



## A Prospective Clinical Study on Secondary Post Partum Haemorrhage

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### Abstract

**Introduction:** Post partum haemorrhage is excessive amount of bleeding from or into genital tract after delivery which adversely affects the general condition of patient. Secondary PPH has an overall low incidence and is associated with maternal morbidity rather than mortality.

**Aims:** To determine the risk factors, etiology and management options associated with cases presenting with secondary PPH.

**Method:** The present study was conducted in Teerthanker Mahaveer Medical College Moradabad between July 2016 to June 2017. Total 45 cases presenting with secondary PPH delivered in the institution or outside willing to participate were included in the study.

**Observation:** The maximum number of cases who presented with secondary PPH were in age group of 30-40 years (46.7%), more commonly in multipara (62.2%), 57.8% had delivered vaginally. Majority of the cases presented to in the second week following delivery followed by third week. The commonest cause of secondary PPH in the present study was retained products of conception. Maximum number of cases i.e. 22(48.8.%) required check curettage.

**Keywords:** PPH (post partum haemorrhage, Retained products of conception, endometritis.

### Introduction

Post partum haemorrhage is defined as excessive amount of bleeding from or into genital tract after delivery that adversely affects the general condition of patient. PPH can be divided into primary and secondary depending on timing of bleeding. Primary PPH is defined as excessive bleeding within 24 hours and secondary PPH is bleeding after 24 hours and within 6 weeks of delivery. PPH is the most common cause of maternal mortality and accounts for 28% of all

maternal deaths in developing countries and 13% maternal deaths in high income countries<sup>1</sup>.

The most important cause of primary PPH is atonicity of uterus while the commonest cause of secondary PPH is retained products of conception. Other causes of secondary PPH include primary sub involution of placental bed, endometritis, pseudo aneurysm of uterine artery, dehiscence of uterine incision<sup>2</sup>.

Risk factors associated with secondary PPH include primary PPH, history of manual removal

of placenta, multiparity. Mismanaged third stage of labour can lead to primary as well as secondary PPH.

### Aims and Objectives

To determine the risk factors, etiology and management options associated with cases presenting with secondary PPH.

### Method

The present study was conducted in Teerthanker Mahaveer Medical College Moradabad between July 2016 to June 2017. It is a prospective observational study. Total 45 cases presenting with secondary PPH delivered in the institution or outside willing to participate were included in the study. Detailed history was taken regarding parity, antenatal period, history of prolonged rupture of membranes, mode of delivery, complication in third stage, timing of developing PPH, general physical abdominal and local examination was carried out. Cause of secondary PPH and management done was noted. Patients with history of bleeding disorder or who were on anticoagulant were excluded from the study.

### Observation

**Table 1** Demographic distribution of cases-age, parity, mode of delivery, place of delivery

Demographic factor	Number	Percentage
<b>Age group</b>		
<20yrs	8	17.8%
20-29 yrs	16	35.5%
30-40 yrs	21	46.7%
<b>Parity</b>		
Primipara	17	37.8%
Multipara	28	62.2%
<b>Mode of delivery</b>		
Vaginal delivery	26	57.8%
Caesarean section	19	42.2%
<b>Place of delivery</b>		
Institutional	3	6.7%
Outside	42	93.3%

The maximum number of cases who presented with secondary PPH were in age group of 30-40 years (46.7%). In the study secondary PPH was seen more commonly in multipara (62.2%) than primipara (37.8%). In the present study it is seen

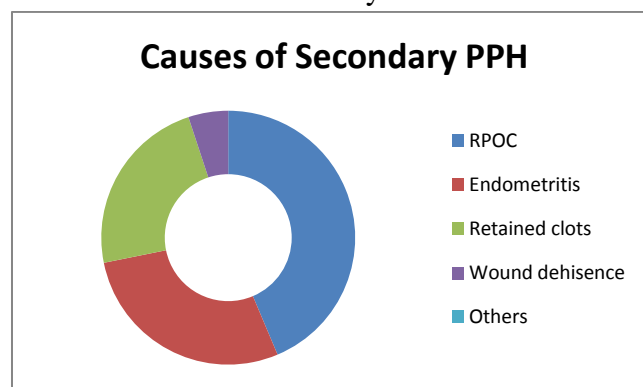
that 26 cases i.e. 57.8% had delivered vaginally and rest 19 had undergone caesarean section. Only 3 cases who had delivered in the institution returned with secondary PPH and 42 cases (93.3%) had delivered outside the institution.

**Table 2** Timing of development of secondary PPH

Timing(in days)	Number	Percentage
First week	6	13.3%
Second week	15	33.3%
Third week	13	28.9%
Fourth week	8	17.9%
Fifth week	2	4.4%
Sixth week	1	2.2%

Majority of the cases presented to us in the second week following delivery i.e. 33.3% followed by third week (28.9%) then the fourth week (17.9%).

**Table 3** Causes of secondary PPH



The commonest cause of secondary PPH in the present study was retained products of conception in 17 cases followed by endometritis in 11 cases. Retained clots were presenting as secondary PPH was seen in 20% cases. Dehiscence of the uterine wound post caesarean section was seen in 2 cases. Other causes of secondary PPH included chronic uterine inversion, one case was confirmed as gestational trophoblastic neoplasia, sub involution of placental site.

Complication in third stage-On eliciting history of delivery events 2 cases (4.4%) gave history of manual removal of placenta after vaginal delivery and there is history of primary PPH in three cases (6.6%).

Management- Management of the cases was done according to the cause of secondary post partum

haemorrhage. Maximum number of cases i.e. 22(48.8%) required check curettage and the products obtained were sent for histopathological examination. 16 cases i.e. 35.6% were managed conservatively using antibiotics, blood transfusion, vaginal douching and other supportive measures. Repair of the dehiscence of uterine wound was done in 2 cases i.e. 4.4% cases. There were 4 cases (8.9%) in which bleeding was not stopped inspite of all measures these cases required abdominal hysterectomy as a life saving measure. And one case of chronic uterine inversion was managed by reposition of inverted uterus.

### Discussion

The present study shows that secondary PPH is seen more commonly in age group 30-40 years and in multipara. A study has shown that age more than 35 years is also associated with risk for development of secondary PPH.<sup>3</sup> Multiparity has been seen as a risk factor for secondary PPH in some studies<sup>4</sup>.

In the present study it is seen that 26 cases i.e. 57.8% had delivered vaginally and rest 19 had undergone caesarean section. Similar result i.e. 68% were vaginal delivery and rest were caesarean section was seen in study done by Nageen et al in 2017<sup>5</sup> while the result is opposite to that seen in study done by Nessa et al<sup>6</sup> which states that the mode of delivery in patients developing secondary PPH was 58% by LSCS and rest by vaginal delivery. Majority of the cases presented to us in the second week following delivery i.e. 33.3%.

Only 3 cases who had delivered in the institution returned with secondary PPH and 42 cases (93.3%) had delivered outside the institution. Active management of third stage of labour has been followed as a strategy to prevent PPH including secondary PPH<sup>7</sup>. Low incidence of secondary PPH following delivery in our institution is because of routine practice of active management of third stage of labour in each case and aseptic precautions taken during each

delivery. Risk factors associated with secondary PPH unbooked, unsupervised pregnancies coupled with unskilled or home deliveries<sup>4,8</sup> The commonest cause of secondary PPH in the present study was retained products of conception in 17 cases followed by endometritis in 11 cases. Retained clots were presenting as secondary PPH was seen in 20% cases. Dehiscence of the uterine wound post caesarean section was seen in 2 cases. Retained products of conception is the major cause of secondary PPH.<sup>9</sup> Similar result was seen in study done by Nigeen et al<sup>5</sup>. In cases where heavy bleeding occurs 2-3 weeks following caesarean section, non-healing of uterine incision or dehiscence of scar following infection should be thought of.<sup>2</sup>

In the present study 2 cases (4.4%) gave history of manual removal of placenta after vaginal delivery and there is history of primary PPH in three cases (6.6%). Study done by Hiveyde and Mackenzie showed seven fold increase in rate of secondary PPH with a history of primary PPH and a fourfold increased rate with a history of manual removal of placenta<sup>10</sup>. History of primary PPH and manual removal of placenta are well known risk factors for development of secondary PPH.<sup>3,11</sup>

Hysterectomy for secondary PPH was done in 6.9% and 4.4% cases<sup>11,12</sup> in other studies. The incidence of hysterectomy was slightly higher in our study (8.9%) because ours is a tertiary care centre getting referral cases.

### Conclusion

Despite of low incidence secondary PPH remains a cause of maternal morbidity. Unnecessary operative interference should be avoided and all the products obtained should be sent for histopathological examination. Improper management of third stage is an important cause of primary and secondary PPH so active management of third stage should be practiced to reduce the morbidity and mortality due to PPH. Government has implemented various strategies to promote institutional deliveries so as to reduce maternal morbidity and mortality but more

intensive IEC initiatives have to be take to strengthen these policies.

### References

1. Khan KS.WHO Analysis of Causes of Maternal Death: A Systematic Review. The Lancet.2006;367:1066-74.
2. Nanda S, Singhal S, Sharma D. Non union of uterine incision: A rare cause of secondary post partum haemorrhage: A report of 2 cases. Aust NZ J Obstet Gynecol 1997;37:475-6.
3. Debost- Legrand A, Riviere O, Dossou M, Vendittelli F, Risk factors for Severe Secondary Post Partum Haemorrhages: A Historical Cohort Study. Birth. 2015;42 (3):235-41.
4. Jaleel R, Khan A.Post partum haemorrhage-a risk factor analysis. Mymen Singh Med J 2010;10(2):282-9.
5. Negeen W, Farooq M, Farooq M, Ashraf S, Bhat AS>Secondary post partum hemorrhage in a tertiary care hospital of North India: a retrospective analysis.Int J Reprod Contracept Obstet Gynecol 2017;6:532-6.
6. Nessa R, Bari S, Khan S, Sultana P, Akbar T.causes and management of secondary postapartum haemorrhage in a tertiary Medical College hospital in Bangladesh. Int J Reprod Contracept Obstet Gynecol 2017;6:2694-7.
7. Dongol AS, Shrestha A, Chawla CD Post partum haemorrhage: Prevalence, morbidity and management pattern in Dhulikhel Hospital. Kathmandu Univ Med J(KUMJ).2010;8(30):212-5.
8. Ajenifuja KO, Adepiti CA, Ogunniyi SO. Post partum haemorrhage in a teaching hospital in Nigeria:a 5 year experience. African Health Sciences.2010;10(1):71-4
9. Hoveyda F, Mackenzie OZ. Secondary post partum haemorrhage: Incidence, morbidity and current management.Br J Obstet Gynecol 2001;108:927-30.
10. Mackenzie I. Secondary PPH: Incidence, morbidity and current management. British Journal of Obstetrics and Gynaecology 2001;108:927-30.
11. Kittur S, Swetha D. Emergency peripartum hysterectomy-a study in tertiary care centre and medical college in Hubli, North Karnataka, India. Int J Reprod Contracept Obstet Gynecol.2016;5:1097-1101.
12. Shirodhker SD, Pandey A, Yadav S. Emergency obstetric hysterectomy: review at a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol.2016;5:3811-4.