Management of Primary Post Partum Hemorrhage by Balloon Tamponade


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Abstract

Objective: To assess the use of balloon tamponade in management of primary post partum hemorrhage.

Patient and Methods: A retrospective review of postpartum records of women with massive postpartum hemorrhage between January 2003 and 2006. Primary postpartum hemorrhage were identified in 62 patients in which there was a blood loss of over 1000mls the records of 40 cases were reviewed.

Results: Two of 40 cases needed a hysterectomy seven women had been identified as being managed by insertion of intrauterine balloon catheter of these six of seven were successfully managed one women needed a hysterectomy.

Conclusion: We advocate the increase used of intrauterine balloon tamponade for the management of massive obstetric hemorrhage before resorting to invasive procedure.

Key Words: Primary postpartum hemorrhage – Balloon tamponade.

Introduction

PRIMARY postpartum hemorrhage is potentially life threatening condition. It is one of top five causes of maternal death in both developed and developing countries [1].

In the United Kingdom the risk of death from postpartum hemorrhage is 1/100000 deliveries [2]. It remain the 3rd most common cause for maternal mortality [3]. With over 600 cases massive obstetric hemorrhage in the UK every year, management options are aimed to be fast, effective and safe for this potentially life threatening situation.

A caesarean hysterectomy, a method used to treat severe cases of uncontrollable postpartum hemorrhage, it has long term physical, psychological and emotional consequences on maternal health.

It carries a significant postoperative morbidity and should be only be resorted to after all conservative management have failed. Therefore all possible conservative measure should be tired in context of a women medical condition.

We report a case series of seven women managed with tamponade for massive postpartum hemorrhage A catheter (foley/sengstaken) was used to control the bleeding successive in six of the seven cases.

Material and Methods

A retrospective review of postpartum records of women with massive postpartum hemorrhage at Pumbory district hospital in kent over a four-years period between January 2003 and December 2006.

Primary post partum hemorrhage were identified in 62 patients in which there was a blood loss of over 1000mls the recodes of 40 women were reviewed.

Two of 40 cases needed a hysterectomy. Seven women had been identified as being managed by insertion of intrauterine balloon catheter.

A foley/Sangestiken catheter was used to control postpartum hemorrhage after failure of conventional methods to control bleeding.

Routine procedures including active management of the third stage of labour, followed by administration of at least two ecobolic drugs.

Failing that, insertion of an 18-gauge intrauterine foley catheter was inserted to control he bleeding the balloon was distended with 60-100mls of water and the catheter kept insitu for 24 hours.
The catheter balloon was gradually deflated every four hours.

Six of the seven women were successfully managed by balloon tamponade.

Successfully outcome was measured by cessation of bleeding and avoidance of further medical or surgical interventions. One woman needs a hysterectomy for intractable bleeding.

Discussion

In this case series, five of the seven women had a caesarean section. A decision for elective delivery by CS had been planned for three of the patients.

Two other women had undergone an emergency CS and two women had spontaneous vaginal delivery. Medical records and history taking identified possible risk factors for current episode of postpartum hemorrhage. Three women had previous SC delivery in the past one woman had a retained placenta in earlier pregnancy only one woman had a history of postpartum hemorrhage.

Risk factors and characteristics of the seven women had been presented in Table (1).

Table (1): Summary of patient details.

<table>
<thead>
<tr>
<th>Parity</th>
<th>Cause of bleeding</th>
<th>Estimated blood loss</th>
<th>Gestation at delivery</th>
<th>Anaesthesia</th>
<th>Mode of delivery</th>
<th>Risk factors</th>
<th>Age</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Placenta praevia</td>
<td>3000mls</td>
<td>37</td>
<td>GA</td>
<td>Elective Cs</td>
<td>Previous CS for placenta praevia previous PPH</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>Uterine atony</td>
<td>1700mls</td>
<td>38</td>
<td>GA</td>
<td>Elective CS</td>
<td>Previous Cs uterine horn</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>Uterine atony</td>
<td>3000mls</td>
<td>38</td>
<td>GA</td>
<td>SVD</td>
<td>Retained placenta manual removal of placenta</td>
<td>34</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Uterine atony</td>
<td>3000mls</td>
<td>36</td>
<td>GA</td>
<td>Elective CS</td>
<td>Previous CS placenta praevia twins pregnancy</td>
<td>35</td>
<td>4</td>
</tr>
<tr>
<td>0</td>
<td>Uterine atony</td>
<td>2500mls</td>
<td>39</td>
<td>Regional</td>
<td>SVD</td>
<td>Non</td>
<td>38</td>
<td>5</td>
</tr>
<tr>
<td>0</td>
<td>Uterine atony</td>
<td>2000mls</td>
<td>39</td>
<td>Regional</td>
<td>Emergency CS</td>
<td>Maternal pyrexia</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>0</td>
<td>Low placenta uterine atony</td>
<td>2000mls</td>
<td>39</td>
<td>Regional</td>
<td>Emergency CS</td>
<td>Maternal pyrexia</td>
<td>39</td>
<td>7</td>
</tr>
</tbody>
</table>

With global rises in the rate of the CS and quoted figures of one in five women having caesarean section in the UK.

With global rises in the rate of the CS and quoted figures of one in five woman having caesarean section in the UK, there is a real theoretical risk of increasing in placenta praevia and placenta accrete. Uterine atony remain the commonest cause of postpartum hemorrhage [5].

Immediate resuscitation and replacement of the blood volume loss along with medical management procedures and will assist in controlling bleeding in the majority of cases.

However there is situation where surgical management may be needed for those with uncontrollable intractable bleeding. Several other conservative measures are available and should be attempted before resorting to caesarean hysterectomy.

Active attempts have been made to introduce conservative procedures to avoid hysterectomy. After investigation the lower genital tract and excluding laceration, uterine atony is usually implicated in the majority of cases.

Ecobolics such as Syntocinon. Ergometrine, Haemabate and recently rectal misoprostol are common uterotonics administered to control bleeding. In the majority of cases theses ecbolics drugs either individually or in combination are sufficient to control the bleeding [6].

Internal iliac or uterine artery ligation can be attempted in selected cases. This method is technically difficult and may not be effective. It has a reported success rate of less than 50% [7].

Several uterine compression sutures have been described, more commonly the B-Lynch brace suture [8]. These sutures act by compressing uterine walls and stopping bleeding.
The B- Lynch technique and its modification has been reported repeated with success rate up to 70% in the medical literature [9].

More recently radiological embolisation techniques in certain centers have been available this procedure has its limitation it only can be used in special centre where interventional radiologist are readily available and bleeding is not life threatening. Such a techniques difficult and it is not without own inherent clinical complication and risk to the patient. Adverse event such as severe ischemic sequelae have been reported with subsequent amenorrhea and sub fertility. However in experienced hands it has been advocated as safe and effective procedures offering patients a fertility preserving alternative to hysterectomy for managing intractable massive postpartum hemorrhage.

Uterine packing of the uterus was commonly used before falling out of fashion. It was perceived to have an increase risk of infection and perception that it did more to conceal ongoing hemorrhage. However it re emerged again in the 19990s after these concerns was unfounded. Precautionary measures are recommended such as close observation of the uterine size and general condition of the patient to diagnose any early distal bleeding that may occur [10].

Balloon Tamponade therapy has been successfully tried and tested in other specialties it is use to control massive bladder hemorrhage and esophageal varices for which the Sangestaken Blake-Moore balloon was devised and used to achieve intrauterine homeostasis in patients bleeding after a verities of gynaecological procedures. These methods have been adapted to be used in bleeding postpartum haemorrhage [11].

More recently many cases reports have been published describing the successful use of intrauterine balloon catheters distended with 60mls of fluid to control intractable postpartum haemorrhage [12]; although initially the sengastaken Blake-Moore tube was described to achieve intractable bleeding [13].

Many other descriptions have been reported in the medical literature. A tamponade balloon made of silicone has been designed and used [14]. The Rusch urological hydrostatic balloon has also been described and widely used [15].

In resource poor setting with a high prevalence of maternal mortality from obstetric hemorrhage, physician have developed innovative cheap alter-
natives the novel use of condom catheter was described by group of Dakha. Bangladesh [16] in rural Zimbabwe an intrauterine Foley catheter insufflated with hot water was used for control of post abortive bleeding at 20 week 16.

Attempts have been made to develop a diagnostic test, which can rapidly identify those patients with PPH who will required laparotomy this has been termed (Tamponade test) [17]. In theory there is no contraindication to use more than method to effectively control intractable bleeding. The B-Lynch suture and intrauterine balloon tamponade have been successfully used singly in controlling PPH. There have been describing in the literatures of the effective use of combination therapy. A case report has describe defective use of a combination the B-Lynch suture end an intrauterine balloon catheter [17].

Further research is required to assess the place and choice of tamponade procedure in women suffering with sever postpartum hemorrhage it could prove difficult placing it in the context of a randomized control trial with other intervention in this potentially life threaten condition.

Conclusion:

We advocate the increase use of intrauterine balloon catheter tamponade for management of massive obstetric hemorrhage before resorting to invasive radical procedures this quick easy to performed by junior doctors.

We propose that all units should active encourage the use of intrauterine balloon catheter in an aspirate cases they would be particularly useful for their tamponade effecting CS for placenta praevia and uterine atony where conventional medical management has failed. The tamponade effect of an intrauterine balloon may stem the blood loss and save available time when juniors are awaiting help from senior clinicians before resorting to surgical interventions.

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