Original Article

Intrauterine packing in postpartum hemorrhage still a life saving procedure in resource-poor settings

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Objective: To determine the efficacy and safety of intrauterine packing, in selected cases of postpartum hemorrhage (PPH) in resource-poor settings.

Methodology: This case series was conducted at Department of Obstetrics and Gynecology, Ghulam Muhammad Mahar Medical Teaching Hospital, Khairpur, Pakistan during two year period from January 2010 to December 2011. Patients who delivered either vaginaly or cesarean section (CS) and who developed intractable PPH due to uterine atony, placenta previa, and coagulation failure not responding to medical treatment were included in the study. Firm packing was done with sterilized ribbon gauze, using learing technique under antibiotic cover. Packing was removed after 12-36 hours or earlier in case of failure to control hemorrhage. Pulse, blood pressure, soakage of pads, height of uterine fundus and temperature were monitored. Data were analyzed using SPSS 10.

Results: During the study period, 55 women presented with PPH of whom 36(65%) were primipara while 13(23.6%) and 6(10.9%) were multi and grand multipara women. In 35(63.6%) patients PPH occurred after CS and in 20(36.3%) after vaginal delivery. Uterine atony unresponsive to syntocinon was the commonest cause of PPH seen in 74.5% cases. Intrauterine packing was successful in arresting hemorrhage in 48(87.2%) cases.

Conclusion: Whether used early or late, uterine packing was an effective conservative method for control of PPH, especially in resource-poor setting like us. (Rawal Med J 2014;39:432-434).

Key words: Postpartum hemorrhage, Resource-poor settings, intrauterine packing, maternal mortality.

INTRODUCTION

Postpartum hemorrhage (PPH) is an obstetrical emergency and one of the leading causes of maternal mortality worldwide. Ninety nine percent of all maternal deaths occur in resource-poor settings.[1] In developing countries. PPH is responsible for an annual mortality of approximately 150,000 women per year.[2] From 2 to 5% deliveries may lead to PPH with a blood loss of >1000 ml within the first 24 hours.[3] Avoidance of hemorrhage remains the principal rationale for active management of 3rd stage of labor.[4]

Although many risk factors have been associated with PPH, it often occurs without warning. After excluding traumatic lesions and retained placental tissue, the first line therapy is uterotonic drugs. Failing that, surgical intervention is required. Modern obstetrics aims at decreasing the need for laparatomy and increasing the like hood of uterine preservation, especially in the case of a low parity woman. Intrauterine packing by exerting mechanical compression of uterine vascular sinuses is a quick and effective method of securing hemostasis in a large number of cases.[5] However, deaths from PPH can largely be avoided through proper prevention, diagnosis and management.[6,7] Unfortunately, many women in resource-poor settings do not have access to good-quality care or to skilled birth attendants for their delivery. They are, therefore, at high risk of morbidity or death due to PPH. The aim of this study was to determine the efficacy and safety of intrauterine packing, in selected cases of PPH in our resource-poor setting.

METHODOLOGY

The study was conducted in Department of Obstetrics and Gynecology, Ghulam Muhammad Mahar Medical College Teaching Hospital, Khairpur, Pakistan from January 2010 to December 2011. It included 50 women with primary PPH due to uterine atony unresponsive to conventional uterotonic drugs, placenta previa or coagulation failure after vaginal and cesarean section. Mostly, we included primipara and low parity women but

few grand multi women were also included because they had strong desire to conserve their uterus. Patients with ruptured uterus, cervical, vaginal and perineal tears were excluded from the study. Written informed consent was obtained from patients and their attendants before commencing the procedure.

Intrauterine packing was done by using 8-10 meters sterilize gauze starting from the fundus up to the cervix. Vagina was also firmly packed to give additional pressure to the uterine packing. Intravenous antibiotic coverage was given for 5 days. Uterine packing was removed after 12-36 hours of insertion or earlier in case of failure to control the hemorrhage. Blood and blood products were transfused during and after the procedure as per individual requirements. Pulse, blood pressure, tempreture, height of uterine fundus and soakage of pads was closely monitored. Rise in pulse and fall in blood pressure with rise in uterine fundus were taken as indicators of concealed hemorrhage. Postoperative complications were noted. Data were analyzed using SPSS 10.

RESULTS

During two year of study period, 4600 deliveries were conducted in our unit. Total cases of major PPH (blood loss >1500ml) were 215(4.6%). Out of these, 55 women underwent intrauterine packing. 36(65%) were primipara, 13(23.6%) multipara and 6(10.9%) grand multiparous. More were delivered by CS and uterine atony unresponsive to uterotonic was the leading cause of PPH (Table 1).

Table 1. Parity, Mode of delivery and cause of PPH (N=55).

Parity	Number	Percentage
Primipara	36	65%
Multipara 2-4	13	23.6%
Grandmulti >5	06	10.9%
Mode of delivery		
Cesarean section	35	63.6%
Vaginal delivery	20	36.5%
Causes of PPH		
Uterine atony	41	74.5%
Placenta previa	11	20%
DIC	03	5.4%

Intrauterine packing was successful in arresting hemorrhage in 48(87.2%) while failed in 7(12.7%) of cases.

Concealed hemorrhage was seen in 6(10.9%) of cases, packing was removed with difficulty in 8(14.5) cases and endometritis was seen in 3 (5.4%) cases (Table 2).

Table 2. Out come and morbidity (N=55).

Outcome	Number	Percentage
Success	48	87.2%
Failure	07	12.7%
Morbidity		
Concealed hemorrhage	06	10.9%
Difficult removal	08	14.5%
Endometritis	03	5.4%

Among 7 patients in those packing failed to control hemorrhage, obstetrical hysterectomy was carried out in 4(7.2%) women, 2 cases cured by other methods and one woman expired due to DIC and multi organ failure.

DISCUSSION

In resource-poor settings, access to the full range of PPH treatment modalities, such as uterotonic and surgical interventions, or resuscitation by blood products is frequently limited, putting many women at risk of morbidity and mortality from PPH. It has been suggest that intrauterine packing is helpful in managing PPH secondary to wide variety of causes in resource-poor settings, placenta previa and coagulation failure.[8] The results of our study suggest that intrauterine packing is a safe and effective measure for treating major life threatening PPH. This simple technique is cost effective quick and easy to learn, especially by junior obstetricians, who often will be the first ones to attend the patient in this acute emergency.[9,10]

However, the success rate is directly related to the technique.[11,12] In our study, it was successful in controlling hemorrhage in 87.2% cases. Success rate of 85%[13] and 88.9%[14] have been reported. Historically, packing of uterine cavity was frequently practiced in early 20th century. Many obstetricians frequently described packin but practice fell out of use between 1960s and 1980s due to fears of infection and concealed hemorrhage.

Hysterectomy is a major and difficult decision in PPH, especially in low parity young women that

causes undesirable side effects of reproductive sterility, secondary amenorrhea, physical and psychological trauma.

Several authors reported that bilateral uterine artery ligation was as effective a procedure for management of uncontrolled PPH. Failure occurred in 8-20% and hysterectomy was required. Stepwise uterine artery devascularization has high success rate and is a safe alternative to hysterectomy.[15]

Interval for removal of pack has to be individualized. Pack was removed earliest at 12 hours and maximum at 36 hours in successful cases in our study. Removal of pack at 5 hours and maximum at 96 hours has been reported.[16] Despite the fact that a foreign body placed in uterine cavity can favor bacterial growth, there have been no reported cases of serious infection seen in our study population. There have been no significant morbidity secondary to packing.[14] in our study, packing failed in 7 cases and bleeding was controlled by other methods.

In developing countries such as Pakistan, where PPH continues to be responsible for a large number of maternal deaths, any simple intervention that can be readily performed to control bleeding by tamponade is crucial. Intrauterine packing requires no special equipment or expertise to perform and should easily come to the mind for control of PPH in resource-poor settings.

CONCLUSION

Uterine packing was a safe, quick, low cost and effective procedure for control of obstetric hemorrhage.

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Conception and design: Kulsoom
Collection and assembly of data: all authors
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Drafting of the article: Tahmina, Rubina
Critical revision of the article for important intellectual content: Azad Ali
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