

Emergency Management of Heavy Uterine Bleeding in a Jehovah Witness

Mark G Martens*, Bharati Kalgi

Department of Obstetrics and Gynecology, Jersey Shore University Medical Center 1945 NJ-33, Neptune City, NJ 07753, USA

*Corresponding author: Mark G Martens, Department of Obstetrics and Gynecology, Jersey Shore University Medical Center 1945 NJ-33, Neptune City, NJ 07753, USA, E-mail: MMartens@meridianhealth.com

Abstract

A 40 yr. old Jehovah's Witness presented with acute blood loss secondary to heavy uterine bleeding. At admission hemoglobin was 5.0 mg/dl. She was treated with IV estrogen and crystalloid solutions. With unsuccessful medical management, refusal of transfusion of blood and consultation with anesthesia team, the decision was made to do endometrial curettage and thermal ablation under conscious sedation. The patient bleeding was controlled and her post-operative hemoglobin was 4.8 mg/dl. She was treated with human erythropoietin, oral iron, folic acid and vitamin B₁₂. Later she underwent exploratory laparotomy for evaluation of her large complex adnexal mass. At the laparotomy lysis of adhesions, total abdominal hysterectomy, bilateral salpingoophorectomy and umbilical hernia repair was performed. The pathology of the mass was identified as tubo-ovarian abscess. Although endometrial ablation is usually done to avoid major surgery, it can be lifesaving in cases of hemodynamically unstable patients and special circumstances such as Jehovah as witnesses. Endometrial ablation usually provides long term treatment, however its use as a short term solution can be lifesaving.

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Background

Abnormal uterine bleeding/Heavy uterine bleeding (AUB) is one of the most common emergencies in gynecology and thus is one of the leading causes of hysterectomy. With advent of newer techniques, the number of hysterectomy cases has declined in recent years^[1]. In women with AUB whose medical therapy has failed or are not suitable candidates for medical therapy, surgical management is considered limited to endometrial ablation and hysterectomy^[1]. Management of AUB medically includes treatment with high dose of oral contraceptives, IV estrogens along with correction of anemia^[2,3]. Endometrial ablation has been shown to be an effective treatment of AUB when bleeding is presumed secondary to endometrial hemostatic dysfunction. In case of acute blood loss leading to hemodynamic instability, stabilizing the patient with blood transfusion is often a life saving step in case of pathogenic defects such as leiomyomas or malignancy. However certain patient population refuses these life saving measures because of religious reasons. Because of these religious reasons alternatives to blood replacements become necessary. One alternative potential treatment is discussed with the reference to a Jehovahas witness. Although endometrial ablation is done to avoid major surgery like hysterectomy, it is lifesaving in cases of hemodynamically unstable patients and some special circumstances like Jehovah witnesses. Endometrial ablation usually provides long term treatment but its use as a short term solution can be life saving.

Case report

The patient is 40 yrs old P2002 who presented to the gynecologic service with acute blood loss secondary to heavy uterine

bleeding. The patients past medical and surgical history were complicated by multiple previous abdominal surgeries for ulcerative colitis, including colectomy with a J Pouch and colostomy as well as two exploratory laparotomies for lysis of adhesions. Upon initial evaluation, although alert and oriented, the patient was pale, diaphoretic, tachycardia with blood pressure of 90/60. Her initial examination notable for normal size uterus and a right adnexal mass. At admission laboratories revealed hemoglobin of 5.0mg/dl (Normal range of hemoglobin is 12-14mg/dl). She was treated with intravenous crystalloids and colloids to maintain her BP more than 90/60. She was treated with intravenous 25 mg conjugated equine estrogen every 6 hrs with no decrease in bleeding. Because of her low hemoglobin, the inability to control uterine bleeding, and her refusal of blood product surgical options were entertained. The anesthesiology department did think that the patient was not stable enough for hysterectomy. So the decision was made to perform thermal ablation of the endometrium under the conscious sedation for immediate control of the uterine hemorrhage. Endometrial ablation was performed with Thermal balloon ablation (Therma choice 3, Johnson and Johnson New Brunswick NJ) following dilatation and curettage. The patient bleeding was controlled and her post-operative hemoglobin was 4.8mg/dl. Ultrasound performed during the hospital stay revealed 9.7cm complex cystic and solid septate right ovarian mass. After the bleeding was controlled, she was treated with human erythropoietin, 300 units /Kg/day along with oral iron, folic acid and vitamin B₁₂ for 4 weeks. Once cleared by the anaesthesia and medical services, she then underwent exploratory laparotomy for evaluation of her large complex adnexal mass. At the surgery, she underwent lysis of adhesions, total abdominal hysterectomy, bilateral salphingoophorectomy and umbilical hernia repair. The pathology of the mass was identified as tubo- ovarian abscess.

Conclusion

While there are a numerous reasons in which a patient may refuse blood transfusion, the most well-known involve religious objectives from Jehovah's Witnesses. With over one million active members in North America and six million worldwide, Witnesses are encouraged to avail themselves of modern medical care with the exception of certain forms of blood transfusion. Jehovah witness will not accept transfusion of autologous whole blood or by-products. This refusal can result in a challenging dilemma for the gynecologist, because transfusion is a relatively safe and potentially lifesaving medical intervention in case of severe and acute bleeding. Women with abnormal uterine bleeding have a variety of therapeutic options in the non emergency situation. These include medical treatment, dilatation and curettage, endometrial ablation and ultimately hysterectomy. Endometrial ablation has become an increasingly popular treatment, since it is minimally invasive and successful ablation may avoid anemia, the use of transfusions, or the chronic use of oral or parenteral hormone medications. Endometrial ablation is the surgical destruction of the uterine lining. This can be accomplished under hysteroscopic visualization, using resectoscopic instruments to ablate or resect the endometrium. It can also be performed with non-resectoscopic ablation devices, which are inserted into the uterine cavity and delivers energy to uniformly

destroy the uterine lining. Non-resectoscopic endometrial ablation techniques are now more widely practiced than resectoscopic ablation, since they are usually less invasive and often have a shorter operative time.

Current non-resectoscopic endometrial ablation technologies approved for use in the United States by the Food and Drug Association (FDA) are:

- 1) Heated liquid filled balloon (Therma choice Johnson and Johnson, New Brunswick, NJ)
- 2) Circulating heated water (HydroThermaAblator, Boston scientific, Boston MA)
- 3) Cryotherapy (Her option Cooper Surgical Trumbull CT)
- 4) Bipolar radiofrequency (Novasure Hologic , Boston MA)
- 5) Microwave (Microsulis Medical Limited England) No longer marketed in USA.

Recently in the US, bipolar radiofrequency has been increasingly utilized because of the relative speed of the procedure in the operating room. The thermal balloon is a non-hysteroscopic method with longest history of use and safety^[4]. The thermal balloon can be performed with a minimum of anesthesia , and thus was chosen in this case due to risk of general anesthesia. Non-resectoscopic and resectoscopic endometrial ablation result in comparable rates of amenorrhea and patient satisfaction^[5,6]. However resectoscopic endometrial ablation is associated with more frequent use of general anesthesia, a longer operative duration, and an increased risk of some surgical complications (eg, irrigation fluid overload, uterine perforation, more bleeding necessitating more blood loss). Technical skill requirements are another potential barrier to the use of resectoscopic ablation, since, currently, many surgeons are less experienced with these techniques. . Bipolar radiofrequency was compared with heated liquid filled balloon ablation in a randomized trial of 126 women^[7]. There were no operative complications in either group. At five- and ten-year follow-up, the Bipolar radiofrequency versus heated liquid filled balloon groups had no significant differences in the frequency of amenorrhea (5 years: 48 versus 32 percent), repeat ablation (5 years: one woman in each group), or hysterectomy (5 years: 10 versus 13 percent). For stable patients requiring interventions, we suggest endometrial ablation over uterine curettage or uterine artery embolization. While all these procedures are minimally invasive, endometrial ablation is more likely to provide immediate and long-term improvement in uterine bleeding symptoms^[8]. On the other hand, curettage is still preferred for women who desire to preserve fertility, require a sample for pathology or removal of abnormal tissues, such as polyps or sub mucosal leiomyoma. If a patient presents with uterine hemorrhage, control of uterine bleeding is the first step. If a surgical approach is indicated the following steps can be taken to decrease intraoperative blood loss: meticulous surgical technique, normovolemic hemo dilution if the hemoglobin is greater than 7 gm/dl. Since this patient's hemoglobin was 5 gm with continued bleeding, the surgical risk deemed excessive along with previous medical and surgical history. Immediate decision was made to do dilatation and curettage followed by endometrial ablation. Treating the patient with curettage gives better results compared to pretreatment with GnRH analogs in an emergency situations, as waiting for the effect of GnRH analogs is not possible^[9,10]. Initial evaluation of the patient with acute abnormal uterine bleeding should include a prompt assessment for signs

of hypovolemia and hemodynamic instability. Medical management should be the initial treatment for most patients, if clinically appropriate. Options include intravenous conjugated equine estrogen, multi-dose regimens of combined oral contraceptives or oral progestin's, and tranexamic acid. Decisions should be based on the patient's medical history and contraindications to therapies. Surgical management should be considered for patients who are not clinically stable and not suitable for medical management, or have failed to respond appropriately to medical management. The choice of surgical management should be based on the patient's underlying medical conditions, underlying pathology, and desire for future fertility. Once surgical options are entertained, it appears a variety of temporary measures such as done here, can effectively be utilized until the patient is stable enough for or definitive procedure. Once the acute bleeding episode has been controlled, transitioning the patient to long-term maintenance therapy is recommended.

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