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Original Research Article

## Antepartum haemorrhage: a retrospective analysis in a tertiary care centre

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### ABSTRACT

**Background:** Aim of the present study was to found the incidence of APH, demographic profile risk factors and maternal outcome.

**Methods:** This was a retrospective study carried out in Department of Obstetrics and Gynaecology, MGM Medical College and associated M.Y., Hospital, Indore from August 2019 to July 2020.

**Results:** The incidence of APH was 3.27%. 68.7% cases of APH were associated with pregnancy induced hypertension suggesting PIH is one of the major risk factors. Maternal morbidity was very high with increased rates cesarean section 91.7%, postpartum hemorrhage (32.6%), need of blood transfusion (86%). There were 2 mortalities and 3.1 % patients underwent Obstetric Hysterectomy and 24% required CCU admission.

**Conclusions:** There is very high maternal morbidity and mortality in APH.

**Keywords:** Antepartum hemorrhage, Maternal morbidity, Maternal mortality

### INTRODUCTION

Antepartum haemorrhage is an Obstetric emergency contributing to a significant amount of perinatal and maternal morbidity and mortality. APH complicates about 2-5% of all the pregnancies with incidence of placenta praevia (PP) about 0.33% to 0.55% and incidence of abruptio placenta (AP) about 0.5-1%. Thirty percent of maternal deaths are caused by antepartum haemorrhage of which 50% are associated with avoidable factors.<sup>1</sup> Antepartum haemorrhage is defined as any bleeding from or into the genital tract after 28 weeks of gestation and before the period of viability. Antepartum haemorrhage quantified as minor haemorrhage: blood loss <50 ml; major haemorrhage: blood loss 50-1000 ml; massive haemorrhage: blood loss >1000 ml. The causes of antepartum hemorrhage can be divided into three main groups, placenta praevia, placental abruption and others.

Placenta praevia exists when the placenta is implanted wholly or in part into the lower segment of the uterus. An abruptio placentae is the condition whenever bleeding occurs due to premature separation of a normally sited placenta. Other causes are cervical polyp, cervical carcinoma local lesions of vagina and cervix. Systemic diseases like leukemia and bleeding disorders are rare causes of APH. Placenta praevia and abruptio placentae account for almost half cases of APH.<sup>2</sup>

Maternal complications of APH are malpresentation, premature labour, postpartum hemorrhage, shock, retained placenta. They also include higher rates of caesarian section, peripartum hysterectomy, coagulation failure, puerperal infections and even death.<sup>3</sup> In developing countries like India, women frequently experience adverse effects of obstetric haemorrhage due to widespread pre-existing anaemia, difficulties with

transport and overwhelming inadequacies of maternity services.<sup>4</sup>

Objective of the study was to study the incidence of antepartum hemorrhage at Tertiary care hospital, to study the maternal outcome in antepartum haemorrhage and to study the associated risk factors contributing to maternal morbidity and mortality.

## METHODS

This was a retrospective study done at Department of Obstetrics and Gynaecology, MGM Medical College and associated M.Y. Hospital, Indore, India from August 2019 to July 2020.

All cases of APH with gestational age more than 28 week who were admitted in the hospital during study period were included in the study. A list of all patients that had APH from August 2019 to July 2020 was compiled from labor ward and the case papers were then retrieved from the Medical Records Department of the hospital. Patients whose case papers could not be traced were excluded from the study. The total number of deliveries during the study period was also obtained. Data relating to etiology, age, educational status, parity, booking status, gestational age at presentation, mode of delivery, and the maternal outcome were extracted and entered into a questionnaire designed for the study.

Ethical approval was obtained from the institutional ethics and research committee prior to commencement of study

### Statistical analysis

Data was analysed and presented in tabular form in percentage.

## RESULTS

During the one-year study period involving 386 women with a diagnosis of APH, The following results were obtained.

### Maternal outcome

The incidence APH was 3.27%. Placenta previa is 0.81% and that of abruptio placentae is 2.41%. The incidence of APH was 51.2% in the age group 26-30 years and 31% in age 21-25 years. Sixty nine percent of cases of APH were multigravida. 48% of whom were gravida 3 and gravida 4. 108 cases (27.9%) had a history of previous uterine surgery. 196 out of 285 cases of abruption associated with pregnancy induced hypertension. Out of 386 cases who presented with APH, 354 patients (91.7%) delivered by Caesarean section and the remaining 32 (8.2%) delivered vaginally. In the present study, there were 2 mortalities. 32.6 percent were complicated by PPH. Out of total number of women presenting with APH (386), 332 required blood and blood products transfusion (86%).

For control of PPH, other operative interventions such as vessel ligation, placental bed suturing, packing of lower uterine segment were used. Caesarean hysterectomy was done in 12 cases (3.1%) for intractable haemorrhage.

**Table 1: Causes of APH.**

Causes	No. of patient
Placenta previa	96
Abruptio placentae	285
Undetermined	5

**Table 2: Incidence of APH.**

Risk factors	Number
Total no of deliveries in 1 years	11801
Incidence of APH	3.27%
Incidence of placenta. previa	0.81%
Incidence of abruptio. placentae	2.41%

**Table 3: Demographic parameters of patients.**

Parameters	Number	Percentage (%)	
Age (years)	< 20	22	5.6
	21-25	120	31.08
	26-30	198	51.29
	>30	46	11.9
Parity	Primigravida	118	30.56
	Multigravida	268	69.43
Gestational age	<34 weeks	183	47.4
	34-36 weeks	127	32.9
	≥ 37 weeks	76	19.68

**Table 4: Risk factors associated with APH.**

Risk factors	No. of Patient (%)
Hypertensive disorder of pregnancy( abruption)	196/285 ( 68.7)
History of cesaerean section	108(27.9)

**Table 5: Maternal complications.**

Maternal complications	Number	Percentage
Post partum hemorrhage	126	32.60%
Cesaerean delivery	354	91.7 Kg.
Blood transfusiomm	332	86.01%.
Peripartum hystrectomy	12	3.10%
ICU Admission	93	24
Death	2	0.51

## DISCUSSION

The incidence of APH reported from this study is 3.27%, while it is quoted to be 2-5%, 2.01% and 2.53% in other studies from other parts of the world. The incidence observed at Siriraj Hospital, Thailand in 1985 was found to be 0.6% while Arora et al from India reported the incidence of 2.53%.<sup>5,6</sup>

Mean age of patients presented with APH in this study is 26-30 years which is similar to the result reported by Das et al, Abbasi et al also reported the mean age 30 years in a study from tertiary care hospital in Sindh.<sup>6,7</sup> Incidence of APH is more in multigravida (69.4%) than in primigravida (30.5%) in our study. Other studies such as Gillium et al and Clark et al have also reported high incidence of APH in multipara which was about 5-8 times higher than primigravida thus confirming the role of endometrial damage caused by repeated childbirth, a risk factor for uteroplacental bleeding in pregnancy.<sup>8,9</sup> Scarring of uterus due to previous uterine surgery stands out as a one of the major etiological factors for APH, more specifically placenta previa. In the present study, 27% (108/386) cases presented with APH had history of previous uterine surgery in the form of caesarean section. In the present study, 196 out of 285 (68%) cases were associated with pregnancy induced hypertension suggesting it is one of the major risk factors for abruption resulting in APH. This is comparable to the study of Bryan et al.<sup>10</sup> which suggested that Pre-eclampsia is an etiological factor in 80% cases of placental abruption.

The incidence of caesarean section in present study is 91.7%. The incidence of caesarean section in placenta previa group is 100% similar to the study done by Khouri et al.<sup>11</sup> The incidence of caesarean in the abruption placenta group in the present study is 88.7% while that reported by Hurd et al from the UK and the study reported by Rochelle et al at Washington State were 50% and 37.9% respectively.<sup>12,13</sup>

In the present study, there were 2 (0.51%) mortalities. Both patients has grade 4 abruption placenta and died due to renal failure. Gorodeski et al reported maternal mortality of 0.46% in APH while Pedowitz et al reported it as 0.9%.<sup>14,15</sup> Cotton et al found no mortality in cases of PP in their study.<sup>16</sup> Thirty two percent of these cases were complicated by PPH. The commonest cause of PPH was uterine atony followed by coagulation failure. Crane et al reported the incidence of PPH in APH to be 19%.<sup>17</sup> In this study 86% of patients required blood transfusion. Brenner et al reported the incidence of blood transfusion as 36% and 52.4% respectively.<sup>18</sup> The very high rates of blood transfusion in the present study might be due to the reason that most of the patients were already anaemic at the time of admission. Twelve patients (3%) required caesarean hysterectomy and 93 patients (24%) required CCU admission.

## CONCLUSION

In conclusion, there was very high maternal morbidity with increased rates of anaemia, postpartum haemorrhage, blood and blood products transfusion, caesarean section rates, preterm deliveries and prolonged post-operative stay. Clinical care should therefore concentrate on prevention, early detection and prompt management. Furthermore, pregnant women with APH should be considered high risk and timely management should be offered.

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