Carbetocin in High-Risk Cesarean Deliveries

Clinical Efficacy as Primary Uterotonic

Study Aim

Evaluate the clinical efficacy and safety of carbetocin as primary uterotonic in high-risk cesarean deliveries at a Brazilian public tertiary center

Authors

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Study Design and Methods

Study Design & Setting

- Retrospective consecutive case series
- Public hospital, SUS tertiary center
- n = 22 cesarean deliveries (Dec 16–23, 2025)

Intervention

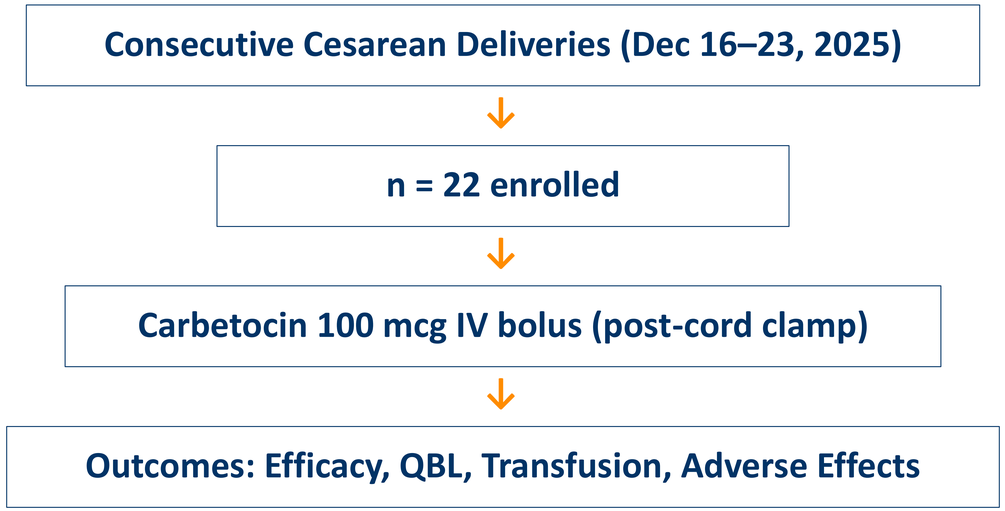
- 100 mcg carbetocin IV bolus
- Single-dose regimen; no infusion required

Anesthesia Profile

- Spinal anesthesia: 77.3% (n = 17)
- Combined spinal-epidural: 22.7% (n = 5)

Outcomes

- Primary: Therapeutic failure
- Secondary: QBL, transfusion, adverse effects



Results

Sample Characteristics

- Mean age: 30.6 ± 5.8 yrs | BMI: 28.3 ± 11.7
- Gestational age: 36.7 ± 3.4 weeks
- Comorbidities: 90.9% (20/22)
- 54.5% (12/22) with ≥1 risk factor

Quantitative Blood Loss (QBL)

- QBL ≥1000 mL: 9.1% (2/22)
- QBL in failures: 833 ± 291 mL
- QBL in successes: 467 ± 238 mL

Notable Case

- Focal placenta accreta managed with carbetocin monotherapy

PRIMARY OUTCOME: EFFICACY

86.4%

Monotherapy Successful (19/22)

13.6%

Therapeutic Failure (3/22)

Case 1: Twins → methylergometrine added | QBL 930 mL

Case 2: HTN, DM, endometriosis, IVF → methylergometrine + misoprostol | QBL 1064 mL

Case 3: Thrombocytopenia (77K), anemia → methylergometrine + tranexamic acid | QBL 506 mL

0%

Transfusions

0%

Adverse Effects

(no nausea, vomiting, flushing, headache, or chest pain)

n = 22 consecutive cesarean deliveries | Gravimetric blood loss measurement

Conclusion and Discussion

Key Findings

- Carbetocin efficacy ~86% as sole uterotonic
- Single-dose avoids infusion and reduces workload

Predictors of Failure

- Uterine overdistension (twins)
- Multiple comorbidities (HTN, DM)

Clinical Implications

- Practical first-line option in resource-limited settings
- Simplified administration; less equipment needed
- Maintain readiness of second-line agents

Study Limitations

- Small sample (n=22); one-week series
- Retrospective design; consecutive capture reduces bias

Conclusion

Carbetocin demonstrated favorable efficacy and safety as the primary uterotonic in high-risk cesarean deliveries. The single-dose approach provides logistical advantages in constrained settings; a small proportion required rescue therapy.

References

1.Widmer M,et al.N Engl J Med.2018;379:743-52. 2.WHO.Uterotonics for PPH prevention.2018. 3.ACOG Committee Opinion 794.Obstet Gynecol.2019;134:e150-6. 4.Esposito ML,et al.Acta Obstet Gynecol Scand.2021;100:1025-35.

Consecutive case capture reduces selection bias. IRB approval pending.