Original Article

Role of Uterovaginal Packing in Postpartum Hemorrhage

Khairunnisa Nizam, Gulfareen Haider

ABSTRACT

OBJECTIVE: To find out the safety and efficacy of uterovaginal packing in postpartum hemorrhage in terms of complications and success to arrest bleeding.

PLACE & DURATION OF STUDY: This study was conducted at Department of Obstetric & Gynecology Nawabshah Medical College Hospital, Sindh-Pakistan from 2nd January 2008 to 4th August 2009.

PATIENTS & METHODS: In this prospective interventional study all patients presenting with postpartum hemorrhage who did not responded to medical treatment, placenta previa or coagulation failure, following vaginal delivery or cesarean section, were included. Multiparous women were also included in the study if they expressed strong desire to conserve uterus. Cases of ruptured uterus, perineal trauma, cervical trauma and vaginal trauma were excluded from this study. Frequencies and proportions of complications were calculated along with rate of successful cessation of bleeding. Data were analysed by SPSS version 11.

RESULTS: During study period 138 patients of postpartum hemorrhage underwent uterovaginal packing. Uterine atony unresponsive to oxytocics was the commonest cause of postpartum hemorrhages (n=88, 63.76%) followed by coagulopathy in 25 (18.11%). Uterovaginal packing was successful in 89.14% patients. Post-insertion morbidity included fever more than 100°F in 25 (18.11%) and episotomy wound infection in 9 (6.52%) patients.

CONCLUSION: Results of this study show that uterovaginal packing is effective in arresting the bleeding. Uterovaginal packing still retains an important role in emergency obstetrics.

KEY WORDS: Postpartum hemorrhage, uterovaginal packing, maternal morbidity, effectiveness.

INTRODUCTION

Postpartum hemorrhage (PPH) remains a major cause of maternal morbidity and mortality world wide and is still an important issue even in the developed world.[1,3] It is estimated that 600,000-800,000 women die in childbirth each year[4]. Incidence of primary PPH has been reported as 5% of all deliveries in the literature.[5] The most common consequences of PPH include hypovolaemic shock, disseminated intravascular coagulopathies (DIC), renal failure, hepatic failure and adult respiratory distress syndrome (ARDS)[6].

Massive postpartum hemorrhage is an emergency life threatening situation and an obstetrician's nightmare[7]. Optimal management of these patients require multidisciplinary input from obstetrician, anesthetists and hematologist. Modern obstetrics aim is uterine preservations especially in case of low parity[8].

Recently several techniques have been tried to avoid hysterectomy, when uterotonic drugs fail to control massive postpartum hemorrhage. These include surgical compression sutures like B-lynch brace sutures, Hayman suture and balloon tamponade with an intrauterine catheter with good results[9-12]. Utero vaginal packing by exerting mechanical compression of uterine vascular sinuses is a quick and effective method of securing homeostasis in a large number of cases[9-11]. Hsu et al suggest that uterine packing may be a reasonable alternative to future surgical intervention in patients with intractable obstetrical hemorrhage.[13] It is cost effective as well.

The purpose of this study was to find out the safety and efficacy of uterine packing in selective cases of postpartum hemorrhage in order to determine a cost effective and simple alternative method to hysterectomy for our population; to whom preservation of fertility is desired strongly even in multiparous women.

PATIENTS AND METHODS

This prospective interventional study was conducted at the Department of Gynecology and Obstetrics, Nawabshah Medical College Hospital from 2nd January 2008 to 4th August 2009.

All patients presenting with postpartum hemorrhage who did not responded to medical treatment, placenta previa or coagulation failure, following vaginal delivery or cesarean section, were included in this study. Multiparous women were also included in the study if they expressed strong desire to conserve uterus. Cases of ruptured uterus, perineal trauma, cervical trauma and

vaginal trauma were excluded from the study.

Intrauterine packing was done by using 8-10 meter gauze starting from the fundus with the help of sponge holding forceps up to the cervix. Vagina was also firmly packed for additional pressure to the uterine packing. Care was taken to observe the strict aseptic measures. Uterine packing was removed after 12-24 hours of insertion (or removed earlier in case of failure). Blood and blood products were transfused during and after procedure as per individual requirements. Antibiotic was given intravenously for 5 days. Syntocinon infusion was continued till 24 hours after removal of pack. Patient was kept in high dependency area. Vitals were monitored strictly.

Postoperative complications were noted and patients were followed for upto six weeks in the outpatient clinic. Procedure was considered safe if there were minimal/no complication while effectiveness was considered if bleeding stoped after packing and patient was stable. All information was collected on self made proforma.

Frequencies and proportions of complications were calculated along with rate of successful cessation of bleeding. Data were analysed by SPSS version 11.

RESULTS

During study period 2124 women delivered among which 229 (10.78%) underwent postpartum hemorrhage from which 138 (69.3%) were included in the study. Among 138 patients who underwent uterovaginal packing 131 (94.92%) cases were of primary PPH, while 7 (5.02%) had secondary PPH; 125 (90.57%) patients had after vaginal delivery and 13 (9.42%) patients had PPH after cesarean section.

Sixty-one (44.20%) patients were in age group of 31-40 years and 33 (23.91%) patients were in age group of 21-30 years **(Table I)**.

Uterine atony unresponsive to oxytocics was the commonest cause of postpartum hemorrhage, seen in 88 (63.76%) patients followed by coagulopathy in 25 (18.11%) as detailed in **Table II**.

Uterovaginal packing was successful in 123 (89.13%) patients but failed to arrest bleeding in 15 (10.86%) patients; out of these 13 (9.42%) patients underwent postpartum hysterectomy and 2 (1.44%) patients died within 2-hours of admission.

Post-insertion morbidity included fever more than 100^{o}F in 25 (18.11%) patients and episiotomy wound infection in 9 (6.52%) patients. No patient had endometritis or pelvic abscess.

TABLE I: SOCIO DEMOGRAPHIC DATA (n=138)

Indication	Number of Patient	Percentage
Age		
≤ 20	19	13.76
21-30	33	23.91
31-40	61	44.20
>41	25	18.11
Parity		
Primipara	22	15.94
Multipara	45	32.60
Grand multipara	71	51.44

TABLE II: INDICATIONS OF PPH (n=138)

Indication	Number of Patient	Percentage
Uterine atony	88	63.76
Coagulopathy	25	18.11
Placenta previa	9	6.52
Abruption placenta	16	11.59

DISCUSSION

In our study the main criteria assessed was the success rate, maternal mortality, and morbidity in terms of postpartum pyrexia and concealed hemorrhage. Witch et al have recommended uterine packing as a presurgical management tool when lacerations of lower genital tract, uterine rupture and retained products have been excluded and conventional therapy has failed to control uterine hemorrhage. They described two cases managed successfully with uterine packing[14]. Our study also included cases of non-traumatic uterine hemorrhage and success rate was 89.14%.

Results of this study suggest that uterovaginal packing is a safe and effective measure for managing major PPH. This simple technique is cost effective, quick and easy to learn, especially by trainee residents and junior obstetricians, who in most instances will be the first ones to attend to the patient in this acute emergency[11-12].

Study conducted by Ali at al[15] showed 86% success rate, while another study conducted by Shuja S[16] showed 82.1% success rate.

Unlike the B-Lynch compression suture or Haymans suture, packing prevents a lower segment hysterectomy, when PPH occurs after vaginal delivery.[14] Massive hemorrhage is often accompanied by coagulation failure,[17] and in these circumstances temporary uterovaginal packing was seen to be a crucial factor in

saving the life of the patient, while replacement therapy was being arranged for and initiated especially in cases of abruptio placentae, eclampsia and viral hepatitis.

Comparing the results of postpartum morbidity, a study by Hsu et al to determine safety and effectiveness of uterine packing for stopping hemorrhage in patients following delivery and pregnancy termination, a total of 9 patients was identified. One patient had failure of packing resulting in postpartum hysterectomy. There was no significant morbidity secondary to packing[13]. In our study 13 patients had hysterectomy.

.Two case reports from Pakistan on uterine packing showed successful management and it was recommended that packing should be practiced at tertiary hospitals if woman wish to preserve fertility[18].

Interval for removal of pack has to be individualized according to clinical findings. Pack was removed earliest at 12 hours and maximum at 24 hours in successful cases in our study. Robert C reported earliest removal of pack at 5 hours and latest at 96 hours[19].

CONCLUSIONS AND SUGGESTIONS

Results of this study show that uterovaginal packing is effective in arresting the bleeding. In our setup, with limited and overburdened resources, uterovaginal packing still retains an important role in emergency obstetrics. It is cost effective as well.

All that is required to accomplish packing is a sponge holding forceps and sterile ribbon gauze. Every obstetrician should be familiar with the technique of packing as this may save life, avoid laparotomy and conserve uterus.

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