

From syntocinon to carbetocin: effects on post-partum haemorrhage after Caesarean birth

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Introduction

NICE intrapartum care guidance [1] recommends 100mcg carbetocin as prophylaxis for post-partum haemorrhage (PPH) in all Caesarean births (CS). Our institution previously used a 5 unit syntocinon bolus at delivery, with a further syntocinon bolus and/or infusion for high-risk women.

Following NICE guidance implementation, practice changed to a single carbetocin bolus at delivery. Carbetocin is a long acting synthetic oxytocin which has a significantly longer half-life than syntocinon and therefore no further oxytocin, including infusions, were required for CS.

Aims

- Compare PPH prevention and management after CS before vs after carbetocin introduction
- Assess compliance with updated PPH guidance
- Identify any safety concerns or incidents following the change in PPH prevention

Methods

A retrospective case note review of all CS in May 2025 and June 2025 was undertaken (before and after the change to protocol). Patient demographics and PPH risk factors were recorded. Outcomes included:

- Measured blood loss
- 24-hour haemoglobin drop
- Transfusion rates
- Use of uterotonics and tranexamic acid
- PPH-related morbidity

Results

There were 112 CS (54 elective, 58 emergency) pre-carbetocin and 119 CS (50 elective, 69 emergency) post-carbetocin. Patient demographics and risk factors were comparable.

Pre-carbetocin, 52% (58) had a postpartum syntocinon infusion after the syntocinon bolus. Post-carbetocin, all received 100mcg carbetocin with no syntocinon (Fig 1).

Mean blood loss (Fig 2) showed no significant difference across the two groups, as did patients requiring blood transfusion, a Bakri balloon, or a hysterectomy.

Mean Hb drop showed a non-statistically significant improvement, although this data is incomplete and therefore difficult to interpret.

We saw a significant increase in usage of second line uterotonics ergometrine and carboprost in July (Fig 1). Tranexamic acid use increased to a statistically significant degree in emergency CS.

Fig. 1 Second line uterotonic usage

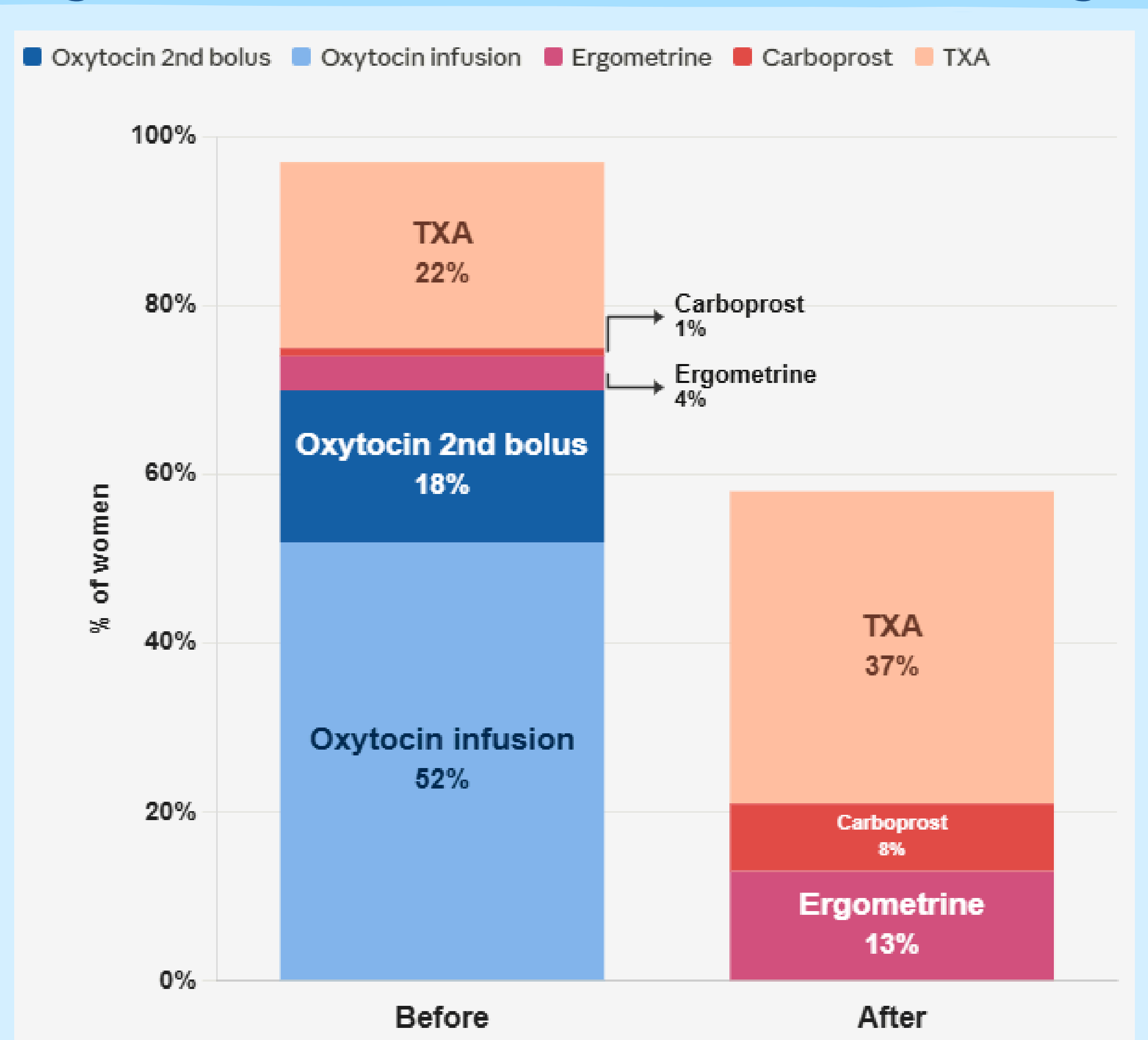


Fig. 2 Blood loss



Discussion

Carbetocin bolus after Caesarean section was as safe and effective as syntocinon, with comparable blood loss but no reduction in PPH rates. Non-significant improvements were seen in haemoglobin drop, transfusion rates, and Bakri balloon use.

Key benefits include elimination of postpartum infusions, which come with inherent risk, as identified in a National Patient Safety Alert[2], and reduced medication error risk with pre-filled syringes.

Increased use of additional uterotonics and tranexamic acid may reflect reduced clinical confidence during early implementation. Re-audit is planned for May 2026.

References:

- [1] National Institute for Health and Care Excellence. Intrapartum care (NICE guideline NG235). Accessed 14 January 2026. <https://www.nice.org.uk/guidance/ng235> ; 2025
- [2] NHS England. National Patient Safety Alert – risk of oxytocin overdose during labour and childbirth. Accessed 14 January 2026 <https://www.england.nhs.uk/publication/national-patient-safety-alert-risk-of-oxytocin-overdose-during-labour-and-childbirth/> ; 2024