

Condom Balloon Tamponade: From Birth Control to Postpartum Haemorrhage Control

- Giving the humble condom a second chance

INTRODUCTION

Postpartum hemorrhage (PPH) is the leading cause of maternal mortality globally, responsible for approximately 25% of maternal deaths, especially in low-resource settings (WHO, 2012). Conventional treatment includes uterotonics, uterine massage, and surgical interventions, which may not be readily available in remote or resource-limited areas. Condom balloon tamponade (CBT) has emerged as an affordable and effective tool for controlling refractory PPH using improvised materials (Nelson et al., 2013).

OBJECTIVE

To highlight the effectiveness, simplicity, and cost-efficiency of the condom balloon tamponade in managing postpartum hemorrhage in settings with limited access to surgical care or blood transfusion.

CASE DESCRIPTION

A 28-year-old multiparous woman developed atonic PPH following an uncomplicated vaginal delivery at a rural clinic in Zambia. Initial management followed WHO and FIGO guidelines for postpartum hemorrhage:

- The bladder was emptied with a catheter to allow effective uterine contraction.
- The uterus was massaged externally.
- Intravenous oxytocin and 800 mcg of rectal misoprostol was given.
- An intravenous infusion of 0.9%normal saline) was started to maintain circulation.
- The birth canal was examined for genital tract trauma - no lacerations/bleeding sites noted
- Retained placental fragments were excluded by visual inspection of the placenta and digital uterine exploration.

Despite these measures, the uterus remained atonic. As bleeding continued and no surgical option or blood transfusion was available, a condom balloon tamponade was assembled using a Foley catheter and condom filled with IV fluids.

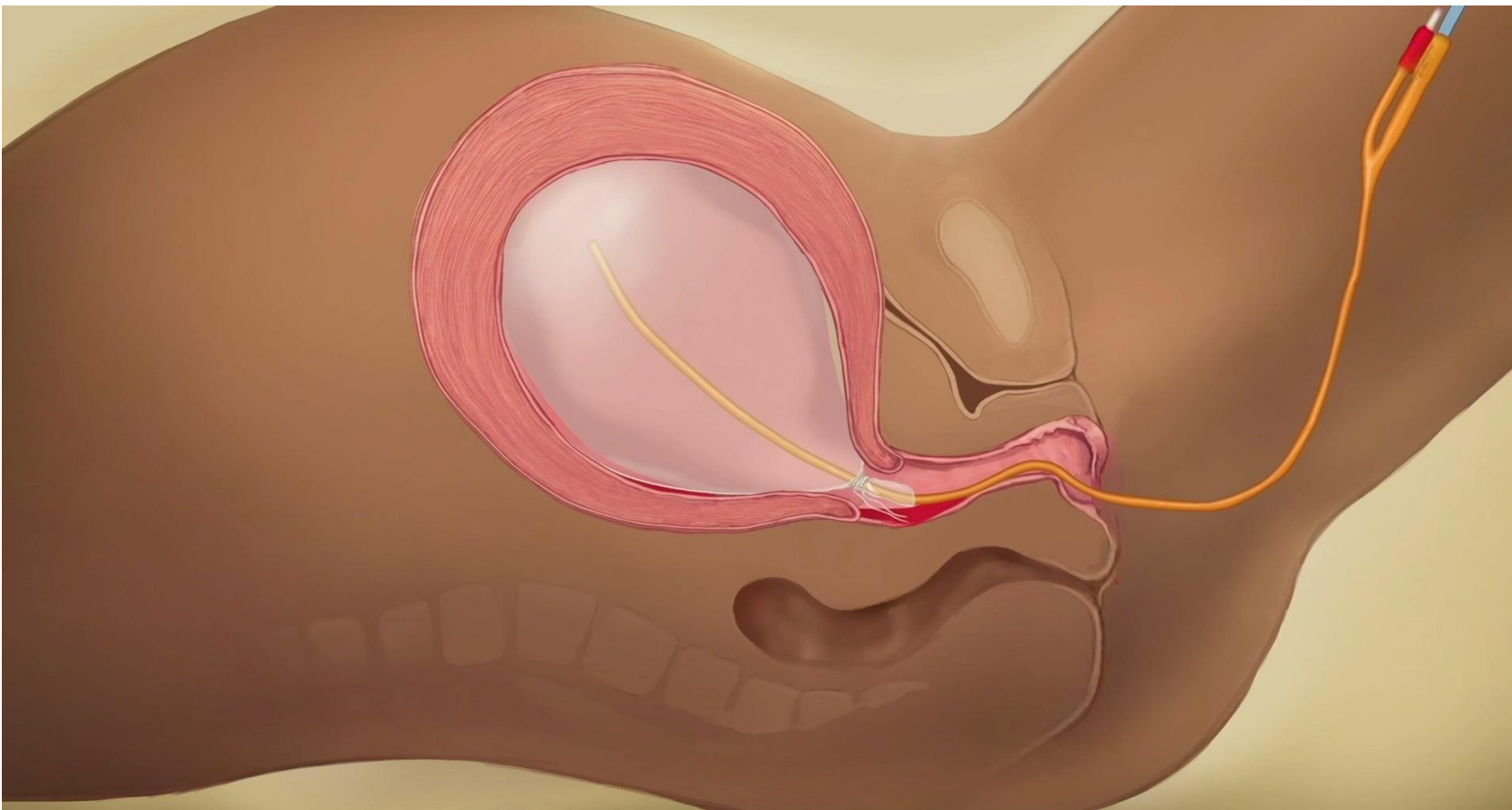
METHOD

Materials Needed:

- Male latex condom
- Foley catheter
- Sterile string or suture
- 50–500 mL sterile saline or water
- Syringe, sterile gloves

Steps:

- Tie the condom securely to the Foley catheter using sterile string.
- Gently insert the condom into the uterus under aseptic technique.
- Inflate slowly with 250–500 mL of sterile fluid (volume adjusted based on uterine size and bleeding control).
- Leave in place for 12–24 hours while monitoring bleeding and vital signs.
- Deflate and remove gradually once bleeding is controlled.
- This method is simple and can be executed by trained midwives or frontline health workers (Burke et al., 2016).



RESULTS

Outcome: Bleeding stopped within 15 minutes, and the patient remained hemodynamically stable until referral to secondary care centre

Numerous studies and field reports have demonstrated high efficacy rates of CBT in low-resource settings:

Success rate: 75–95% in controlling atonic PPH (Burke et al., 2016; Nelson et al., 2013).

Study in Uganda: 87% of women treated with CBT avoided hysterectomy (Kruk et al., 2014).

In India: CBT resulted in rapid bleeding control in 86.6% of cases (Chatterjee et al., 2015).

DISCUSSION

The condom balloon tamponade serves as a critical bridge between initial uterotonic therapy and more advanced interventions. Its efficacy lies in its ability to tamponade uterine vessels mechanically, simulating more expensive commercial balloons. The high success rate underscores its clinical utility, particularly where surgical options are unavailable. While highly effective in atonic PPH, it may be less successful in cases due to genital tract trauma or retained placenta. Consistent training and aseptic technique are essential for optimal outcomes.

Advantages in Remote Settings

- Materials are widely available even in basic health facilities.
- No electricity or advanced training required.
- Empowers healthcare providers in low-resource environments with a practical life-saving tool.
- WHO supports balloon tamponade in emergency PPH management protocols (WHO, 2012).
- Rapid control of bleeding
- Reduced need for surgery or hysterectomy
- Minimal complications when used with aseptic precautions
- Cost per device <\$2 (compared to \$300+ for Bakri balloon)

Challenges & Considerations

- Requires basic training to assemble and use properly.
- Risk of infection if asepsis is compromised.
- Less effective in cases of trauma, retained placenta, or coagulopathy.

Recommendations

- Incorporate CBT training into maternal health programs.
- Develop emergency obstetric kits with CBT components.
- Conduct further trials and implementation studies to improve adoption and outcomes.

CONCLUSION

The condom balloon tamponade is a life-saving, cost-effective intervention for managing postpartum hemorrhage, especially where surgical or blood transfusion resources are lacking. By aligning with WHO guidelines and utilizing readily available materials, this simple technique empowers healthcare workers to respond effectively to one of the most critical obstetric emergencies. Wider adoption, adequate training, and inclusion in national PPH protocols can significantly reduce maternal mortality and improve outcomes in remote and resource-limited settings.

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