



Original Article

Pivotal Role of Management of Postpartum Haemorrhage by Using Intrauterine Pack during Caesarean Section

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Abstract

Background: Postpartum Haemorrhage (PPH) is a potentially life-threatening complication after delivery by both vaginal and caesarean section (CS). Different types of management options have been available in clinical settings including the use of oxytocin, prostaglandin analogues, ergometrine, surgical exploration of genital tract, ligation or angiographic embolization of uterine or internal iliac arteries and hysterectomy. Another simple and effective measure to manage PPH is to control the bleeding with intrauterine packing by mop during CS. This intrauterine packing during CS is very easy & quick method to perform and it has pivotal role to save the patient need of major surgical procedures. **Objective:** To determine effectiveness of uterine packing by mop in control of post-partum hemorrhage, its safety and complications associated with it. **Materials and Methods:** This study was carried out in Obstetrics & Gynaecology department of Eastern Medical College & Hospital, Cumilla, Bangladesh from January 2020 to July 2020. It was a prospective interventional study. The patients presenting with postpartum haemorrhage during CS due to atonic uterus. Patients who had PPH due to genital tract trauma were excluded from this study. Frequencies and proportions of complications were calculated along with rate of successful cessation of bleeding by the use of intrauterine mop. Data was analyzed by SPSS. **Results:** 100 patients included in the study. Among them 63% were 25-34 years, 26% were 15-24 years, 11% were 35-45 years. 73% patients were $p > 3$ and 27% were $p 1-3$. 77% patients belong to poor class family, 18% belong to middle class and 5% belong to high class family. These patients went through LUCS and had atonic uterus. Mop was used in those patients and success rate were 87%. In 13% cases we needed others management. These were 11% case uterotonic drugs, 1% B-Lynch suture, 1% internal iliac artery ligation but none out of 100 patients underwent hysterectomy. **Conclusion:** Uterine packing by mop effectively controls PPH with fewer complications and its role in emergency obstetric scan not be denied.

Key words: Postpartum hemorrhage, Intra uterine packing, Maternal mortality.

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Introduction

Globally, postpartum haemorrhage (PPH) has been identified as one of the leading causes of maternal mortality and morbidity and approximately one-third of total maternal deaths occur in Asia¹. We learned from both national DHS surveys^{2,3} and individual studies^{4,5} that haemorrhage has been one of the major causes of maternal deaths in Bangladesh during this last decade.

PPH is unpredictable, catastrophic, and may occur even among women who are considered to be at low risk⁶. As a result, experts have concluded that the millennium development goals will not successfully be achieved without reducing deaths attributable to PPH, particularly those that occur in resource poor settings⁷.

Several causes are attributable to the development of PPH, most commonly reported is uterine atony, as well as surgical incisions or lacerations and

coagulation disorders⁸. PPH is an obstetric emergency which requires prompt diagnosis and effective actions to prevent maternal mortality⁹. Utero-vaginal packing for PPH has been in use for decades. After 1960s because of fear of infection and concealed hemorrhage its use subsequently declined. However isolated reports of its successful use have been published¹⁰.

PPH has been major cause of maternal mortality and requires immediate hemodynamic resuscitation measures and steps to control hemorrhage which include uterine massage and uterotonics. If bleeding is still not controlled, exploration in operation theatre, uterine and ovarian artery ligation, B Lynch suture, internal iliac artery ligation and hysterectomy may be required¹¹.

In recent decades there has been a search for conservative method to avoid operative procedures

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in patients unresponsive to uterotonic. Uterovaginal packing by causing mechanical compression of uterine vascular sinuses is a quick, effective and cheap method of securing haemostasis in a large number of cases^{12,13}.

So, if medical management fails, uterine packing is a simple and effective method which can avoid other complicated surgical procedures and help save life of mothers¹⁴.

Uterine packing can be easily learnt as that it is very simple and quick to perform and no special technique or equipment is needed. It requires tight uniform packing of whole uterine cavity continued to incision margin, so that a tamponade effect is maintained on the uterine sinuses to prevent hemorrhage. If hemorrhage is not controlled with a tightly placed packing, it is not recommended to repack the uterus. One should resort to other options to control hemorrhage¹⁵.

There are some other methods of uterine tamponade which have been used over the years. The Sengstaken-Blakemore tube is one of these. It is equipped with a drainage channel to prevent concealed hemorrhage.

However, it is not easily available¹⁶. Tamponade with a condom inflated with 250-500 mL of saline has been used and is found to be helpful in controlling PPH in cases of uterine atony and placenta previa¹⁷.

The rationale of this study is that the procedure is simple and quick to perform. It can be easily learnt and no special equipment is required.

Materials and Methods

It was a prospective Interventional study conducted in Obstetrics & Gynaecology department of Eastern Medical College & Hospital, Cumilla, Bangladesh from January 2020 to July 2020. Permission was taken from ethical committee of hospital. The 100 patients were included in study who presented with primary PPH due to atonic uterus during caesarian section. Cases with genital tract trauma were excluded.

Following delivery of the baby and placenta intra uterine packing was done by mop with the help of sponge holding forcep from fundus to incision margin. Attached rope of the mop must be remained outside the incision area. Then removal of the pack before complete repair of the incision. Side by side active management of 3rd stage of labour (AMTSL) was continued. Vitals were monitored strictly. Procedure was considered effective if bleeding stopped after packing and patients was stable and considered safe if there were minimal or no

complications. All the patients were followed up to twenty-four hours.

All information was collected on a pre-designed proforma. Frequency and percentages were calculated for qualitative variables like, parity, mode of delivery, cause of uterine bleeding, efficacy and complications.

Results

In this study we have included and studied 100 patients during the study period. Among them 63% were 25-34 years, 26% were 15-24 years, 11% were 35-45 years. 73% patients were p>3 and 27% were p 1-3. 77% patients belong to poor class family, 18% belong to middle class and 5% belong to high class family.

These patients went through LUCS and had atonic uterus. We used mopping in those patients and successes rate were 87%. In 13% of the cases we needed others management. These were 11% cases uterotonic drugs, 1% B-Lynch suture, 1% internal iliac artery ligation. None out of 100 patients underwent hysterectomy.

Table-I: General characteristics of the study subjects (n=100) with requirement of methods to manage PPH

Variable (n=100)	Frequency	Percentage
Age		
15-24	26	26%
25-34	63	63%
35-45	11	11%
Parity		
1-3	27	27%
>3	73	73%
Socio-economic condition		
Poor	77	77%
Middle class	18	18%
High class	5	5%
Mode of delivery	All LUCS	
Indication		
Uterine atony	100	100%
Others methods needed		
Uterotonic drugs	11	11%
B-lynch suture	1	1%
Internal iliac artery ligation	1	1%
Hysterectomy	0	0%

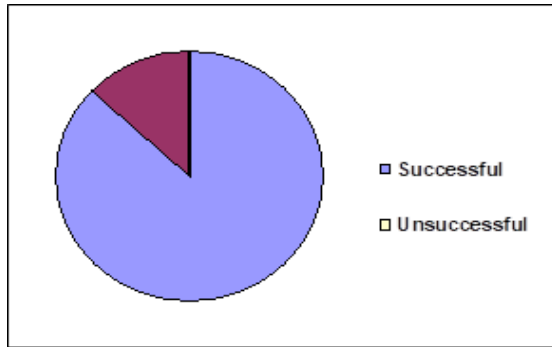


Figure-1: Pie chart showing success rate of method to manage PPH

Discussion

Postpartum haemorrhage is an obstetric emergency. It is associated not only with nearly one quarter of all maternal deaths globally, but is also the leading cause of maternal mortality in most low-income countries¹⁸.

After excluding genital tract lacerations and retained placental tissue, efforts are directed towards causing the uterus to contract by bimanual compression and oxytocin. If these are not successful, one has to resort to surgical techniques like ligation of uterine, ovarian or internal iliac arteries and hysterectomy in certain cases. Before resorting to surgical procedures an alternative option is uterovaginal packing. Easy and quick to perform, it controls bleeding by tamponade effect and surgery is not required in most of cases.

Management of PPH requires team work, maintaining hemodynamic stability of woman while simultaneously identifying and treating the cause of blood loss. The key factors to save the life of the mother are active management of third stage of labor and prevention and treatment of postpartum hemorrhage¹⁹. Witch. Et al, have recommended uterine packing as a pre-surgical procedure after exclusion of lacerations of lower genital tract, uterine rupture and retained placental tissue²⁰.

Our study also included cases of non-traumatic uterine hemorrhage and success rate of uterine packing was 87%. In a study by Ali et al 42 patients in whom utero-vaginal packing was done, 36 (86%) responded to the procedure; failure to achieve hemostasis occurred in 6 (14%) cases. Cesarean hysterectomy was done in 3 (7%) patients, while 1 (2%) patient died due to multiple organ failure²¹.

A study conducted by Roman and Rebarber et al, showed that success of uterine packing was clinically evident after procedure was completed. In some cases, packing material became heavily stained with seroanguinous fluid. There was

minimal fever which settled with medicines and of no clinical significance²².

In present study, the intrauterine packing was successful in controlling PPH in (87%) women, refractory to treatment by uterotonic drugs. The success rate is directly related to the technique. The efficacy of uterine packing depends upon its proper application and its employment early in the course of postpartum haemorrhage. Success rates reported in other studies were comparable to our study, 89.14% by Khairunnisa Nizam, 91.8 % by Malay et al and 90.09% by Javed et al.^{23,24,25}. Rashmi Bagga et al, reported two cases of, a primary and a secondary PPH, successfully managed with uterovaginal packing²⁶.

Comparing this with our study as regards post insertion morbidity is minimum, Concealed hemorrhage was not seen in any of our patients, only need careful attention about removal of pack before complete repair of incision margin.

In a study conducted by Mobusher I. et al, success rate of uterine packing was 87.5% while 4 patients out of 40 underwent hysterectomy²⁷. In our study none out of 100 patients underwent hysterectomy.

Around 1960s uterine packing with gauze was out of favor because it was thought to conceal hemorrhage and cause infection. But these concerns were not confirmed with further studies and this technique re-emerged in 1980s and 1990s²⁸. 85% of patients had successful control of PPH in a study conducted by Haq G and Tayyab S. Two patients had to undergo hysterectomy and there was one mortality²⁹.

Developing countries have high incidence of PPH mainly due to poor antenatal attendance and lack of screening of high-risk patients. 70% women do not receive skilled intra-partum care and are rushed to hospital with complications in a moribund state only³⁰.

In some of these cases emergency obstetric procedures even hysterectomy has to be done to save her life which is associated with severe blood loss, intra-operative complications and significant post-operative mortality and morbidity³¹. In many of these patients, simple procedure of uterine packing can save woman of major surgical procedure and burden on resources of hospital.

Conclusion

Uterine packing by mop is a useful, conservative & minimally invasive technique in controlling PPH due to atonic uterus during LUCS. It is simple fast & cost-effective procedure & alternative to further surgical intervention in the treatment of PPH.

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