Case Report

Successful Outcome of Prophylactic Use of Dr. Burke's ESM–UBT in Case of Abruption with Atonic PPH with Severe Anemia and Thrombocytopenia: A Case Report

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Abstract

Postpartum hemorrhage (PPH) is responsible for more than a quarter of maternal deaths. The most common cause is uterine atony, though other factors such as birth canal injuries and abnormal placentation also play a role. Dr. Burke's Every Second Matters–Uterine Balloon Tamponade (ESM–UBT), a cost-effective, FDA-approved device, has demonstrated high success in managing PPH, especially in resource-limited settings. A 22-year-old, G3P2L2 with 28 weeks' gestation, presented with decreased perception of fetal movement and complaints of PV bleeding, which was associated with the passage of clots. Ultrasonography revealed 28-week fetal intrauterine death with abruption. The patient delivered a female fetus weighing 1080 g. Retroplacental clots of 400 g were present . Active management of the third stage of labor was done with the administration of 10 units of oxytocin IM. Prophylactically, Dr. Burke's ESM–UBT was placed in the uterine cavity with 100 mL of NS infusion, and there was 150 mL blood loss. Prophylactic antibiotics were administered. The woman was discharged in good health. Considering that ESM–UBT devices are easy to use for all levels of healthcare providers, safe, cost-effective, and proven to be effective, their widespread use in all settings where women give birth with the assistance of a trained birth attendant should be strongly encouraged. Training of personal labor ward staff in using this balloon saves lives, especially in cases who have predisposing factors to atonic PPH and severe anemia. ESM–UBT can be used to prevent PPH in high-risk women with abruption with severe anemia and thrombocytopenia.

Keywords
Postpartum hemorrhage, uterine balloon taponade, anemia, thrombocytopenia, abruption

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Introduction

Postpartum hemorrhage (PPH) is a major contributor to maternal mortality, responsible for more than a quarter of maternal deaths. The most common cause is uterine atony, though other factors such as birth canal injuries and abnormal placentation also play a role. The World Health Organization recommends interventions such as uterotonics, uterine balloon tamponade, and surgical approaches.[1] The Dr. Burke's Every Second Matters–Uterine Balloon Tamponade (ESM–UBT), a cost-effective, FDA-approved device, has demonstrated high success in managing PPH, especially in resource-limited settings.[2]

Case Report

A 22-year-old, G3P2L2 with 28 weeks' gestation, presented with decreased perception of fetal movement (16 hours prior to admission) and complaints of PV bleeding (11 hours prior to admission). The bleeding was associated with the passage of clots. Prior pregnancies were uneventful. On general physical examination, she had a tachycardia of 120 bpm and pallor, and her peripheries were cold. The per abdomen examination showed the uterus was the size of 28-30 weeks and tense, and the fetal heart rate was absent. The per speculum examination revealed active bleeding. The per vaginal examination showed the cervix was 1 cm dilated, 50%-60%

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effaced, with membranes present. Her lab investigations showed hemoglobin of 3.6 mg/dL, platelets of 57 000, and a peripheral smear indicating severe microcytic hypochromic anemia with neutrophilic leukocytosis and thrombocytopenia. Ultrasonography revealed 28-week fetal intrauterine death with abruption.

The patient delivered a female fetus weighing 1080 g. Retroplacental clots of 400 g were present. Active management of the third stage of labor was done with the administration of 10 units of oxytocin IM. Prophylactically, Dr. Burke's ESM–UBT (Figure 1) was placed in the uterine cavity with 100 mL of NS infusion, and there was 150 mL blood loss (Figure 2).

Three pints of packed cell volume and four fresh frozen plasma were transfused. The hemoglobin level post-transfusion was 6.9 mg/dL; injection ferrous carboxy maltose 1 g IV was administered. Prophylactic antibiotics were also administered. The woman was discharged in good health.

Figure 1. Dr. Burke's ESM–UBT.

Figure 2. The Amount of Blood Loss in Brass V Drape.

Discussion

UBT provides a nonsurgical, highly effective solution for managing refractory atonic PPH. Studies have demonstrated its ability to improve survival rates in cases of atonic PPH, and both the International Federation of Gynecology and Obstetrics and the World Health Organization recommend its use in refractory cases. However, the cost of commercial UBT devices remains prohibitive in low- and middle-income countries, where they could have the greatest impact.[3] The introduction of a high-quality, affordable UBT device reduces maternal deaths and the need for emergency surgical procedures in referral facilities across India. However, most women who die from PPH globally do so outside of referral facilities, where surgical interventions are often unavailable. Moreover, during a pandemic, fewer women have access to higher levels of care for childbirth.[1] Considering that ESM–UBT devices are easy to use for all levels of healthcare providers, safe, cost-effective, and proven to be effective, their widespread use in all settings where women give birth with the assistance of a trained birth attendant should be strongly encouraged.[2] Preliminary data from a study conducted by Pendleton et al suggest that following ESM–UBT implementation, emergency hysterectomy for uncontrolled PPH may be averted by the use of UBT.[4]

Conclusion

Training of personal labor ward staff in using the ESM–UBT balloon saves lives, especially in cases who have predisposing factors to atonic PPH and severe anemia. ESM–UBT can be used to prevent PPH in high-risk women with abruption with severe anemia with thrombocytopenia.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval and Informed Consent

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Informed Consent

Informed consent was taken for the study.

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