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Original Research Article

## Causes and management of secondary postpartum haemorrhage in a tertiary medical college hospital in Bangladesh

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### ABSTRACT

**Background:** Globally postpartum haemorrhage remains a leading cause of maternal death. It affects only 1-2% of postnatal women. This low incidence of secondary PPH and linkage to maternal morbidity rather than mortality was the reason for the little attention among obstetricians, but it is recently gaining importance and interest with the increase morbidity and mortality related to secondary PPH.

**Methods:** A retrospective study was conducted on the diagnosed patients of secondary PPH admitted in Enam Medical College and Hospital, Dhaka, Bangladesh, from January 2015 to December 2016. Among 33 cases of secondary PPH age of the patients, parity, mode of delivery, causes and management were noted from medical records. All data was analyzed by SPSS16.

**Results:** Among 33 patients 14 (42.4%) were primi and 19 (57.6%) were multipara, age between 18 to 38 years, majority admitted 2nd and 3rd week after delivery. Among 33 patients 12% delivered vaginally at home and 30% vaginally at hospital and 58% undergone LUCS. We found 34% retained bits of placenta, 27% uterine wound dehiscence, 24% retained clots and 15% endometritis as causes. Less than 3 units blood needed in 22 (66.7%) patients and 11 (33.3%) needed more than 3 units. About 6 (18%) patients were treated conservatively, MVA were needed in 18 (55%) patients, repair of wound in 4 (12%) and TAH was in 5 (15%).

**Conclusions:** Secondary PPH is increasing may result in significant maternal morbidity as well as mortality. More study needed to identify the risk factors and causes to reduce maternal mortality and morbidity.

**Keywords:** MVA, Secondary PPH, TAH, Wound Dehiscence

### INTRODUCTION

Secondary postpartum haemorrhage is defined as commencing per vaginal bleeding more than 24 hours following birth and during the following 6 weeks.<sup>1,2</sup> It affects only 1-2% of postnatal women. This low incidence of secondary PPH and linkage to maternal morbidity rather than mortality was the reason for the little attention among obstetricians, but it is recently gaining importance and interest with the increase morbidity and maternal deaths because of this condition.<sup>3</sup> The primary danger for patient is that bleeding in the majority occurs between 1 and 2 weeks after delivery.<sup>4,5</sup>

Globally, postpartum haemorrhage (PPH) remains a leading cause of maternal deaths.<sup>6</sup> However, in many low and middle-income countries, there is scarcity of information on magnitude of and risk factors for secondary postpartum haemorrhage. The highest burden is experienced in low-income countries.<sup>7,8</sup> The jeopardy of PPH is rising with the secondary form of PPH (abnormal excessive bleeding from the birth canal, mostly uterus, occurring between 24 hours and 6 weeks postpartum) when women are already discharged home. PPH is a widely underestimated obstetric problem with variable occurrence and severity when diagnosed.<sup>9</sup> The most common aetiological factors are retained products

of conception and subinvolution of placental site/ endometritis. A rare cause is partial or complete dehiscence of the lower uterine segment incision.<sup>10</sup>

We assessed the most common aetiology and management pattern among admitted patient of secondary postpartum haemorrhage in Enam Medical College and Hospital in the study period.

**METHODS**

This retrospective study was conducted on the diagnosed patients of secondary postpartum haemorrhage admitted in Enam medical college hospital, Savar, Dhaka, Bangladesh, during the period of January 2015 to December 2016. During these months 33 cases of secondary postpartum haemorrhage admitted in this hospital. Age of the patients, parity, and mode of delivery, causes and management of these patients were noted from medical and surgical records of the patients. Exclusion criteria were patient with history of bleeding disorders and those on anticoagulant.

Pulse rate was measured through the standard method of pulse rate counting and blood pressure was taken with the aneroid manometer. Per vaginal bleeding was measured by counting of sanitary pad soaked with blood, haemoglobin level and need of blood transfusion. Study was ethically approved by Ethical Review committee of Enam Medical College and Hospital. All data was entered in SPSS16 and analyzed through it.

**RESULTS**

In this study 33 patients of secondary postpartum haemorrhage were included. Among them 14 patients (42.4%) were primi and 19 (57.6%) were multipara, age of the patients were in between 18 to 38 years, mean age 25 years with SD ±4.8 years. Among 33 patients 2 (6.1%) patients were admitted on 1<sup>st</sup> week after delivery, 11 (33.3%) were admitted on 2<sup>nd</sup> week after delivery, 15 (45.5%) were admitted on 3<sup>rd</sup> week after delivery and 5 (15.2%) were admitted on 4<sup>th</sup> week. Regarding mode of delivery 12% delivered vaginally at home, 30% delivered vaginally at hospital and 58% undergone LUCS. All patients suffered from tachycardia and hypotension. We found 34% postpartum haemorrhage occurs due to retained bits of placenta, 27% due to uterine wound dehiscence, 24% due to retained clots and 15% due to endometritis (subinvolution of placental site). About 22 (66.7%) patients needed less than 3 units of blood transfusion and 11 (33.3%) needed more than 3 units of blood transfusion. About 6 (18%) patients were improved by conservative treatment by giving broad spectrum injectable antibiotics, blood transfusion and intravenous fluid infusion.

Manual Vacuum Aspiration were done in 18 (55%) patients, laparotomy followed by repair of uterin wound were done in 4 (12%) patients and total abdominal

hysterectomy was performed in 5 (15%) patients. Only 2 patients need ICU support.

No mortality because of secondary postpartum haemorrhage was reported in this study period.

**Table 1: Age distribution of patients of secondary postpartum haemorrhage.**

Age	Frequency	Percent
Less than 25 years	24	72.7
25-35 years	8	24.2
More than 35 years	1	3.0
Total	33	100.0

Table 1 shows distribution of age of the patients of secondary postpartum haemorrhage. Age less than 25 years was 72.7% which is significant in number 25-35 years were 24.2%, 3% were more than 35 years of age.

**Table 2: Distribution of study patients according to parity.**

Parity	Frequency	Percent
Primi	14	42.4
Multi	19	57.6
Total	33	100.0

Table 2 shows the distribution of parity among study groups. Among 33 patients, primi were (42.4%) and (57.6%) were multipara women.

**Table 3: Distribution of patients according to the day of admission following delivery.**

Day of Admission	Frequency	Percent
2 to 7 days	2	6.1
8 to 14 days	11	33.3
15 to 21 days	15	45.5
22 to 28 days	5	15.2
Total	33	100.0

Table 3 shows distribution of day of admission following delivery. 6.1% patients were admitted within 2 to 7 days of delivery, 33.3% were within 8 to 14 days, 45.5% were within 15 to 21 days, 15.2% were admitted within 22 to 28 days.

**Table 4: Distribution of study subjects according to amount of blood needed for management purpose.**

Blood needed	Frequency	Percent
1(<3 units)	22	66.7
2(>3units)	11	33.3
Total	33	100.0

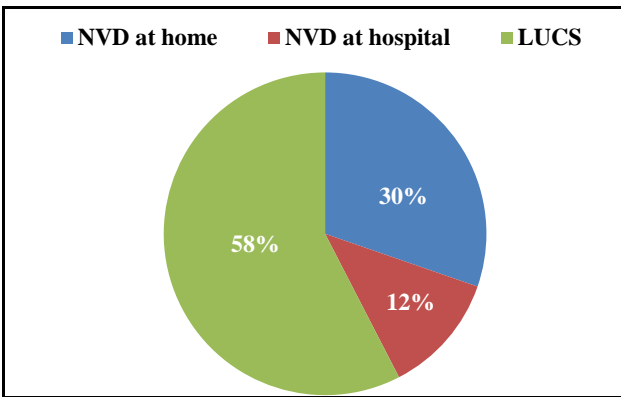
Table 4 shows distribution of study subjects according to amount of blood needed for the management purpose. 66.7% patients needed less than 3 units blood transfusion

and 33.3% patients needed more than 3 units of blood transfusion.

**Table 5: Distribution of study subjects according to duration of stay in hospital.**

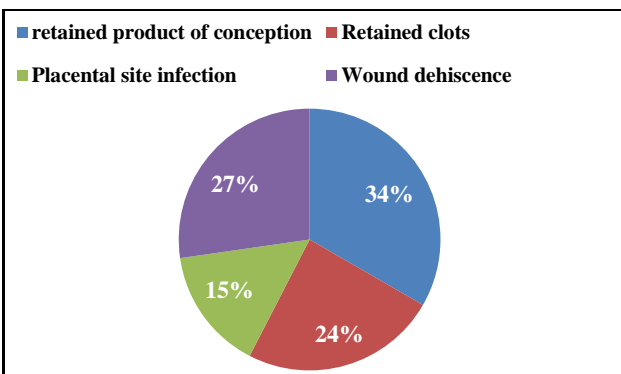
Duration of stay in hospital	Frequency	Percent
<5 days	24	73
>5 days	9	27

Table 5 shows length of hospital stay of the study group. Among 33 patients 24 (73%) patients discharged within 5 days after admission but 9 (27%) patients were discharged after 5 days of admission.



**Figure 1: Distribution of study subjects according to mode of delivery.**

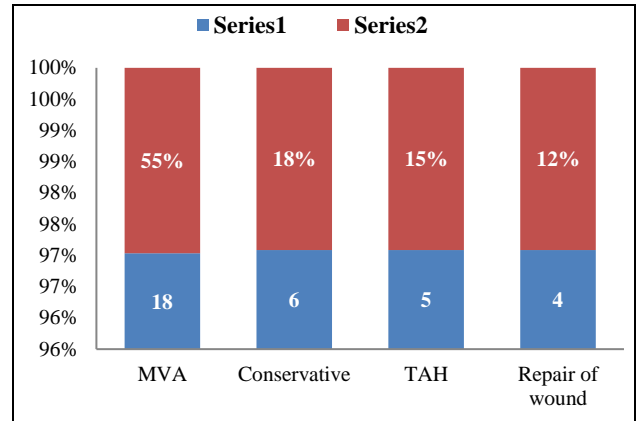
Figure 1 shows mode of delivery of the patients. This study showing 10 (30%) patients delivered vaginally at home whereas 4 (12%) patients delivered vaginally at hospital. 19 (58%) patients were delivered by LUCS which is significant in number.



**Figure 2: Distribution of study group according to causes of secondary postpartum haemorrhage (PPH).**

Figure 2 shows distribution of study subjects according to the causes of secondary postpartum haemorrhage. Most common causes found retained bit of placenta 11 (34%) patients. Retained clots were found in 8 (24%) patients, endometritis/subinvolution of placental site were 5 (15%) of cases. Uterine wound dehiscence was the causes of 9

(27%) secondary postpartum haemorrhage in present study group.



**Figure 3: Distribution of study subjects according to the treatment options needed for the management of secondary postpartum haemorrhage.**

Figure 3 shows distribution of study group according to the method of treatment. About 6 patients that is 18% patient were improved by conservative treatment (Broad spectrum antibiotics, blood transfusion, and correction of hypovolemia by intravenous fluid) and discharged to home without any further complications. Manual Vacuum Aspiration (MVA) were done for 18 (55%) patients. 4 (12%) patients were treated by repair of caesarean scar wound and 5 (15%) needed Total abdominal hysterectomy (TAH) as caesarean scar were very bad and infected.

**DISCUSSION**

Postpartum haemorrhage is the leading cause of morbidity and mortality among pregnant ladies throughout the world causing 140,000 deaths each year globally, this corresponds to the one women dying in every 4 minutes and it is the 5th most common cause of maternal mortality throughout the world.<sup>11-16</sup>

In present study that all cases were either referred from local and rural hospital of another district. Some were admitted after taking conservative treatment in another centre. All were unbooked cases and also no deaths were reported during the study period; these findings were comparable with the findings in previous studies.<sup>11,12</sup> In this study we found no relation of secondary postpartum haemorrhage with the parity but multi parity has been found as risk factor for secondary postpartum haemorrhage in other studies.<sup>17</sup> It was noted that all women were conscious, hypotensive and tachycardic, these findings were consistent with the another study done on the same topic.<sup>12</sup> This study also supported the fact that significant blood loss results in tachycardia and a measurable reduction in the blood pressure.<sup>18</sup> The most common cause of secondary postpartum haemorrhage was retained uterine products same as found in past

studies.<sup>5,19</sup> We found 15% due to endometritis which is similar to another study.<sup>20</sup> In this study we found 27% cases of uterine wound dehiscence which is more than the other previous study as because this is a tertiary care medical college hospital and all referral cases were admitted.<sup>10</sup> In our centre we used manual vacuum aspiration for retained products of conception and retained clots, hysterectomy and repair of uterine wound for wound dehiscence, as the principal tools for the management of postpartum haemorrhage as indicated in another studies.<sup>11,19</sup> There are another two studies showed 6.9% and 4.4% hysterectomy done for secondary postpartum haemorrhage which have the similarity with present study.<sup>21,22</sup>

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