A Retrospective Analysis of Opioid Consumption Among Different Orthopedic Surgeons for Total Joint Replacement

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Hypothesis

- Is there a significant variability between surgeons in terms of perioperative opioid consumption?
- Is there a difference in opioid consumption postoperatively whether general or spinal anesthesia was used intraoperatively?
- Does an indwelling catheter influence postoperative opioid consumption?

Variables Under Examination

1) Type of Anesthetic: General or Spinal
2) Catheter Use: Yes or No
3) Intraoperative Opioid Use
4) Postoperative Opioid Use
5) Total Opioid Use
6) BMI vs. Opioid Use
7) Age vs. Opioid Use
8) Patient Satisfaction vs. Opioid Use
9) Statistical method used: ANOVA

Results

- Type of Anesthetic: The patients undergoing spinal anesthesia used statistically significant (p<0.001) less opioids intraoperatively, but not postoperatively, compared to general anesthesia.
- Indwelling-Catheters: As for catheter use, surprisingly, there was no significant difference (p>0.05) in opioid consumption, intraoperatively or postoperatively, compared to the non-catheter counterpart.
- Surgeon: The data showed inter-variability amongst the surgeons in terms of total intraoperative (p=0.028) and postoperative (p=0.042) opioid consumption.

Conclusions

- Surgeon: The inter-variability amongst surgeons may be secondary to surgical technique or the demographics of the patient population. Further studies to examine these potential etiologies might lead to better pain control and less opioid consumption across all joints with all surgeons.
- Perioperative Period: One major limitation was the absence of a standardized protocol in opioid delivery, intraoperatively.
- Catheters: Limitations include small sample size and the fact that many of the catheters were used in opioid-tolerant individuals. A larger sample size might show statistical significance.

Methods

- Hips
  - General Anesthesia
  - Spinal Anesthesia
  - Catheter
  - No Catheter
- Knees
  - General Anesthesia
  - Spinal Anesthesia
  - Catheter
  - No Catheter

Acknowledgments

Statistician Louise Maranda, PhD, and Quantitative Health Sciences
Chairman Stephen Heard, M.D., Vice Chairman Stephen Kapaon, M.D., and the UMass Memorial Department of Anesthesiology
Drs. Ayers, Johnson, Katzen, Metzmaker, and Most of the UMass Department of Orthopedics