Development and Validation of a Prognostic Model for Postpartum Haemorrhage

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Background

→ Difficult to predict and no widely accepted prognostic tools

→ Perform poorly or specific sub-groups/specific biomarkers

Prognostic Tool Development

→ Risk factors derived from literature search

→ Odds Ratios for risk factors converted to regression coefficient weights (Moon et al)

→ Weights adjusted by author consensus

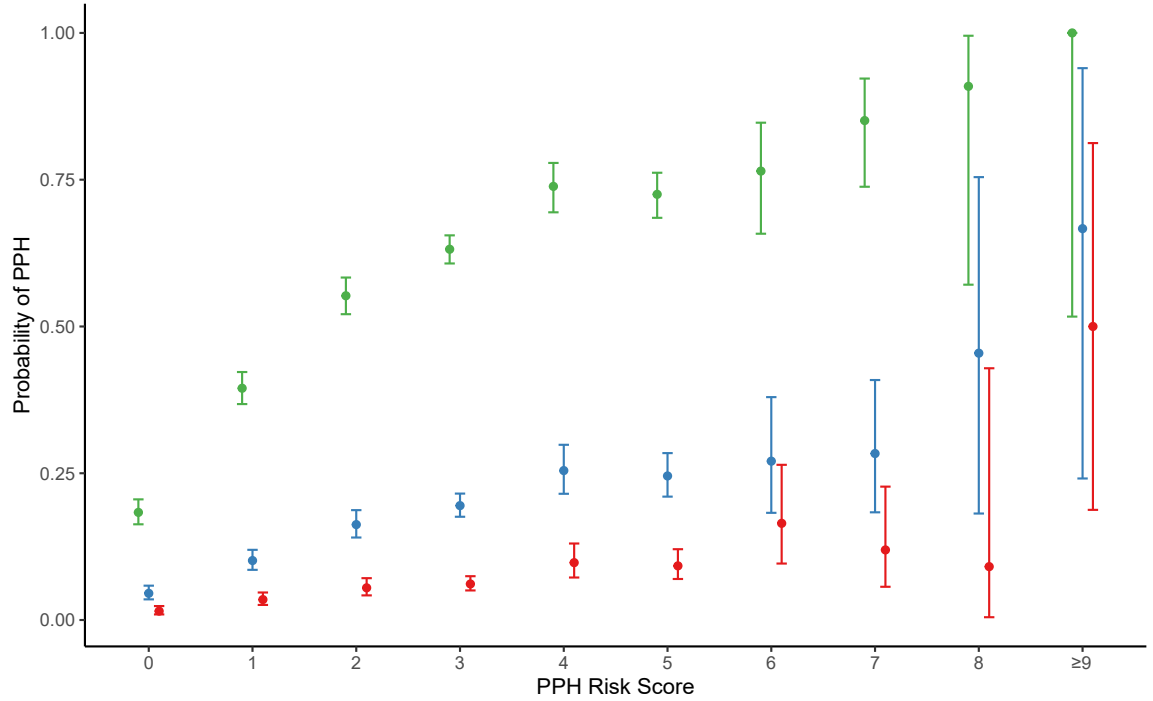
→ Scores ascribed to each risk factor

Uncomplicated pregnancy	0
Singleton	0
Elective C-section	1
Induction/augmentation of labour	1
Lower segment fibroids	1
Multiple pregnancy	1
Previous myomectomy	1
Emergency caesarean-section or caesarean in labour	2
Platelets $<100x10^9/L$	2
Instrumental birth	2
Known coagulopathy	2
Previous caesarean section or uterine surgery	2
Chorioamnionitis/sepsis in labour	2
Macrosomia >4000g	2
Placenta previa (posterior)	2
Placenta accreta	3

Methods and Results

- Retrospective cohort of women giving birth over 1 year (2021) in tertiary centre
- Included: 6334 women, all modes of delivery, emergency/elective
- Data collected using electronic health records (Badgernet)
- ROC curve analysis to assess discriminative performance
- Calibration of score: estimated probabilities of PPH plotted against against PPH scores
- Performance tested over 3 definitions of PPH: ≥500ml, ≥1000ml and ≥1500ml blood loss

Blood Loss	ROC Curve - AUC
≥500ml	0.719 (95% CI: 0.707-0.731)
≥1000ml	0.661 (95% CI: 0.644- 0.678)
≥1500ml	0.661 (95% CI: 0.633-0.689)



Key Points

→ Performed well over a variety of PPH definitions

→ Simple to use tool and applicable across broad obstetric population

→ Aids risk stratification and may guide strategies to reduce blood loss

→ Limitations: Single centre, tertiary cohort, low number at highest risk

Next steps

→ Assess changes to clinical care following local implementation

→ External validation