

Uterovaginal Packing as Treatment in Primary Postpartum Hemorrhage in Patan Hospital

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Aims: To study the effectiveness of uterovaginal packing in the management of primary postpartum hemorrhage (PPH).

Methods: This is a retrospective study conducted in Patan hospital, Lalitpur from January 2009-2011. Patients included in the study were those with intractable hemorrhage not responding to oxytocics. Exclusion criteria included cases of PPH due to trauma. Packing was done using approximately six inches sterile gauze soaked with povidine iodine packed into the uterus from the uterine fundus up to the vaginal canal. The packing is removed after 48 hours of insertion or earlier in cases of failure to control hemorrhage.

Results: There were 46 cases of uterovaginal packing for primary PPH. Uterine atony was the commonest cause of packing. Uterovaginal packing was successful in 39(84.7%) cases.

Conclusions: Uterovaginal packing is safe, easy and quick procedure to manage primary PPH. It is beneficial in cases of PPH due to atony thereby conserve the uterus.

Keywords: Hysterectomy; Postpartum hemorrhage; Uterovaginal packing.

INTRODUCTION

Postpartum hemorrhage is the most common cause of maternal mortality. It is responsible for an annual mortality of 150,000 women per year.¹ Conventionally, it is defined as estimated blood loss of 500 ml in vaginal delivery or 1000 ml in caesarean section. But the quantity of blood loss is less vital than the effect it has on healthy woman which depends on her blood volume. So any amount of blood loss which causes fall in blood pressure or increase in pulse rate is included in the definition of PPH.²

The major cause of PPH is atonic uterus; others are traumatic, retained bits of placental tissue and coagulopathy. There are various methods to control bleeding like uterotonic drugs, uterine tamponade, compression sutures, arterial embolisation, surgical devascularisation and lastly hysterectomy. Among these methods, uterovaginal packing is easy and safe procedure where uterotonic drugs fail.³ The aim of this study is to assess safety and efficacy of uterovaginal packing in the management of PPH so as to decrease

the morbidity and increase the likelihood of uterine preservation.

METHODS

This is a retrospective study conducted in Patan Hospital from January 2009 to December 2011 after approval from IRC (Institutional Review committee). Patients included in the study were those with intractable PPH not responding to medical treatment in vaginal delivery as well as caesarian section. Exclusion criteria included secondary PPH, PPH due to trauma or retained bits of tissue.

Uterovaginal packing was carried out by placing six inch gauze soaked in povidine iodine solution into uterine cavity through the cervix upto the fundus of the uterus in vaginal delivery and through the caesarean incision with its end passed through the cervix into the vagina. Vaginal packing was done to give additional pressure to uterine packing. Simultaneous oxytocin infusion was continued. Prophylactic intravenous antibiotic coverage was used in all cases since foreign body was placed in the uterine cavity. Foley's catheter was inserted to see hourly urine output. Patient's vital signs, fundal height and vaginal bleeding were observed. All the data are expressed in percentage.

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RESULTS

The cases with PPH where uterovaginal packing was done were 46 cases. Out of those 40 had PPH after caesarean section and six after vaginal delivery. Thirty patients were between 16-20 years, 10 were between 21-25 and six were >26 years. Seven were primipara, 24 were between 2-4 para and 15 were > 4 para. Uterine atony was the commonest cause of PPH (69.56%) unresponsive to oxytocics (Table 3).

Table 1: Relation of age and uterovaginal packing (n=46)

| Age in years | Patients with PPH | Respondents to packing |
|--------------|-------------------|------------------------|
| 16-20 | 30 | 28 (93%) |
| 21-25 | 10 | 8 (80%) |
| >26 | 6 | 3 (50%) |

Table 2: Relation of parity with uterovaginal packing

| Parity | Patients with PPH | Respondents to packing |
|--------|-------------------|------------------------|
| Primi | 7 | 7 (100%) |
| 2-4 | 24 | 22 (92%) |
| >4 | 15 | 13 (87%) |

Table 3: Cause of PPH

| Cause of PPH | Patients with PPH | Respondents to packing |
|------------------------|-------------------|------------------------|
| Atonic uterus | 32 | 31 |
| Placenta praevia | 6 | 3 |
| Placental bed bleeding | 8 | 5 |

The Fisher's exact test clearly indicates that the cause and the response are dependent as p value is less than 0.005

Uterine packing was successful in 39(84.7%) cases whereas four (15.3%) patients underwent hysterectomy. All patients (100%) required blood transfusion according to blood loss.

DISCUSSION

Uterovaginal packing for PPH was frequently practiced prior to the 1960s but due to risk of infection and concealed ongoing haemorrhage² its use was declined.⁴ But people again started to use this modality after 90s. This modality is most useful in controlling hemorrhage from uterine atony and placental site bleeding caused by placenta praevia or placenta accreta.⁵ Uterine atony unresponsive to oxytocics is the most common indication for its use.⁶ Studies have shown that uterine packing has been found to be a safe, quick and effective procedure for PPH.⁶

In developing countries including Nepal, where health system is not well developed and invasive

procedure like compression sutures are not possible all the time, uterovaginal packing is a good substitute for uterine tamponade.⁷ It needs less skill and is not time consuming too.

In the present study, success rate of uterine packing to control PPH was 84.7%. Our observation is similar to the study of Sarkar in which out of 49 patients with PPH, uterovaginal packing arrested PPH in 45 cases.⁸ Haq and Tayyab also found uterovaginal packing successful in 85% of cases and it was recommended that packing should be practiced in tertiary hospitals if woman wishes to preserve fertility.⁹ In our observation, we found that success rate of uterine packing is more in younger patients and decreased with parity and increase in age (Table 4). Witch et al have recommended uterine packing as a presurgical management tool when lacerations of lower genital tract, retained bits have been excluded and conventional therapy has failed to control uterine hemorrhage. They described two cases managed with uterine packing.¹⁰ In this study, incidence of hysterectomy was more in multipara patients. This is similar to study by Ozden et al where the relative increase in failure of uterine packing with increase in parity is due to deposition of collagen tissues between the muscle fibers of uterus.¹¹

In two studies^{9,15} packing was removed after 12-24 hours; and one study⁵ reported earliest removal at 5 hours and latest at 96 hours. We have removed pack after 48 hours but in three cases removed after 24 hours due to high fever. Although a foreign body placed in uterine cavity can act nidus for bacterial proliferation there has been no serious infections.¹² Postoperative fever was seen in 3 cases as compared to Robert et al study and fever after packing was minimal and of no clinical significance.⁵ Concealed hemorrhage was not seen in any of our patient, however simple soakage of the packing was present.

Primary PPH is among five most common causes of maternal mortality in both developed and developing countries.¹³ Uterovaginal packing requires no special equipment or expertise to perform and should easily come to the mind of the obstetrician whenever life threatening situation of PPH is encountered and equally good as compared to balloon tamponade.¹⁴ There is no randomized controlled trial to assess the effectiveness of uterine packing only case series are being done.

CONCLUSION

The study concluded that uterovaginal packing is a safe, quick and effective procedure to achieve hemostasis in primary PPH due to uterine atony or placental bed bleeding and conserve uterus particularly in women with low parity. 84.7% responded to uterine

packing. In life-threatening hemorrhage, uterine packing not only halts the blood loss and preserves the uterus but also gives time to reverse and correct any coagulopathy. Every obstetrician must be aware of this simple method in order to avoid hysterectomy and thus preserve the reproductive capability as well as minimize the operative morbidity.

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