Impact of Standardized Post-Cesarean Analgesia Regimen on Postpartum Opioid Use

Melissa F Meyer, M.D.; Aimee T Broman, M.A.; Sarah E. Gnadt, Pharm. D., BCPS; Shefaali Sharma, M.D., Kathleen M Antony, M.D., M.S.C.I.

Introduction

- Efforts to decrease opioid use are important with the rapid increase in prescription opioid abuse and dependence in the US.
- Specific cesarean birth data found that about 1 in 50 to 300 opioid-naive women become persistent opioid users.
- No standard post-cesarean analgesia protocol exists in all hospitals nationally.

Objective:

To determine if implementation of a standardized postoperative analgesic regimen decreases opioid use following cesarean birth.

Hypothesis:

- Standardized post-cesarean analgesia regimen decreases the cumulative opioid dose in the first 72 hours after cesarean birth.

Methods

- Standardized postop analgesia protocol was implemented in June 2018:
  - Scheduled non-opioid medications
  - Previously no protocol in place
- Before-and-after retrospective cohort study for 9 months prior to and after this implementation
  - Exclusion criteria: history of opioid use
  - Primary outcome: cumulative MME in the first 72 hours postoperatively
- Secondary outcomes:
  - Mean MME used in four time periods
  - Pain scores in four times periods

Results

Figure 1: Cumulative MME Use Post-Cesarean Birth Pre and Post Protocol Implementation in the first 12h post-cesarean (A), first 24h post-cesarean (B), first 48h post-cesarean (C), and first 72h post-cesarean (D).

Figure 2: Mean Pain Scores Reported Post-Cesarean Birth Pre and Post Protocol Implementation in the first 12h post-cesarean (A), 12-24h post-cesarean (B), 24-48h post-cesarean (C), and 48-72h post-cesarean (D). Statistically significant differences at 0-12 hours and 48-72 hours.

Conclusions

- Overall, the total opioids used in the first 72 hours following cesarean birth decreased 20.7% after implementation of a standardized protocol
  - Decrease appreciated at all four time points analyzed
  - Similar baseline characteristics between groups, including planned versus unplanned surgeries and type of intraop anesthesia
  - Pain scores clinically similar, with average difference of 3 vs 3.3 out of 10-point scale
- Overall MME in our institution remains substantially higher than what is published in the literature
- Average MME in the literature: 5-35 mg in first 24h
- UnityPoint Health-Meriter MME: 80 mg in first 24h post-protocol implementation

Acknowledgements

This project was supported by the University of Wisconsin Department of Obstetrics & Gynecology with biostatistical support from the Clinical and Translational Science Award (CTSA) program, through the NIH National Center for Advancing Translational Sciences (NCATS), grant UL1TR002373. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH. We also thank PeriData and Epic for assistance with data abstraction.

References


Contact Info: Melissa Meyer mmeyer@uwhealth.org

Department of Obstetrics and Gynecology
University of Wisconsin
School of Medicine and Public Health