22	25	5	52
	%	40.00%	62.50%	100.00%	52.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

Apgar 5 Min		APHtype AP	PP	UH	Total
6—8	No.	16	17	0	33
	%	29.10%	42.50%	0.00%	33.00%
< 5	No.	24	3	0	27
	%	43.60%	7.50%	0.00%	27.00%
> 8	No.	15	20	5	40
	%	27.30%	50.00%	100.00%	37.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

In all cases of APH 24% had apgar score <=3 at 1 minute and apgar<=5 was seen in 28% of cases at 5 minutes. In 21(38.5%) of AP patients the apgar score was less than 3at one minute as against only 3(7.5%) in PP group.

Table – 11 :Foetal Weight

Fetal weight		APHtype AP	PP	UH	Total
1.5-2.0	No.	11	5	0	16
	%	20.00%	12.50%	0.00%	16.00%
2.0-2.5	No.	16	14	1	31
	%	29.10%	35.00%	20.00%	31.00%
2.5-3.0	No.	16	13	1	30
	%	29.10%	32.50%	20.00%	30.00%
LT 1.5	No.	4	1	0	5
	%	7.30%	2.50%	0.00%	5.00%
MT 3.0	No.	8	7	3	18
	%	14.50%	17.50%	60.00%	18.00%
Total	No.	55	40	5	100
	%	100.00%	100.00%	100.00%	100.00%

48% of the babies had a birthweight of 2.5 kg and above, rest of the babies were LBW constituting 52% of the babies with 5% of the babies falling in extremely low birth weight(ELBW<1.5kg) category.31(56.4%) babies from AP group were LBW and 20 (50%) from PP group wereLBW.

IV. Discussion

In the present study incidence of various causes of antepartum haemorrhagewas noted. The causes were determined clinically in antenatal periodand during the delivery.Incidence of abruptio placenta which constituted the largest group was 55% followed by placenta previa 40% and unclassified haemorrhage5%.

Study	Distribution of APH according to cause (%) PP	AP	UH
Paintin (1962)9	13.83	24.51	60.76
Chakraborty (1993)10	51	35	19

Increasing age has been implicated as a predisposing factor to bothPP and AP.In the present study mean age ofpatients of antepartum haemorrhagewas27.6+/-4.9years.Paul Pedowitz(1965)[11] and B.Das(1975)[12] have also reported maximum number ofcases inthesameagegroup.In the present study it was observed that the incidence of antepartum haemorrhagewas more common in multipara (82.0%) than inprimipara (18.0%)andthemeanparitywas1.6±1.3.Chakraborty et al (1993)[10] reported that prevalence of

APH was higheramong themultigravidas.The incidence of placenta previa was 5 times higher inmultipara (82.5%) than primipara (17.5%) in the present study. Results of this study are consistent with study of Cotton et al (1980)[13]who found that 83.2% of their patients with PP were multiparous and 16.78% were nulliparous.Number of cases of abruptio placentain our study was 5.5 times higher in multipara (81.8%) than in nullipara (18.2%).Ananth et al (1996)[14]showed that risk of placental abruption increased with high parity.

In the present study 55 patients (55%) of APH were delivered by LSCS as compared to vaginal delivery in 45 cases (45%). This is comparable to figures reported by Chakarborty et al(1993), where LSCS was done in 52.1% cases and 47.9% had vaginal delivery.In this study 36 patients (90%) of PP were delivered byLSCS.This is comparable to study by Chakraborty et al (1993)[10] where 82% of PP patients were delivered by C.SHibbard &Jeffcoate(1966)[3] reported vaginal delivery in62.2% and LSCS in 37.8% in their study of abruptio placenta. This figure is comparable to the present study where35 patients (63.6%) were delivered by immediate vaginal delivery, 34.5%of AP group were delivered by LSCS.

PPH was the most common complication in APH patients &was seen in 37cases (37%). In a study by Hurd et al(1983) 13.3% cases of APH had PPH.In placenta previa group, one patient (2.5%) had placenta accreta. Pedowitz (1965)[11], Cotton et al(1980)[13] and McShane[15] et al reported theincidenceofplacenta accrete as4.4%,4%&6.32%respectively . In AP group couvelaire uterus was seen in 2 (3.6%) cases. Rai et al (1981)[16] reported couvelaire uterus in 10.5% of AP patients in their study.In the present study 33(60%) patients of AP group and 19(47.5%) from PP group required blood transfusion. Brenner et al(1975)[17] reported 36% patients of PP required BT in their study. William (1960) [18]reported BT in 52.4% cases of abruption placenta.Perinatal mortality noted in our study in all cases of APH was 27%. This was nearly similar to study by Crenshaw et al (1973)[19] at 24.9% and Hurd et al[20](1983) in which perinatal mortality was 31% in APH patients (17% stillbirths &14% neonatal deaths.In present study, 24 cases (24%) with APH had an APGAR score </=3 at one minute. Hurd et al (1983)[20] reported that 54% of babies of AP grouphad APGARscoreof<7atonemin.ascomparedto68%inourstudy.

V. Conclusion

From the presentstudy it can be concludedthat antepartum haemmorhageis still a leading cause of maternal morbidity and mortality in our country.The commonest cause ofantepartum haemorrhageis placental abruption followed by placenta previa. The commonest mode of delivery is Caesarean section.Though maternal mortality has been reduced with modern management of antepartumhaemorrhage, perinatal mortality remainshigh. Timely Caesarean section, liberal blood transfusion, correction of anemia and wider acceptance of expectant line of management in properly selected patients and good neonatal intensive care units will help to further lower the perinatal and maternal morbidity andmortality.

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