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Original Research Article

To Determine the Prevalence of Antepartum Hemorrhage and its Impact on Feto-Maternal Outcomes

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Abstract

Aim: To determine the prevalence of antepartum hemorrhage and its impact on mother and perinatal outcomes in a tertiary hospital.

Materials and Methods: This study was conducted in the Department of Obstetrics and Gynecology, JLNMCH, Bhagalpur, Bihar, India. The records of one hundred and thirty-five pregnant women who had antepartum haemorrhage. Data collection form (study proforma) was designed and used to collect data from obstetricrecords in department of Obstetrics and Gynaecology. The following variables were considered: women's socio-demographic characteristics (age, parity, educational status,religion, booking status), mode of delivery, birth weight,management outcomes (alive or dead), and sequelae.Antepartum haemorrhage was defined as bleeding from or intothe genital tract after 28 weeks and before delivery of the baby.

Results: The mean age ±SD of the participants was 32.25 ±4.78, (95% confidence interval: 31.44,33.06), modal age group was 30-34 years. The mean gestational age was 36 ±3 weeks, 95%CI: 35.52,36.55. The modal parity was para-1, range 0-5. Majority were multipara 67 (49.6%), booked 104 (77%), Christians 129 (95.6%) and had formal education 134 (99.3%). Preterm delivery occurred in 60 cases (44%) of APH. One hundred and twenty women (88.9%) had blood transfusioneither intrapartum or postpartum due to anaemia following acuteblood loss. Seventy-five (75) of the parturient had at least oneunit of whole blood transfused. Majority of the foetus had normal birth weight 95 (70.4%) while low birth weight accounted for 25.2%. Mean birth weight of thefoetus was 2.9 SD 0.71kg, 95% CI: 2.78, 3.03. Majority of the parturient had blood transfusion 120 (51.5%). This was followedby preterm delivery (25.8%), postpartum anaemia (19.3%). The most common foetal complication was admission into neonatal intensive care unit which accounted for 35.9% of the complications recorded in this study.

Conclusion: Antepartum haemorrhage is common with anincreased blood transfusion requirement. The commonest cause was placenta praevia accounting for more than half of the cases; followed by abruption placentae. APH remains a major contributor to maternal and perinatal morbidity and mortality. The main maternal and perinatal sequelae of antepartumhaemorrhage from our study were blood transfusion, preterm delivery, anaemia, sepsis and admission to NICU, birth asphyxia, and low birth weight. Early diagnosis, prompt management and adequate blood transfusion services will improve foeto-maternal outcome.

Keywords: Antepartum haemorrhage, placenta praevia, abruption, blood transfusion.

Introduction

Antepartum hemorrhage (APH) has been a leading cause of maternal mortality worldwide, especially in developing countries like India. Its early diagnosis and timely management can reduce the associated maternal and fetal mortality and morbidity. APH is defined as bleeding from the genital tract after 28 weeks of gestation to delivery of the baby. [1,2] The major etiologies of APH are placenta previa and abruptio placenta. Nowadays, with increasing incidence of cesarean delivery, placenta accreta spectrum (PAS) disorders contribute a fair chunk of causes. The other causes are cervical polyps, varicosities (vaginal, vulvar, and cervical), cancer of the cervix, cervical/endocervical erosions, cervicitis, vasa previa, vaginal infections, bloody show, genital lacerations, degenerating uterine myomata, foreign bodies, marginal placental separation, and so on. However, in some cases, the exact cause cannot be ascertained and remained of undetermined origin. It can complicate about 2–5% of pregnancies with an

incidence of placenta previa and abruptio placentae about 0.33% to 0.55% and 0.5 to 1%, respectively. [3-8] APH can lead to a range of complications like pre-term labor, malpresentation, postpartum hemorrhage, higher rates of cesarean section, massive transfusions, coagulation and renal failure, pulmonary edema, and infective complications like sepsis, shock, and death. [9] Neonatal complications vary in the form of pre-term, low birth weight, stillbirth, increased neonatal intensive care unit (NICU) admission, birth asphyxia, neonatal death, and so on. [10] In developed countries, APH has significantly low mortality due to its low incidence of about 6/100000 live births, better health facilities, timely diagnosis and intervention, and better availability of critical health care. In developing countries like in India, maternal mortality due to APH still remained very high, approximately 4.08/1000 live births. [11-17] It can be contributed to poor education and health awareness, difficulty and delay in assessing health care, pre-existing anemia, maternal malnutrition, restricted medical care, availability of specialized critical care, and so on, especially at the primary health care (PHC) level. Although it is difficult to prevent APH and maternal and neonatal mortality, morbidity can be improved by timely diagnosis and treatment, correcting underlying and associated co-morbidities like hypertension and anemia, with timely reference of the patients if there are complicated pregnancies like PAS disorders and delivering those patients at a tertiary care center with better available facilities and multi-department coordination.

Materials and Methods

This study was conducted in the Department of Obstetrics and Gynecology, JLNMCH, Bhagalpur, Bihar, India for one year The records of one hundred and thirty-five pregnant women whohad antepartum haemorrhage. Data collection form (study proforma) was designed and used to collect data from obstetricrecords in department of Obstetrics and Gynaecology.The following variables were considered: women's socio- demographic characteristics (age, parity, educational status, religion, booking status), mode of delivery, birth weight,management outcomes (alive or dead), and sequelae.Antepartum haemorrhage was defined as bleeding from or intothe genital tract after 28 weeks and before delivery of the baby. Data were coded and analyzed using International BusinessMachine (IBM) Statistical Product and Service Solutions (SPSS), formerly known as Statistical Package for Social Sciences, version 25.0 Armonk, NY. Continuous variables weresummarized using mean and standard deviations with 95% confidence intervals around the point estimates while categorical variables were summarized in frequencies and percentages.Results were presented in Tables as appropriate for the data. Ethical clearance for the study was obtained from the Hospital.

Results

During the period under review, there were one hundred and thirty -five (135) cases of antepartum haemorrhage and six thousand, one hundred and thirty-eight (6,138) deliveries; givingthe prevalence of APH as 2.2% or 22 per 1000 deliveries. Of135 cases of antepartum haemorrhage, 77 (57%) cases were due to placenta previa, 38 (28.2%) placental abruption, I8 (13.3%) uterine rupture and 2 (1.5%) from other causes undetermined (Table 1). The prevalence of placenta praevia, abruptio placentae, and uterine rupture is 1.3%, 0.6% and 0.3% respectively.

Table 1: Causes of Antepartum Haemorrhage

Causes	Number	Percentage
Placenta praevia	77	57.0
Placental abruption	38	28.2
Uterine rupture	18	13.3
Others	2	1.5
Total	**135**	**100**

Table 2. Shows the sociodemographic characteristics of participants. The mean age ±SD of the participants was 32.25 ±4.78, (95% confidence interval: 31.44,33.06), modal age group was 30-34 years. The mean gestational age was 36 ±3 weeks, 95%CI: 35.52,36.55. The modal parity was para-1, range 0-5. Majority were multipara 67 (49.6%), booked 104 (77%), Christians 129 (95.6%) and had formal education 134 (99.3%). Preterm delivery occurred in 60 cases (44%) of APH. One hundred and twenty women (88.9%) had blood transfusioneither intrapartum or postpartum due to anaemia following acuteblood loss. Seventy-five (75) of the parturient had at least oneunit of whole blood transfused (Table 3).

Table 2: Sociodemographic characteristics of study participants

Variables	Numbers (n=135)	Percentage
Age		
20-24	9	6.7
25-29	30	22.2
30-34	50	37.0
35-40	41	30.4
>40	5	3.7
Mean Age 32.25	SD 4.78	95% CI 31.44, 33.06
Mean GA 36.04	SD 3.018	95% CI 35.52,36.55
Parity		
0	21	15.6
1	46	34.1
2	41	30.4
3	18	13.3
4	8	5.9
5	1	0.7
Educational status		
Non formal	1	0.7
Primary	39	28.9
Secondary	48	35.6
Tertiary	47	34.8
Religion		
Christianity	129	95.6
Islam	6	4.4
Booking status		
Booked	104	77
Unbooked	31	23

Table 3: Blood transfusion requirement of the parturient

Variable	Number (n=135)	Percentage
Blood transfusion requirement		
None	15	11.1
Intraoperatively	75	55.6
Postoperatively	45	33.3
Units of blood received intraoperatively		
0	60	44.4
1	48	35.6
2	22	16.3
3	5	3.7

Majority of the foetus had normal birth weight 95 (70.4%) while low birth weight accounted for 25.2%. Mean birth weight of thefoetus was 2.9 SD 0.71kg, 95%CI: 2.78,3.03 (Table 3).

Table 4: Classification of foetal birth weight

Birth weight	Number	Percentage
Extreme low birth weight	1	0.7
Very low birth weight	2	1.5
Low birth weight	34	25.2
Normal	95	70.4
Macrosomia (≥ 4kg)	3	2.2
Mean birth weight	2.9 SD 0.71, 95% CI 2.78, 3.03	
Total	**135**	**100**

Maternal complications are as shown in Table 4. Majority of the parturient had blood transfusion 120 (51.5%). This was followed by preterm delivery (25.8%), postpartum anaemia (19.3%). The most common foetal complication was admission into neonatal intensive care unit which accounted for 35.9% of the complications

recorded in this study. Others are as presented in Table 5.

Table 5: Maternal sequelae of Antepartum Haemorrhage in RUSTH

Maternal sequelae	Number	Percentage
Postpartum Anaemia	45	19.3
Blood transfusion	120	51.5
Preterm delivery	60	25.8
Caesarean hysterectomy	3	1.3
Wound sepsis	5	2.1
Total	**233**	**100**

*Multiple complications

Table 6: Perinatal sequelae of Antepartum haemorrhage

Perinatal sequelae	Number*	Percentage
Birth asphyxia	42	16.9
Still birth	20	8.1
Prematurity	60	24.2
Extreme low birth weight	1	0.4
Very low birth weight	2	0.8
Low birth weight	34	13.7
Admission to NICU[#]	89	35.9
Total	**248**	**100**

* Some had multiple complications # Neonatal intensive care unit

Discussion

The prevalence of antepartum haemorrhage is 2.2% or 22 per 1000 deliveries. This finding corroborates findings of 2% [18], 2.3 % [19] in other studies in tertiary hospitals but higher than 1.2% reported in a study from India [13], 1.3% inWestern Rajasthan [16], and 1.3% in Mumbai, India [6]. However, our finding was lower than 15.3% 9, 5.4% [14], and 3.5% [20] and 15.3% reported in Qatar, Pakistan and Lagos, Nigeria respectively. This may be an underestimation as some cases may not have presented to the hospital due to socioeconomic factors that affects health seeking behaviour in our environment. Some parturient still go to traditional birth attendants place for delivery. This population may often not be referred to hospital for expert management when complications arise. Over the review period, the rate of APH decreased from 51.1% to 15.6%. This finding is in keeping with the low prevalence rate found in this study. The decreasing rate of occurrence may be due to the increased number of booked women compared to unbooked. Majority of the study population 104 (77%) were booked mothers who had antenatal care and supervised delivery in the hospital compared to unbooked cases. Improved obstetric care inrecent times could have affected the rate of occurrence of APH from abruptio placenta, in particular. In this study, the commonest cause of APH was placenta praevia, accounting for more than half of the cases, followed by placental abruption; which is in keeping with findings of previous studies in Nigeria [20,21], in Iraq [19], and in Rajasthan [16]; but contrary to the finding of other studies [13,18], where abruptio placentae were the most common cause. Multiparity and advanced maternal age are known risk factors for placenta praevia [1,4,8], and most of the women in present study were multipara (50%) and more than 30% were aged 35 years and above. This could have accounted for the increased number of cases of placenta praevia observed in present study. The rate of blood transfusion requirement was high in this study.Over 85% of the parturient had blood transfused eitherintrapartum in the theatre or postpartum due to acute blood loss from antepartum haemorrhage and postpartum haemorrhage (as sequelae of APH). This is consistent with findings of previous studies [6,7, 13]. Women with pregnancy complicated with antepartum haemorrhage often present with acute blood loss, necessitating blood transfusion. At presentation, four units of whole blood were grouped and cross matched for transfusion. This was helpful in management of the patients over the review period. As such, effective blood transfusion services are pertinent in the management of antepartum haemorrhage. The study revealed that 55.6% and 33.3% of the parturient received blood intraoperatively and post operatively; with 89% receiving at least one unit of blood between presentation and discharge from the hospital. This buttresses the need for creating awareness and counselling on blood donation for availability of

blood in blood banks; which will enhance easy accessibility in time of emergency. Blood transfusion was the commonest sequelae of antepartum haemorrhage from present study. This was followed by preterm delivery 60 (25.5%), postpartum anaemia 45 (19.3%) and woundsepsis 5(2.1%). These sequelae of APH are similar to findings of other studies [19,22]. Three patients (1.3%) had caesarean hysterectomy as result of morbidly adherent placentae. This finding is similar to finding of a previous study [15] but lowerthan 5% among women with placenta praevia reported in another study in a tertiary hospital in Eastern India [11]. AlthoughAPH is associated with high foeto-maternal morbidity, there wasno maternal mortality recorded from APH in this study. Thismay be as a result of specialized obstetric care, adequate intervention as well as prompt blood transfusion services in our hospital. However, previous studies have reported maternal death rate of 3% attributed to lack of prompt blood transfusion services and late presentation of patients to hospital [14]. In Low-middle-income countries restricted access to health care andsocio-economic factors lead to increased morbidity and mortality from antepartum haemorrhage [13, 23]. From our study, the commonest perinatal complication was admission into Neonatal Intensive Care Unit (NICU), whichaccounted for 89 cases (35.9%). Other complications were prematurity 60 (24.2%), birth asphyxia 42(16.9%) and low birth weight 34 (13.7%). This is in agreement with findings of high neonatal complications associated with cases of antepartum haemorrhage in other studies [7,11]. The still birth rate from our study was 32.6% or 3.26 per 1000 deliveries and mainly from unbooked cases. This is lower than reported values of 42.8%, 50.2% in other studies [13,24]. Improved obstetric care of the booked women may contribute to the lower still birth rate observed in present study.

Conclusion

Antepartum haemorrhage is common with an increased blood transfusion requirement. The commonest cause was placenta praevia accounting for more than half of the cases; followed by abruption placentae. APH remains a major contributor to maternal and perinatal morbidity and mortality. The main maternal and perinatal sequelae of antepartum haemorrhage from our study were blood transfusion, preterm delivery, anaemia, sepsis and admission to NICU, birth asphyxia, and low birth weight. Early diagnosis, promptmanagement and adequate blood transfusion services will improve foeto-maternal outcome.

References

1. Ananth CV, Smulian JC, Vintzileos AM. Incidence of placental abruption in relation to cigarette smoking and hypertensive disorders during pregnancy: A meta-analysis of observational studies. Obstet Gynecol. 1999; 9 3(4):622-628.
2. Chandraharan E, Arulkumaran S. The current status of management of massive obstetric haemorrhage. Eur J Obstet Gynecol Reprod Biol. 2011;158(2):124-134.
3. Dildy GA 3rd. Postpartum hemorrhage: new management options. Clin Obstet Gynecol. 20 02;45(2):330-344.
4. Royal College of Obstetricians and Gynaecologists. Placenta Praevia, Placenta Praevia Accreta and Vasa Praevia: Diagnosis and Management. Green-top Guideline No. 27. London: RCOG; 2011.
5. Tikkanen M, Nuutila M, Hiilesmaa V, Paavonen J, Ylikorkala O. Clinical presentation and risk factors of placental abruption. Acta Obstet Gynecol Scand. 2006; 85(6):700-705.
6. Wasnik SK, Naiknaware SV. Antepartum haemorrhage: causes and its effects on mother and child: an evaluation. Obstet Gynecol Int J 2015;3(1):00072.
7. Tyagi P, Yadav N, Sinha P, Gupta U. Study of antepartum haemorrhage and its maternal and perinatal outcome. Int J Reprod Contracept Obstet Gynecol 2016;5(11):3972-77.
8. Kwawukume EY, Omo-Aghoja LA. Antepartum Haemorrhage (APH). In: Kwawukume E, EE. E, Ekele B.A,KA D, eds. Comprehensive obstetrics in the tropics. Second ed. Accra-North Ghana: Assemblies of God Literature Centre Ltd 2015, 184-97.
9. Bener A, Saleh N, Yousafzai M. Prevalence and associated risk factors of ante-partum hemorrhage among Arab women in an economically fast growing society. Nigerian journal ofclinical practice 2012;15(2):185-9.
10. Jauniaux E, Alfirevic Z, Bhide A, et al. Placenta Praevia and Placenta Accreta: Diagnosis and Management: Green- top Guideline No. 27a. BJOG 2018;126(1):e1-e48.
11. Das S, Bhattacharyya AR. A study of risk factors and obstetric outcome of antepartum haemorrhage in a tertiary care hospital of eastern India. Panacea journal of Medical Sciences 2020;10(3):269-75. Pandelis
12. K, Kardina A, Samina M. Antepartum haemorrhage. Obstet Gynaecol Reprod Med 20 12;1:21-5.
13. Takai IU, Sayyadi BM, Galadanci HS. Antepartum hemorrhage: A retrospective analysis from a northern nigerian teaching hospital. International Journal of Applied and Basic Medical Research 2017;7(2):112.
14. Sheikh F, Khokhar S, Sirichand P, Shaikh R. A study of antepartum haemorrhage: Maternal and Perinatal outcomes. Medical Channel 20 10;16(2):268-71.
15. Samal SK, Rathod S, Rani R, Ghose S.

Maternal and perinatal outcomes in cases of antepartum haemorrhage: a 3-year observational study in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol 2017; 6(3):1025-9.
16. Yadav MC, Mehta K, Choudhary V. A Study of Antepartum Hemorrhage and Its Maternal and Perinatal Outcome at Tertiary Care Hospital in Western Rajasthan. JMSCR 2019.
17. Wekere FCC, John DH, Clement-Wekere GA, Iwo-Amah RS. Prevalence, trend and outcome of twin pregnancy in Rivers State University Teaching Hospital, Southern Nigeria. International Journal of Reproduction, Contraception, Obstetrics and Gynecology 20 21;10(7):2571-8.
18. Kedar K, Uikey P, Pawar A, Choudhary A. Maternal and fetal outcome in antepartum haemorrhage: a study at tertiarycare hospital. International Journal of Reproduction, Contraception, Obstetrics and Gynecology 2016;5(5):1386- 94.
19. Hamadameen AI. The maternal and perinatal outcome in antepartum hemorrhage: A cross-sectional study. Zanco Journal of Medical Sciences (Zanco J Med Sci)2018;22(2):155-6 3.
20. Adegbola O, Okunowo A. Pattern of Antepartum Haemorrhage at the Lagos University Teaching Hospital, Lagos, Nigeria 2010.
21. Ikechebelu JI, Onwusulu DN. Placenta praevia: review of clinical presentation and management in a Nigerian teaching hospital. Niger J Med 2007;16(1):61-4.
22. Bhola D, Bhargavi N, Princy Panthoi K. Study of etiopathology and risk factors of antepartum haemorrhage in a tertiary care center. International Journal of Obstetrics and Gynaecology 2019;3(6):74-8.
23. Burodo A, Shehu C. Placenta praevia at Usmanu Danfodiyo University Teaching Hospital, Sokoto: A 5-year review. Sahel Medical Journal 2013;16(2):56.
24. Adekanle D, Adeyemi A, Fadero F. Ante-Partumhaemorrhage and pregnancy outcome in LAUTECH teaching hospital, southwestern Nigeria. J Med Sci 2011;2(12):1243-7