

Postpartum hemorrhage control by double-balloon catheters.

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Commentary

The overarching goal of PPH control is to prevent maternal mortality [1]. In Africa and Asia, PPH accounts for 30% of pregnancy-associated mortality [2]. The incidence of PPH in cases of placenta previa is 22.3% (95% CI 15.8-28.7%) [2]. North America has the highest rate of placenta previa associated PPH at 26.3%, Asia is mid-range at 20.7%, and Europe the lowest at 17.8% [2]. Globally, placenta previa has a prevalence of 5.2 per 1,000 pregnancies (95% Confidence Interval [CI]: 4.5-5.9) [3]. Placenta previa is most prevalent in Asia at 12.2 per 1,000 pregnancies (95% CI: 9.5-15.2) [3]. Thus, even though Asia does not have the highest placenta previa associated PPH rate, given the 30% PPH pregnancy-associated mortality, PPH control is reasonably the focus of studies in Asia [4]. The literature on double-balloon tamponade for PPH in cases of placenta previa reports 88% to 100% success, confirmed by a recent retrospective case series with 112 women that achieved a 97.4% success rate [4]. Mean blood loss was 1983 ± 512.2 mL. There were no postpartum infections. However, as post discharge follow-up is not given, it is unknown if any of these patients subsequently had uneventful pregnancies [4].

The risk of peripartum hysterectomy for abnormal placentation, excluding uterine atony, is 0.11 to 6.38 per 1,000 deliveries [5]. Direct costs of peripartum hysterectomy were £5,380 (95% CI £4,436-£6,687) in 2015 prices [6]. Six-month Short Form 36 quality of life scoring indicates that patients who experienced peripartum hysterectomy for placenta accreta spectrum experience more pain than women who undergo complicated cesarean deliveries, $p=0.013$ [7]. Post-procedure surveillance questionnaire responses indicated increased re-hospitalization ($p=0.045$), more dyspareunia ($p=0.025$), and more anxiety and worry ($p=0.027$) in peripartum hysterectomy patients than in patients who had complicated cesarean deliveries [7]. These subsequent adverse effects to the patient and her family should be avoided. Therefore, increased double-balloon catheter use to control PPH and preclude peripartum hysterectomy is important to mothers and their families. The reported retrospective case series and literature quoted therein have high success rates for double-balloon catheter control of placenta-caused PPH [4]. Other studies give 50% complete to 88% partial success rates [1]. Estimated blood loss is comparable, mean 2,375 mL [1]. However, balloon fill volumes vary, with mean uterine balloon inflation with 675 mL (400 mL-800 mL) and vaginal balloon 263 mL (150 mL-300 mL) [2]. Use of double-balloon catheters as second-line intervention for PPH is recommended to reduce the amount of procedures performed for PPH control [1]. Benefits of double-balloon catheters include those of stopping PPH, and method-specific benefits. The benefits of stopping PPH are prevention of additional interventions including

peripartum hysterectomy, reducing maternal hospitalization length of stay, and reducing maternal anemia. Double-balloon catheters have a method-specific benefit over single-balloon catheters as the vaginal balloon obviates the need for vaginal packing and can reduce retained foreign body incidence [1]. As double-balloon catheters become increasingly used for second-and third trimester labor inductions and management of bleeding following ectopic pregnancy treatment, familiarity may increase double-balloon catheter use as second line gynecologic and obstetric uterine bleeding control.

References

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