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UterineBalloonTamponade in the Management of Severe PostpartumHaemorrhage-Evaluation of Effectiveness

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ABSTRACT

Objective: To evaluate the effectiveness of uterine balloon tamponade in the management of postpartum haemorrhage.

Study Design: Prospective study.

Material &Methods: Twenty women with intractable postpartum haemorrhage managed by uterine balloon tamponade using Foley's catheter when medical management was not effective and prior to surgical intervention.

Results: During the study period 20 cases were revived. In 14 cases (70%) haemostasis was achieved, while in 6 cases (30 %) uterine tamponade using Foley's catheter failed in arresting haemorrhage. Of the 6 failures none of the women underwent hysterectomy, but haemostasis was achieved with conservative measures. Among the failed cases there was one maternal death due to cardiac arrest and postpartum haemorrage secondary to coagulopathy. In cases were the balloon was successful it was removed around 24hrs later. In these cases no further bleeding was observed and no complications occurred from the placement of Foley 's catheter.

Conclusion: Uterine tamponade using Foley's catheter successfully control atonic PPH refractory to medical management .It is simple , inexpensive and in those with successful placement no surgical morbidity was observed. In areas with limited resources and inexperienced operators. It is useful adjunct in the management of PPH

KEYWORDS : Postpartum haemorrhage (PPH), tamponade, Foley's catheter

Introduction

Obstetric haemorrage is a significant contributor to worldwide maternal morbidity and mortality (1,2) .Even in the developed nation like USA the incidence of maternal deaths due to PPH is as high as 13%(3) with rates as high as 40% from other parts of the world.(4). Worldwide it is estimated that at least 150,000 womenper year bleed to death during or immediately after delivery.(5) and ninety-nine percent of all maternal deaths occur in poor resource settings.(6) Uterine atony is the major cause responsible for primary PPH in around 70-90% of cases. Trauma to the genital tract in the form of tears, lacerations hematomas or uterine rupture account for rest of the cases. Guidelines for the management of postpartum haemorrhage (PPH) involve a stepwise approach including the exclusion of retained products and genital tract trauma. Traditionally uterine atony has been managed by uterine massage along with the use of uterotonic agents such as oxytocin, ergometrine ,misoprostol and prostaglandin F2α (PGF2α) (7-9).

When medical management prove to be unsuccessful and the woman is not already having a caesarean section, a laparotomy is considered. During this time, various surgical interventions may be used. These include internal iliac artery ligation, uterine compression sutures and peripartum hysterectomy to control the life threatening haemorrage. (10-12) Recently ,uterine balloon tamponade (UBT) has been included as a second line treatment for PPH.

Material and Methods

A prospective observational study was conducted in the Department of Obstetrics and Gynaecology J.N.M.C.H., A.M.U., Aligarh over a period of one year 2012 to 2013 .Twenty two women with intractable atonic postpartum haemorrhage , who did not responded to medical management and prior to radical surgical intervention.

Single or two Foley's catheter (20 Fr) was placed in the uterine cavity and inflated with 60-80ml sterile normal saline to achieve haemostasis and subsequently removed after 24hrs without further postpartum haemorrhage.

Results:

Mean age of patients was 26.85± 4.006.Thirty five percent of patients were Primipara and 65% were multipara. Thirty percent of patients were booked and sixty percent were unbooked. Mean gestational age of the patients at the time of delivery was 37.56±3.32.All the patients in the study group were anaemic with severe degree of anaemia in 91% of patients.(Table-1). All the patients in our study group responded to balloon tamponade but 6patients needed additional measures like B- lynch sutures ,uterine artery ligation and uterine packing(Table-2). The foley's catheter was removed after 24 hrs and no secondary PPH was observed in the patients. None of the patient underwent hysterectomy. Only one maternal death was occurred which was due to coagulopathy cardiac arrest. In the follow up of the patients no futher complication like fever, foul smelling discharge ,pain lower abdomen or secondary PPH was observed.

Discussion

Postpartum haemorrhage is the leading cause of maternal death. Effective interventions addressing postpartum haemorrhage are critically required to reduce maternal mortality.Prophylactic measures like use of uterotonics will reduce the risk of PPH by about 60%(3) Patients with massive blood loss after delivery can quickly become haemodynamically unstable and develops a chain of life threatening events which can finally lead to the death of the patient. Surgical haemostasis is to be initiated sooner rather than later. Pelvic artery ligation (uterine or internal iliac) require complex pelvic dissection and though successfully tried is not always feasible in all situations. Embolization of pelvic arteries needs interventional radiologists , trained and experienced surgeons and expensive infrastructure. This facility is not available in most of the peripheral hospitals. Hysterectomy was the ultimate solution which could be provided conventionally, however the pressures to preserve fertility and avoid hysterectomy have led to the evolution of number of techniques in the recent years.(8).Compression sutures like B-lynch (9) for control of atonic PPH is also an option but again it is an invasive procedure. In contrast uterine balloon catheter is simple, effective and should become well integrated in the treatment of intractable PPH, due to uterine atony, coagulopathy and placenta accreta. The mechanism of action of UBT is by means of compressing the uterine sinuses and thereby arresting PPH. Our results with the use of Foley's catheter as uterine tamponade and control intractable postpartum haemorrhage has been effective in 95% cases. Adoption of this technique and dissemination of knowledge about its use in the management of atonic PPH may save lives in many under resource settings where uterotonics, safe blood, anaesthsia and experienced surgeons are unavailable round the clock.

Conclusion

Postpartum haemorrhage (PPH) is a potentionally life threating event. UBT using Foley's catheter appears to be an effective tool in the management of PPH. It is simple to apply and with no adverse or minimal adverse effects. UBT should become a familiar component of existing guidelines for the management of PPH, rather than an isolated form of therapy. Adoption of this technique in the management protocol of atonic PPH may save lives in many settings worldwide.

Table – 1 Clinical Profile of Women

Variables	N= 20 cases
Age (years)	Average : 26.85 ± 4.006
Parity	Primi (n=7) 35% Multi (n=13) 65%
Cases	60% Unbooked 30% Booked
Gestational age (Weeks)	37.56±3.32
Anemia : < 10.0gm %	100%, 91.0% were severely anemic (Hb< 7.0gm%)

Table-2 Uterine Tamponade and Additional Measures

Groups		Foley catheter	B-Lynch sutures	Uterine Artery Ligation
Mode of delivery	N %	N%	N%	N%
Vaginal delivery	06 (30%)	06(30%)	-------	––––––––
Caesarean delivery	14 (70%)	08(40%)	04(20%)	2 (10%)
Total	20 (100%)	14(70%)	04(20%)	2(10%)

REFERENCES

1) La LandeA ,Daviss BA, Acosta A, Herschdafer K. Postpartum haemorrhagetoday.ICM/FICO initiative 2004-2006. IntJ.GynaecolObstet 2006.94.243-53 | 2) World Health Organization. Attending to 136 million births, every year make every mother and child count. Chapter 4: risking death to give life. | The World Health Report 2005. Geneva Switzerland WHO; 2005 | 3) Cunningham FG Obstetrical hemorrhage. In: Cunningham FG.MacdonaldPC,eds. William's Obstetrics. Stamford Connecticut:Appleton and Lange; 1999.pp745-69 | 4) World Health Organization. Maternal Mortality- A Global Fact book. Geneva: WHO,1991;3-16 | 5) Hazem El, Rafaey, Charles R.Postpartum hemorrhage: definitions, medical and surgical management. A time for change. British Medical Bulletin 2003; 205-17 | 6) World Health Organisation, UNICEF,UNFPA, The World Bank Trends in Maternal Mortality: 1990 to2008: Estimates Developed by WHO,UNICEF,UNFPA, and the World Bank. 2010. | 7) Somerset D. The emergency management of catastrophic obstetric haemorrhageobstetGynaecol2006:8:18-22 | 8) Royal College of Obstetricians and Gynaecologists. RCOG Draft Guideline Prevention and Managementof Postpartum Haemorrhage.2008 | 9) Mousa HA, Walkinshaw S. Major PostPartumHaemorrhage.CurrOpinObstetGynecol 2001;13:127-31 | 10)Tamizan O, Arkulkumaran S. The surgicalmanagement of postpartum hemorrhageCurropinObstetGynaecol 2001;13: 127-31 | 11)Doumouchtsis SK, Papageorgheou AT, Arulkumaran S, Systematic review of conservative management of PPH: What to do when medical treatment fails.ObstetGynecolSurv 2007; 62: 540-7 | 12) Knight M: On behalf of UKOSS Peripartum hysterectomy in UK: management and outcome of the associated haemorrhage. BJOG 2007: 1141380-7S |