Original Article

Uterovaginal Packing in the Management of primary Post Partum Hemorrhage in Tertiary Care Hospital: A five year Clinical study

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Abstract

Objectives: To determine the effectiveness of uterovaginal packing in the management of primary postpartum hemorrhage after vaginal delivery and during cesarean section.

Study design: a Retrospective analytical study

Place and duration of study: Department of Obstetrics and Gynecology Unit-4, Bolan Medical Complex Hospital, Quetta, from 1st January 2013 to 31st December 2017

Methodology: This retrospective analytical study included the review of clinical records of all patients who delivered either vaginally or via caesarean section and developed primary postpartum hemorrhage and were managed by uterovaginal packing with sterilized roll guaze.

Results: During the study period, 34,368 deliveries were conducted. Total 147 uterine packing done for control of postpartum hemorrhage which failed medical treatment. 49 (33.3%) uterine packing were done after vaginal delivery in which main indication of packing was uterine atony, seen in 34(69.3%) cases, while 98 (66.6%) packing were done at the time of cesarean section where the main indication was morbidly adherent placenta, found in 57(58.1%) cases. In 88% cases only uterine packing was effective while in others uterine artery or internal illiac ligation was also done. The success rate of uterine packing was 98.6%.

Conclusion: Uterine packing is an effective, easy, quick and lifesaving method in the control of postpartum hemorrhage, both at vaginal delivery and during cesarean section.

Keywords: Postpartum hemorrhage, Uterovaginal packing, Vaginal delivery, Caesarean section, temponade.

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Introduction

Postpartum hemorrhage (PPH) is defined as the loss of more than 500ml of blood following a vaginal delivery or more than 1000ml following cesarean delivery resulting in signs or symptoms of hemodynamic instability.[1] Even with appropriate management, approximately five percent of obstetric patients will experience PPH, and one percent of vaginal deliveries will result with severe PPH.[2] It is the major cause of maternal death in developing countries and is responsible for 150,000 deaths annually or 25% of maternal deaths worldwide.[3] There are several causes of primary PPH i.e. uterine atony being on top however

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20% patients have no risk factors.[4] So care provider must always be vigilant. Potential sequelae of PPH include anemia, fatigue, postpartum depression, acute stress reactions, dilutional coagulopathy, Sheehan's syndrome, transfusion reaction, infection and occult myocardial ischemia impairing quality of life and causing maternal mortality.[5,6]

A number of methods have been applied and proposed with success in the management of PPH, which fails to respond to medical treatment, but many of them cannot be practiced globally either due to non-availability or lack of skills. The methods used are uterine tamponadd devices (Bakri, ebb, BT cath balloons, sangstaken Blakemore tube), angiographic embolization, recombinant factor VIIa, compression of aorta, B-Lynch procedure, hemostatic multiple square suturing surgical ligation of arteries, temponade with a condom inflated with 500ml of saline, or hysterectomy.[7,8]

Uterine packing has been used for decades but after 1960, because of fear of concealed haemorrhage and infection its use declined. As both reasons have improved over years, uterine packing has revived as an option for the management of PPH. It is not only quick and easy method to apply but also easy to teach and very economical.[9,10,11]

Methodology

This retrospective analytical study was conducted in the department of Gynae unit-IV, Bolan Medical Complex Hospital, Quetta. Clinical records of all patients who either delivered vaginally or by cesarean section developed uncontrolled postpartum hemorrhage and was managed by uterine packing after failure of medical treatment were obtained from labor ward and Operation Theater registers as well as from the case files. Results were calculated in terms of percentage and frequency.

A tight uniform packing of whole uterine cavity starting from the fundus up to the cervix, with the help of sponge holding forceps or fingers using a sterilized roll gauze of more or less 8-10 meters. Vagina was also packed to insert pressure, Patient was closely monitored for any complication. The packing was removed after 24-48 hrs according to patient condition. All patients were followed till puerperium and those with MAP were followed till placenta completely resolved on ultrasound and normal periods resumed. As part of or whole placenta was left intrauterine depending on adherence to the uterine wall, these patients were given methotrexate postoperatively. The placental volume was followed by serial ultrasound till placenta resolved completely.

Results

During the study period, 38,368 deliveries were conducted. Out of them, 147 patients underwent uterine packing for PPH. 49 (33.3%) patients had hemorrhage after vaginal delivery while 98 (66.6%) after cesarean section. 74(50%) of the patients were between age of 31 to 40 years and 51(35%) were between 21-30 years. 16(11%) were primigravida, 85(58%) were multipara and 46 (31%) were grandmultipara. 129 (88%) patients were managed by uterine packing only, 14(9%) patients by uterine packing and internal iliac artery ligation and 4 (3%) by uterine artery ligation along with uterine packing (Table I). Only two patients started bleeding after removal of packing, which was managed by hysterectomy and patients survived giving the success rate of 98.6%. One patient was repacked when started bleeding after removal of uterine packing and was successful. No any maternal death occurred due to uterine packing. Regarding indications of uterine packing, uterine atony was the most common 34 (69.3%) in vaginal deliveries and morbid adherent placenta, 57(58.1%) at cesarean sections (Table II).

Table I: Demographic data and management

Variable (n=147)	Frequency	Percentage
Age (years)		
21-30	51	35%
31-40	74	50%
≥40	22	15%
Parity		
Primigravida	16	11%
P1-2	54	37%
P3-4	31	21%
≥5	46	31%
Management		
Uterine packing only	129	88%
Uterine packing + uterine artery ligation	4	3%
Uterine packing +internal illiac artery ligation	14	9%
Sussess	145	98.6%
Failure	2	1.4%

The waist to hip ratio was a more prominent indicator for risk of endometrial carcinoma the women having a WHR of 0.76 to 0.80 have 1.48 times increased chance of endometrial cancer as compared to women having <

0.75 WHR. This risk increases to 2.60 times among the women having 0.81-0.85 WHR and this risk rises enlarges 3 times among women having a waist to hip ratio of > 0.85 as compared to women having WHR < 0.75 as elaborated in table II.

Table II: Indications of uterine packing

Indication	Vaginal delivery n=49	Emergency C/S n=98	Total n=147
Uterine atony	34 (69.3%)	27 (27.5%)	61 (41.5%)
Abruption Placenta pravia	10(20.4%)	14 (14.2%)	24 (16.3%)
Accrete	5 (10.2%)	31 (31.6%)	36(24.5%)
Increta Percreta	0 0	21 (21.4%) 5 (5.1%)	21(14.3%) 5(3.4%)

Discussion

PPH is the leading cause of death in developing countries.[12] Though many methods have been proposed to deal with it in case medical treatment fails,[13] uterine packing is an option which is not only easy and quick to perform but also very cost effective. As PPH is mostly encountered by residents and medical officers in public sector and it's the golden hour that matters, they can easily be skilled and all they need is a sterilized roll guaze. It not only proves therapeutic but it can buy the time to refer the patient to a higher medical facility.[14]

In our study, 69.3% uterine packing done for uterine atony after vaginal delivery and 58.1% uterine packing done after cesarean section due to placental site bleeding which are comparable with the study of Jamelle R in which uterine atony was the indication in 60% after vaginal delivery and 58.8% was the placental site bleeding at cesarean section.[15]

Bagga R. et al[16], have recommended the uterine packing in cases of uterine atony where the medical treatment fails. Our study included the cases of uterine haemorrage after vaginal delivery as well as after cesarean section with a success rate of 98.6%. In a study by Hag G &Tayyab S[17] had success rate of 85%, two patients had hysterectomy and one mortality. Other study by Javed L[18] had success rate of 90.9% and seven patients had hysterectomy due to uncontrolled haemorrhage, two patients died due to DIC. Mabasher I et al[19] had success rate 87.5% and 4 hystrectomies, while in our study only two hysterectomies done due to uncontrolled hemorrhage after removal of packing.

Shao Y[20] in his study showed that uterine gauze packing is an effective tool when hemorrhage is due to placenta previa/accrete at cesarean section. Fever after uterine packing was minimal and no concealed hemorrhage was seen in any patient on abdominal ultrasound on discharge. Success rate was 95.6% and Ge J[21] had 92.8 % success rate of uterine packing during cesarean section for central placenta previa in his study. Rezk M[22] had success rate of 93.3% of uterine packing in controlling active bleeding as compared to foley's catheter which had only 68.1% success. Uterine compression sutures could cause uterine synechiae, causing myometrial ischemic necrosis and it can only control upper uterine segment bleeding.[23]

In our data 50% patients were age 30-40yrs, and 35% were 21-30yrs. 11% were primigravida, 58% multigravida and 31% grandmultigravida. No age group or parity was spared from the complication. It was endorsed by other studies too.[18,19]

The cesarean rate has been on the rise for the last few years along with its complication of morbidly adherent placenta.[24] We faced 36 cases of accrete, 21 cases of increta and 5 cases of percreta. They responded well to packing. The success rate can even be higher if uterine artery ligation and/or internal illiac artery ligation prophylactically along with uterine packing in some cases, where needed.[25] Wajid R et al[26] did hysterectomy in 57% and 43% responded to conservative measures. Internal iliac artery ligation was done in23% and maternal mortality was 11.8%. All our patients recovered with no long-term complications and there was no mortality. Conservative approach is acceptable to patients.[27] Hysterectomy shall only be the last resort and only done with the consent of patient. As most of our patients are either in shock or under anesthesia, the consent is given by family. Losing the uterus was mostly unacceptable by patients when they recovered with psychological trauma, uterine preserving methods should be adapted and hysterectomy shall only and only be done with the patients consent.

Though new methods and modalities are introduced every day, but they are not available universally. Even most of the talked about techniques are not practiced. Our obstetricians along with their trainees should focus on basic skills that are easy to learn and apply.

Conclusion

PPH is a grave emergency but it is not an impossible task

to deal with. In our country with rave disparities in health care, we need to go for options which are not only easy but also cheap. Uterovaginal packing is very successful in primary PPH and also a very easy skill to teach. It is a therapeutic method as well as help to buy the time for a referral. It helps save the patients, the uterus and thus preserve fertility. It was very acceptable by the patients

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