

Predictors of failed intrauterine balloon tamponade for persistent postpartum hemorrhage after vaginal delivery

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Objective

To identify the predictors of intrauterine balloon tamponade (IUBT) failure for persistent postpartum hemorrhage (PPH) after vaginal delivery.

Design

Retrospective case-series in five maternity units in a perinatal network.

Setting

All women who underwent IUBT for persistent PPH after vaginal delivery from January 2011 to December 2015 in these hospitals.

Methods

All maternity apply the same management policy for PPH. IUBT, using a Bakri balloon, was used as a second line therapy for persistent PPH after failure of bimanual uterine massage and uterotonics to stop bleeding after vaginal delivery.

Women who required another second line therapy (embolization or surgical procedures) to stop bleeding after IUBT were defined as cases, and women whom IUBT stopped bleeding were defined as control group. We determined independent predictors for failed IUBT using multiple regression and adjusting for demographics with adjusted odds ratios (aORs) and 95% confidence intervals (95% CI).

Results

During the study period, there were 91,880 deliveries in the five hospitals and IUBT was used in 108 women to control bleeding. The success rate was 74.1% (80/108). In 28 women, invasive procedures were required (19 embolization and 9 surgical procedures with 5 peripartum hysterectomies). Women with failed IUBT were more often obese (25.9% vs. 8.1%; $p = 0.03$), duration of labor was shorter (363.9 min vs. 549.7min; $p = 0.04$), and major PPH ($\geq 1,500$ mL) before IUBT was more frequent (64% vs. 40%; $p = 0.04$). Obesity was a predictive factor of failed IUBT (aOR 4.40, 95% CI 1.06–18.31). Major PPH before IUBT seemed to be another predictor of failure (aOR 1.001, 95% CI 1.000–1.002), but our result did not reach statistical significance.

Conclusion

Intrauterine balloon tamponade is an effective second line therapy for persistent primary PPH after vaginal delivery. Pre-pregnancy obesity is a risk factor of IUBT failure.

Résumé en anglais

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