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Antepartum hemorrhage at a tertiary care teaching hospital in Nepal

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ABSTRACT

Introductions: Antepartum hemorrhage (APH) is a serious obstetrical emergency and is a leading cause of maternal and perinatal morbidity and mortality. Incidence varies from 2-5% of all deliveries. The maternal and perinatal complications of APH are anemia, postpartum hemorrhage, shock, low birth weight, intrauterine fetal death and birth asphyxia.

Methods: This descriptive study was conducted at Department of Obstetrics and Gynaecology of Patan Hospital, a tertiary care teaching hospital of Patan Academy of Health Sciences (PAHS), Lalitpur, Nepal. All patients who were admitted after 22 weeks of gestation with diagnosis of antepartum hemorrhage from April 2012 to April 2016 were included.

Results: The incidence of APH was 0.23% in the present study. Out of 84 patients, 39.3% were in age group of 25-29 years, 63% were multigravidae, 63% had placenta previa, 92.3% lower segment caesarean section done in new onset APH and 53.1% done in previous admitted cases of APH, 23.8% developed hypovolemic shock, 14.3% needed blood transfusion, 9.5% had postpartum hemorrhage, 1.2% had caesarean hysterectomy, 54.8% had preterm delivery, 9.5% were admitted in neonatal intensive care unit and perinatal mortality was 10.7%.

Conclusions: APH is a major cause of maternal and perinatal morbidity and mortality. In our study, the most common cause of APH was placenta previa. The commonest mode of delivery was caesarean section. The major maternal complication was hypovolemic shock with consequent high blood transfusion rate and fetal complication in prematurity.

Keywords: antepartum hemorrhage, placenta previa, perinatal mortality Nepal

INTRODUCTIONS

Antepartum hemorrhage (APH) is an obstetrical emergency and major cause of maternal and perinatal morbidity and mortality.[1] It is defined as hemorrhage from the genital tract after 20 weeks of gestation and before the delivery of the baby. Overall 2-5% of all pregnancies are complicated with APH.[2] The common causes are placenta previa, abruption placentae and other causes are cervical polyp, carcinoma cervix, vasa previa, local trauma, condylomata etc.[1,3] Maternal complications of APH are malpresentation, premature labour, postpartum hemorrhage, shock, sepsis, retained placenta, increased rate of cesarean section, peripartum hysterectomies, coagulation failure and even death. Fetal complications are premature delivery, low birth weight, intrauterine death, congenital malformations and birth asphyxia.[4]

The objective of this study was to determine the maternal and perinatal effects of APH.

METHODS

This is a descriptive study conducted at Department of Obstetrics and Gynaecology of Patan Hospital, a tertiary care teaching hospital of Patan Academy of Health Sciences (PAHS), Lalitpur, Nepal. All patients who were admitted after 22 weeks of gestation with diagnosis of antepartum hemorrhage from April 2012 to April 2016 were included in the study. Patient information was obtained from record section. Maternal age, parity, booking status, gestational age, mode of delivery, type of APH, complications like anemia, shock, preeclampsia, malpresentation, postpartum hemorrhage, need of blood transfusion, caesarean section, peripartum hysterectomy and death were analyzed. Details of babies like sex, weight, live or dead, need of neonatal intensive care (NICU) admission, neonatal death (NND) were also analyzed.

Statistical analysis done by using Statistical Package for Social Sciences (SPSS) version 17.

Ethical approval was taken from Institutional Review Committee (IRC) of Patan Academy of Health Sciences.

RESULTS

During the study period, there were 35,492 deliveries, among which 84 had APH. Hence incidence of APH was 0.23%. Out of 84 cases of APH, 32 cases had previous admissions, were managed expectantly and discharged undelivered when per vaginal bleeding subsided whereas 52 cases had new onset of APH. The women were in age group of 19-39 years, maximum number 33 (39.3%) were in age group of 25-29 years. Mean age was 28±4.2 years. Majority of cases were multgravida 53 (63%). Among 84 cases of APH, 42 cases (50%) had antenatal checkups done in our hospital. Mean gestational age during APH in previous admission was 29.7±3.5 weeks whereas 34.3 ±4.8 weeks in new onset.

DISCUSSIONS

In the present study, the incidence of APH was 0.23% comparatively lower than 3% incidence reported by Singhal et al. and Archana et al. [2,5] The lower incidence found in our study may be an underestimate of actual figure as many patients with APH fail to reach the hospital in time or a multitude of cases may not report to the hospital at all. The low incidence may also reflect the socio-cultural and economic factors in the study environment that do not allow most women to seek medical attention unless in dire need.[6]

In our study, 50% had antenatal checkups done in our hospital which was similar to the study done by Singhal et al.[2] This highlights the importance of antenatal care in the prevention and early detection of cases with risk factors for APH to reduce morbidity and mortality.

Advancing maternal age increases the risk of APH due to vascular changes in the myometrium.[7,8] The mean age of patients in our study was 28±4.2 years which was similar to

Table 1. Associated risk factor

Risk Factor	Previous Admission with APH	Percentage	New Onset APH	Percentage
No risk factor	29	90.7%	33	63.4%
Previous H/O curettage	1	3.1%	9	17.3%
Malpresentation	1	3.1%	5	9.7%
Previous caesarean section	1	3.1%	4	7.7%
Preeclampsia	0	0.0%	1	1.9%
Total	32	100%	52	100%

Table 2. Clinical presentation

Clinical Presentation	Previous Admission with APH	Percentage	New Onset APH	Percentage
Bleeding P/V without Pain Abdomen	28	87.5%	44	84.6%
H/O Anemia with APH	2	6.3%	4	7.7%
Pain Abdomen	1	3.1%	3	5.8
Bleeding P/V with Pain Abdomen	1	3.1%	1	1.9%
Total	32	100%	52	100%

Table 3. Mode of Delivery

Mode of Delivery	Previous Admission with APH	Percentage	New Onset APH	Percentage
Vaginal	14	43.8%	4	7.7%
Vacuum delivery	1	3.1%	0	0%
LSCS	17	53.1%	48	92.3%
Total	32	100.0%	52	100.0%

Table 4. Type of APH (n=32+52)

Type of APH		Previous Admission with APH	New Onset of APH	Total	Percentage	
					Placenta Previa n=63	APH
Placenta Previa (PP)	Type I	7	3	10	15.9%	11.9%
	Type IIa	3	7	10	15.9%	11.9%
	Type IIb	5	14	19	30.1%	22.6%
	Type III	0	6	6	9.5%	7.1%
	Type IV	6	12	18	28.6%	21.4%
	Sub Total	**21**	**42**	**63**		**74.9%**
Abruptio Placenta		2	6	8		9.5%
Others		9	4	13		15.5%
	Sub Total	**11**	**10**	**21**		**24.1%**
Total		**32**	**52**	**84**		**100%**

the study conducted by Singhal et al.[2] Incidence of APH was more in multigravida (63%) in our study which was comparable to other studies.[1,2,7,8] Thus confirming the role of endometrial damage caused by repeated childbirth, a risk factor for uteroplacental bleeding in pregnancy.[9]

History of previous caesarean section was present in 3.1% of APH cases with previous admission and 7.7% of new onset APH cases which were similar to the study done by Bhatt et al.[10] History of prior curettage was present in 3.1% of APH cases with previous admission and 17.3% of new onset of APH comparable to the

Table 5. Details of babies (n=84)

Fetal Outcome		Number of Cases	Percentage
Preterm		46	54.8%
Term		38	45.2%
Birth Weight in KG	<1	3	3.6%
	1-2	14	16.7%
	>2- 2.5	17	20.2%
	>2.5- 4	50	59.5%
Live Birth		82	97.6%
Still Birth		2	2.4%
NND		7	8.3%
Nursery Admission		6	7.1%
NICU Admission		8	9.5%

Table 6. Maternal complication (n=84)

Complication	Number of Cases	Percentage
Hypovolemic Shock	20	23.8%
Blood Transfusion	12	14.3%
PPH	8	9.5%
Caesarean Hysterectomy	1	1.2%

study conducted by Prasanna et al.[8] Previous caesarean section, prior abortions and dilatation and curettage increases the risk of placenta previa due to decreased vascularity noted in fibrosed tissues.

Malpresentation was seen in 3.1% of APH cases with previous admission and 9.7% of new onset APH cases contrary to 25% cases in the study conducted by Maurya et al. and Tyagi et al.[5,11] Preclampsia was seen in 1.9% of new onset APH cases contrary to 67% reported by Maurya et al. and 84% reported by Tyagi et al.[5,11]

Most common clinical presentation was bleeding per vagina without pain abdomen in 87.5% of APH cases with previous admission and 84.6% of new onset APH cases similar to Rajini et al.[12]

In our study, 53.1% of APH cases with previous admission and 92.3% of new onset APH cases had LSCS. 43.8% APH cases with previous admission and 7.7% of new onset APH cases delivered vaginally which were similar to the findings of the study done by Naiknaware et al. and Tyagi et al.[9,11]

Most common type of APH observed in our study was placenta previa that contributed to 75% followed by unknown causes 15.5% and abruptio placenta 9.5% which were comparable with results of other studies.[1,2,5,11]

The maternal complications observed in our study were hypovolemic shock 23.8%, need of blood transfusion 14.3%, postpartum hemorrhage 9.5% and caesarean hysterectomy 1.5% contrary to 6.6% shock, 77.4% need of blood transfusion, 19% postpartum hemorrhage and 1.19% caesarean hysterectomy reported by Sheikh et al.[1]

In the present study, 97.6% of the patient with APH had live birth, 2.4% had stillbirth and 8.3% had neonatal deaths. Hence perinatal mortality was 10.7% which correlates with high perinatal mortality of 21%, 61.5% and 53.45% reported by Naiknaware et al., Arora et al. and Khoshla et al. respectively.[9,13,14] This difference may be due to advanced neonatal intensive care facility in the present institute.

Preterm delivery was observed in 54.8%, low birth weight in 40% and 9.5% had NICU admission in our study which were consistent

with results of studies done by Naiknaware et al. and Prasanna et al.[8,9] Thus perinatal morbidity was due to low birth weight related to preterm and NICU admission due to birth asphyxia.

The major fetal complication was prematurity. Therefore, clinical care should concentrate on early detection of high risk cases with regular antenatal care, timely diagnosis and management, timely caesarean section with availability of blood and blood products and good neonatal intensive care unit will help further to lower the perinatal and maternal morbidity and mortality.

CONCLUSIONS

APH is one of the important cause of maternal morbidity and perinatal mortality. In our study, the most common cause of APH was placenta previa followed by unknown causes and abruptio placenta respectively. The commonest mode of delivery was caesarean section. The major maternal complication was hypovolemic shock with consequent high blood transfusion rate.

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