

Maternal haemodynamic changes and the risk of postpartum haemorrhage following intrapartum terbutaline administration: a cohort study

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Background

- ❖ Terbutaline, a β 2-adrenergic agonist, is given intrapartum to relieve uterine hyperstimulation.
- ❖ Its tocolytic effect raises the concern that uterine atony may follow and increase the risk of postpartum haemorrhage (PPH).
- ❖ We examined whether the interval between terbutaline administration and delivery was related to blood loss, and described the maternal haemodynamic response.

Methods

- ❑ A retrospective cohort study at a tertiary centre in London between 2023 and 2025, including women who received intrapartum terbutaline.
- ❑ Indication, dose, route and timing relative to delivery were recorded, alongside maternal and neonatal outcomes.
- ❑ Blood loss and PPH severity were compared across three intervals from administration to delivery, under 1 hour, 1 to 4 hours, and more than 4 hours.

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women

39.2

weeks median
gestation

66.7%

nulliparous

93.1%

single dose

Results

Maternal heart rate
Rose significantly after
administration
p < 0.001

Mean arterial pressure
No significant change
p = 0.087

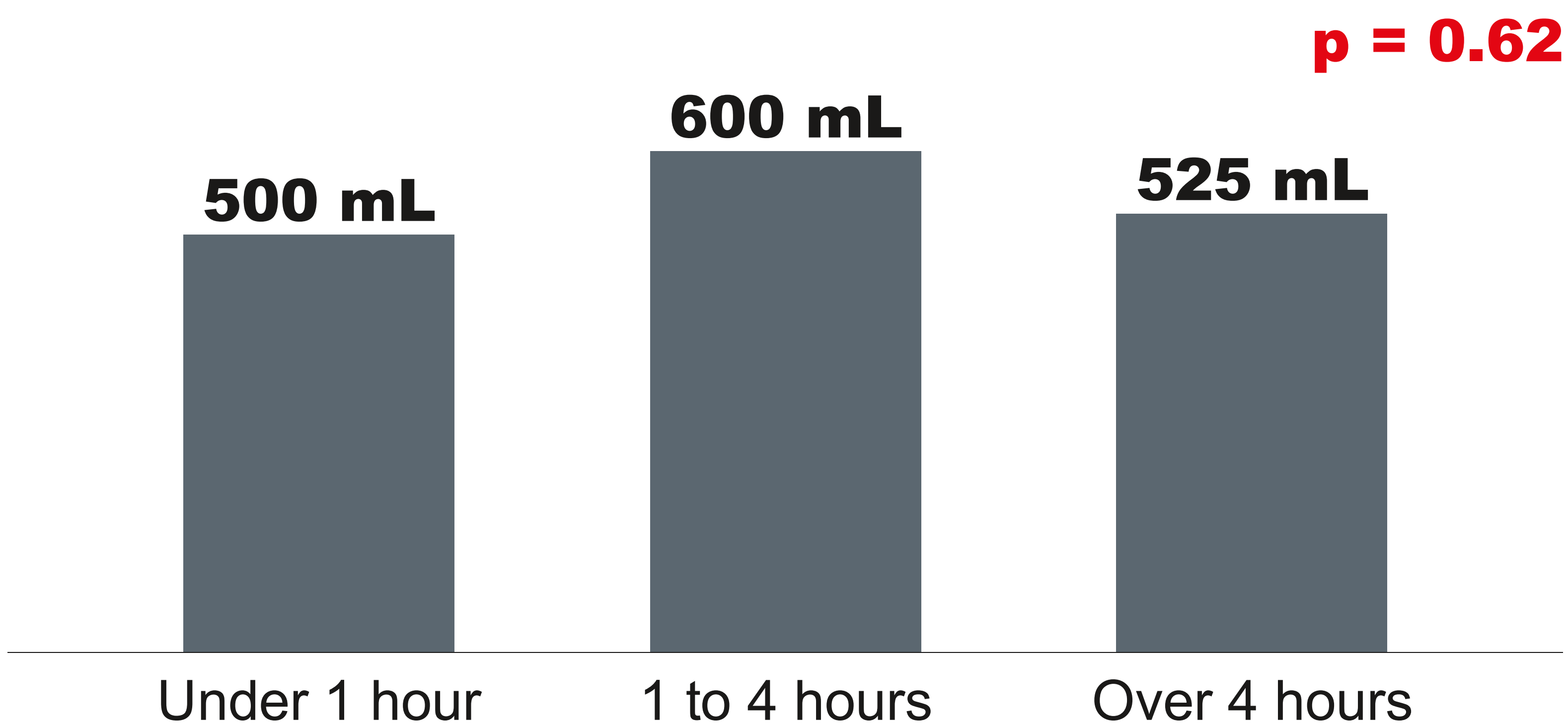


Figure 1. Median blood loss by interval from terbutaline administration to delivery.

Neonatal outcomes

- Neonatal outcomes were favourable across the three groups and no case of hypoxic-ischaemic encephalopathy was recorded.



Key findings

34.4%

had blood loss above 500 mL

7 h

median time from dose to delivery

p = 0.62

for median blood loss
between groups

p = 0.53

for PPH severity distribution

Conclusion

- Timing of intrapartum terbutaline was not associated with greater blood loss, which supports its use in time-critical situations.
- Maternal haemodynamic changes were transient and neonatal outcomes were favourable.
- A prospective controlled study is needed to assess dose-response and account for confounding factors.