Effectiveness of Foley Catheter in Controlling Post-Evacuation Uterine Bleeding After a Missed Abortion

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Abstract

Three patients who had profuse uterine bleeding following evacuation of the uterus for missed abortion are presented. Further haemorrhage was controlled in all the patients by distending the balloon of the Foley's catheter introduced into the uterine cavity. Foley catheter is cheap, simple to use and readily available in controlling uterine bleeding thereby avoiding the need for more blood transfusion and operative interventions in cases of excessive bleeding resulting from evacuation of missed abortion.

Key Words: Foley catheter, Missed abortion Uterine bleeding. [Trop J Obstet Gynaecol, 2005, 22: 76-78]

Introduction

Missed abortion describes a pregnancy in which the fetus or embryo dies but it is retained for weeks or months in the uterus. The normal reaction of the uterus to the death of the fetus / embryo is to expel it but this may not occur for unexplained reasons. When the diagnosis is made, it is best to evacuate the uterus without delay as there is a risk of coagulation defect if a missed abortion is left for several weeks.[1,2] Occasionally, there is quite pronounced and even alarming haemorrhage caused by afibrinogenaemia if the fetus has long been retained.[2]

When abortion issues are raised, the focus of clinicians is on induced or other clinical types, missed abortion and its complications are rarely mentioned.

Exsanguinations can result from evacuation of missed abortion leading to shock and death. To improve maternal health which is one of key Millennium Development Goals with a target of reducing maternal mortality by three quarters between 1990 and 2015, there should be no complacency in finding ways of controlling profuse uterine bleeding resulting form evacuation of missed abortion. Three cases of severe post-evacuation uterine bleeding for missed abortion successfully managed with distension of balloon of Foley catheter introduced into the uterine cavity to arrest bleeding are presented.

Case 1

Mrs. M.O. was a 30 year old house wife. She was para 1^{+0}, alive. She presented at the antenatal clinic on the 25th of May 2003 with complaints of diminishing pregnancy symptoms. Her last menstrual period was on the 25th of January 2003. Her gestational age was 17 weeks. She had a previous caesarean section in 2001 for fetopelvic disproportion. Examination revealed a healthy lady with no abnormal systemic findings. Vaginal examination revealed a normal cervix with closed os and a bulky uterus of about 8 weeks size. Pelvic ultrasonography confirmed missed abortion. Her hemoglobin was 10.8g/dl and her clotting profile was normal.

She had an evacuation with manual vacuum aspiration with Karman syringe and cannula. There was profuse haemorrhage. The estimated blood loss was about 1.5 litres. Bimanual uterine compression, oxytocin drip and intravenous ergometrine were unsuccessful. She had 2 units of whole blood transfusion. A size 16 foley catheter (UNESCO Fr 30ml) was introduced into the uterine cavity and inflated until resistance was felt when 30ml of normal saline had been introduced. Bleeding promptly stopped. The catheter was removed 18 hours later. No further bleeding occurred. There was no further blood transfusion and she was discharged home with a haemoglobin level of 9.0g/dl. On follow up visits, she remained well and had seen her normal menstruation.

Case 2

Mrs. A.O. was a 30 year old primipara, alive. She had caesarean section for cephalopelvic disproportion. She presented in July 2003 with complaints of bleeding per vaginam of 4 hours duration. She had an evacuation in a private clinic 4 weeks prior to presentation for missed abortion following amenorrhrea of 14 weeks. She was then transfused with 2 units of blood for profuse hemorrhage. Bleeding had continued minimally until the day of presentation when it became heavy.

On examination, she was markedly pale, but conscious. Her blood pressure was 90/60 mmHg and her pulse rate was 120 beats per minute. Her lung fields were clear. She had mild suprapubic tenderness but there was no evidence of free peritoneal fluid. Her cervix was

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healthy but the os was open. The uterine size was about 8 weeks. Her haemoglobin level was 4 g/dl. Clotting profile was normal and pregnancy test was negative. Pelvic ultrasound scan revealed intrauterine echos possibly due to blood clots. She had 2 units of whole blood transfusion, antibiotics, oxytocin drip and intravenous ergometrine. Bleeding continued and evacuation was carried out. There was severe hemorrhage and she lost about 900mls of blood. All known measures aimed at arresting hemorrhage failed until Foley catheter size 16 (UNESCO) Fr 30ml was introduced into the uterine cavity and inflated until resistance was felt at 30 ml of sterile water. Bleeding immediately stopped. The catheter was removed after 12 hours. Her clinical condition remained stable and she was discharged 2 days later with a haemoglobin level of 7.1g/dl. She has since resumed normal menses.

Case 3

Mrs. M.Q. was a 30 year old nullipara who presented on the 3rd of August 2003 with complaints of passage of fetal part associated with severe bleeding per vaginam of 2 hours duration. She had been amenorrhroic for 15 weeks. Her last menstrual period was on the 18th of April 2003. She claimed to have ceased to experience symptoms and signs of pregnancies 4 weeks earlier and ultrasonographic scan report brought by the patient revealed missed abortion.

On examination, she was pale, afebrile and conscious. Her pulse rate was 120 beats per minute with a small volume while her blood pressure was 90/50 mmHg. She had mild suprapubic tenderness with no free peritoneal fluid. On vaginal examination, the vulva and vagina were smeared with blood. The cervical was open and the uterus was about 12-week size and there were no adnexal masses. An impression of incomplete abortion following missed abortion was made. Her haemoglobin level was 5.8g/dl and she was immediately transfused with a unit of available whole blood. Evacuation of the uterus was carried out with manual vacuum aspiration using the Karman syringe and canulla. At the end of the procedure, uterine bleeding continued, the usual known methods of controlling bleeding as in the previous cases were not successful. Foley catheter was introduced into the uterine cavity and inflated with 70ml of normal saline, a point at which resistance was felt. Uterine bleeding was controlled. She was discharged 2 days later with a haemoglobin level of 7.8g/dl and oral haematinics. She has since seen her normal period.

Discussion

These cases demonstrate that uterine bleeding following evacuation of the uterus for missed abortion is a serious emergency in gynaecological practice. It is a wise practice to anticipate profuse uterine bleeding when one is to embark on such procedure and measures taken to prevent and control it. In the field of obstetrics, uterine packing has been used for many years to control postpartum haemorrhage (PPH) [3,4,5,6]. The control of acute haemorrhage from non puerperal uterus is more difficult [4,7-9]..

There are also reports of the use of Foley catheter to control PPH[3,10]. Recently two cases of bleeding after evacuation of the uterus for missed abortion and one from post-partum haemorrhage which were successfully managed with the passage of Foley catheter have been reported[11]. The experience in Port Harcourt is limited to post-evacuation profuse uterine bleeding following missed abortion. In the three cases managed, the uterine size ranged between 8-12 weeks of gestation on physical examination. The type of Foley catheter used is of importance as some will not withstand the pressure of more than 30-50ml of fluid recommended by the manufacturers without bursting. UNESCO, silicon coated latex catheter size 16Fr 30ml was used in the patients managed. It can withstand fluid volume of about 70ml in spite of the manufacturers recommended maximum of 35ml. This fluid accommodation was demonstrated in vitro by the authors.

The exact mechanism of action of distended balloon in the uterine cavity is not clear. Tamponade effect of inflatable balloon devices is a time proven method of arresting haemorrhages when introduced into organs with cavities [4,7-9,11-14]. Uterine contractions aimed at expelling the balloon considered a foreign body in the uterine cavity has been suggested as one of the mechanisms whereby uterine haemorrhage is arrested [15]. Other options for managing a patient with intractable uterine bleeding from evacuation of missed abortion include multiple blood transfusion, uterine packing, curettage, hysterectomy, uterine artery embolization and ligation. These options are fraught with risks.

The catheter was left in place for 12 to 24 hours. Leaving it longer may predispose to pelvic infection. Early removal may lead to further bleeding necessitating the use of other drastic options of arresting uterine haemorrhage with their risks. Some authors, however, have removed the catheter within 6 hours [11]. Ballooned Foley catheter introduced into the uterine cavity is effective in controlling post-evacuation intractable uterine bleeding for missed abortion, thereby reducing the need for multiple blood transfusions and operative interventions. The procedure does not require any special expertise or high technology equipment. Above all anaesthesia is not required. Foley catheter is cheap, simple to use and readily available. It is recommended as a good alternative therapeutic option in all cases of profuse uterine bleeding following evacuation of the uterus for missed abortion before other options and radical surgery are considered.

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