

Post Operative Pain Control in Orthopaedic Surgery: RA vs Systemic Opioids

RANDOMIZED CONTROLLED TRIAL

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Background

- Effective postoperative pain control is critical in orthopaedic surgery.
- Opioids are commonly used but carry risks: side effects and dependency.
- Regional anaesthesia (RA) offers a potential alternative.
- Few randomized trials directly compare RA with systemic opioids.
- This study addresses that gap.



Aim To compare the efficacy and safety of Regional Anaesthesia versus Systemic Opioids for Post Operative pain control in major Orthopaedic Surgeries

Opioids are effective but carry significant side effects and dependency risks. Alternatives like Regional Anaesthesia require robust evidence

Methodology

PROSPECTIVE RANDOMIZED CONTROLLED TRIAL

DURATION • January 2023 - December 2023

GROUP A

- REGIONAL ANAESTHESIA (SPINAL, EPIDURAL OR PERIPHERAL NERVE BLOCKS)

STUDY GROUPS

GROUP B

- SYSTEMIC OPIOIDS (MORPHINE OR OXYCODONE VIA PCA)

SAMPLE SIZE

- 100 PATIENTS UNDERGOING MAJOR ORTHOPAEDIC SURGERY LIKE TKR, HR AND SPINAL SURGERY

CRITERIA

INCLUSION

- Patients aged 18 to 75 years undergoing elective orthopedic surgery.
- No contraindications to regional anesthesia or opioid use.

EXCLUSION

- Patients with chronic pain conditions or opioid use disorders.
- Patients with contraindications to anesthesia or opioid use.

STATISTICAL ANALYSIS

- SPSS software used
- $p < 0.05$ considered statistically significant

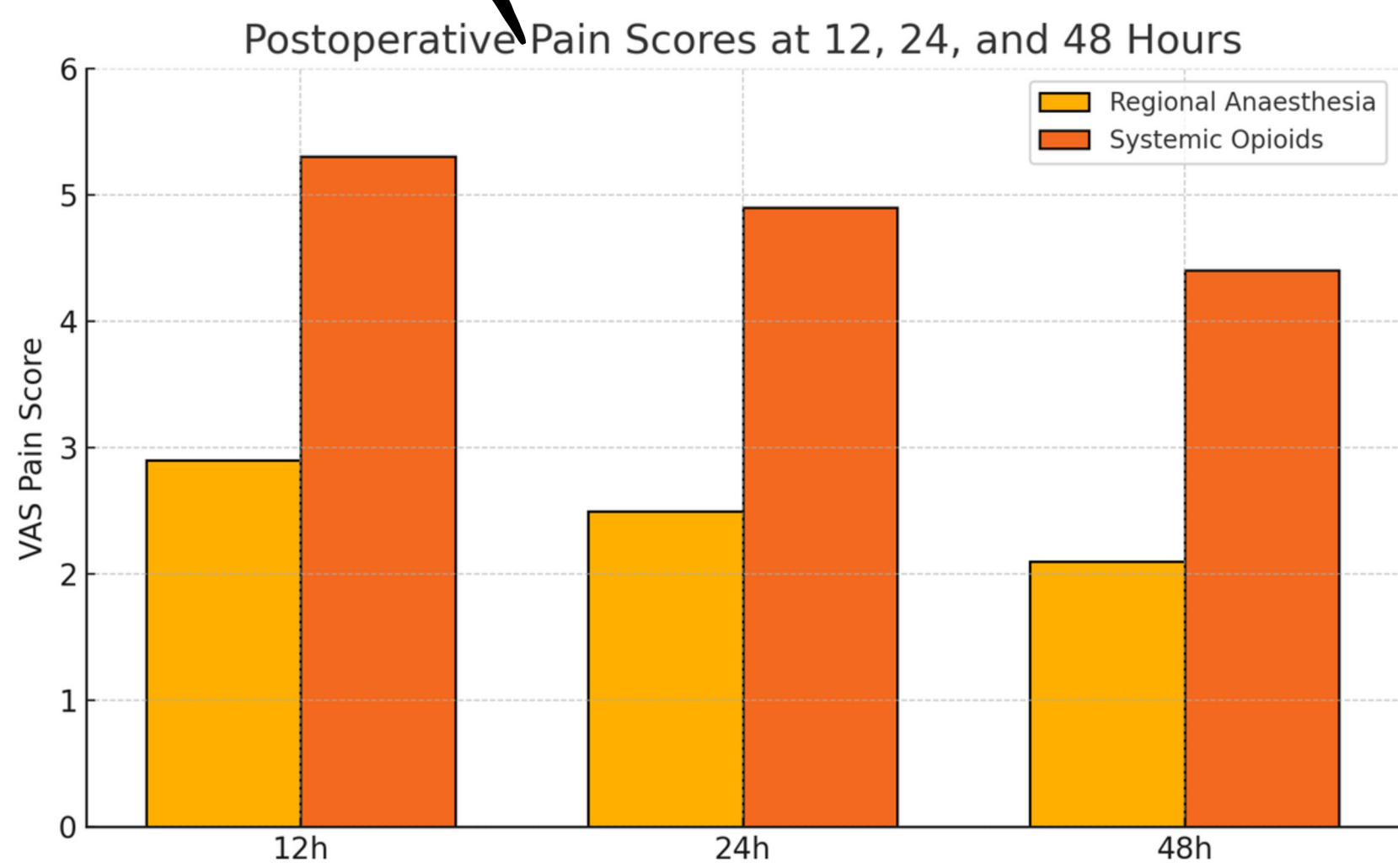
- Pain Scores: VAS at 12, 24, and 48 hours post-op
- Opioid Consumption: Measured in Morphine Milligram Equivalents (MME)

PRIMARY OUTCOMES

ANALYSIS OF OUTCOMES

SECONDARY OUTCOMES

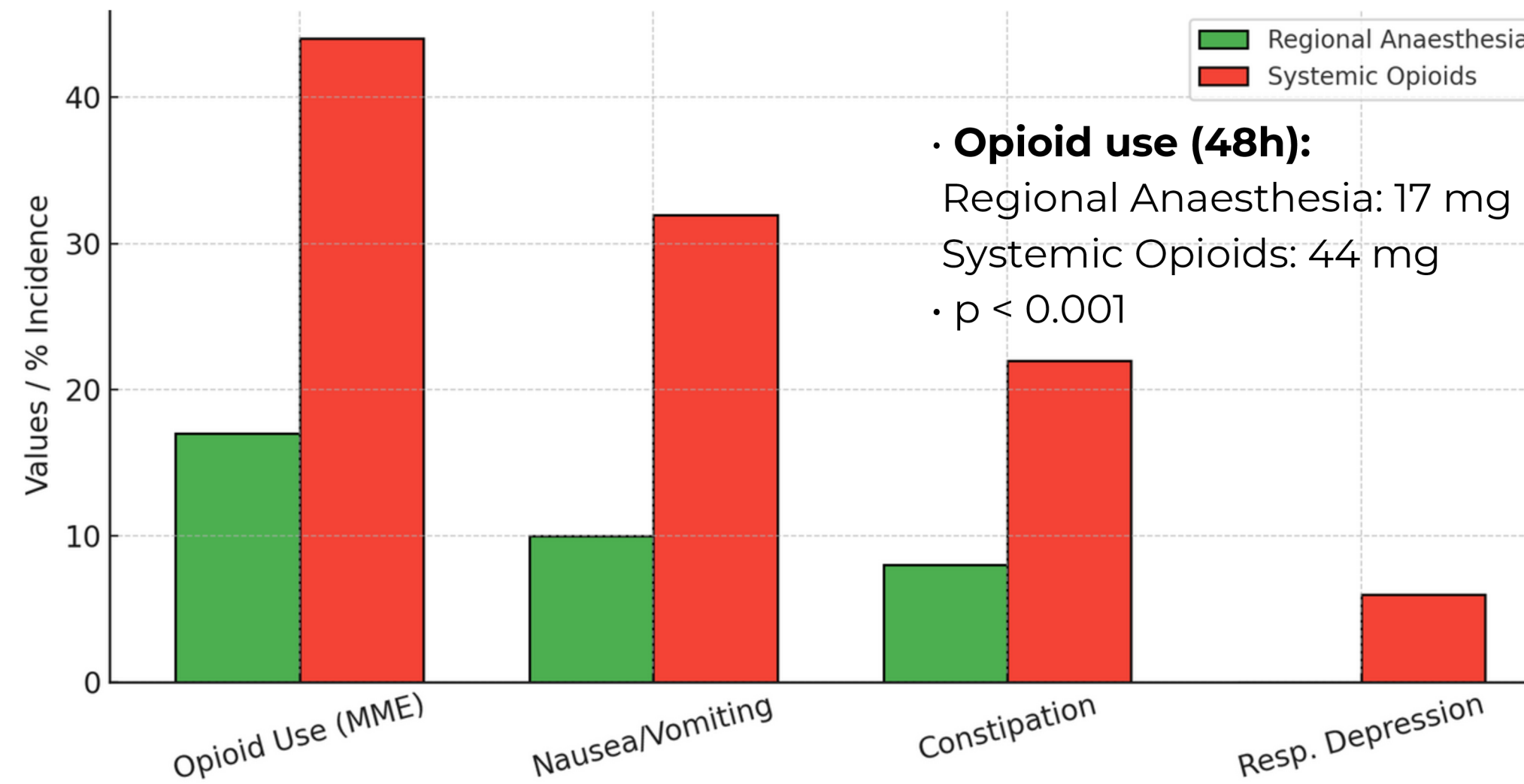
- Adverse Effects: Nausea, vomiting, constipation, respiratory depression
- Functional Recovery: Time to mobilization, postoperative recovery scores
- Patient Satisfaction: 5-point satisfaction scale
- Length of Hospital Stay



• Regional Anaesthesia group had significantly lower VAS scores at all time points:

- 12h: 2.9 vs 5.3
- 24h: 2.5 vs 4.9
- 48h: 2.1 vs 4.4

$p < 0.001$ for all comparisons

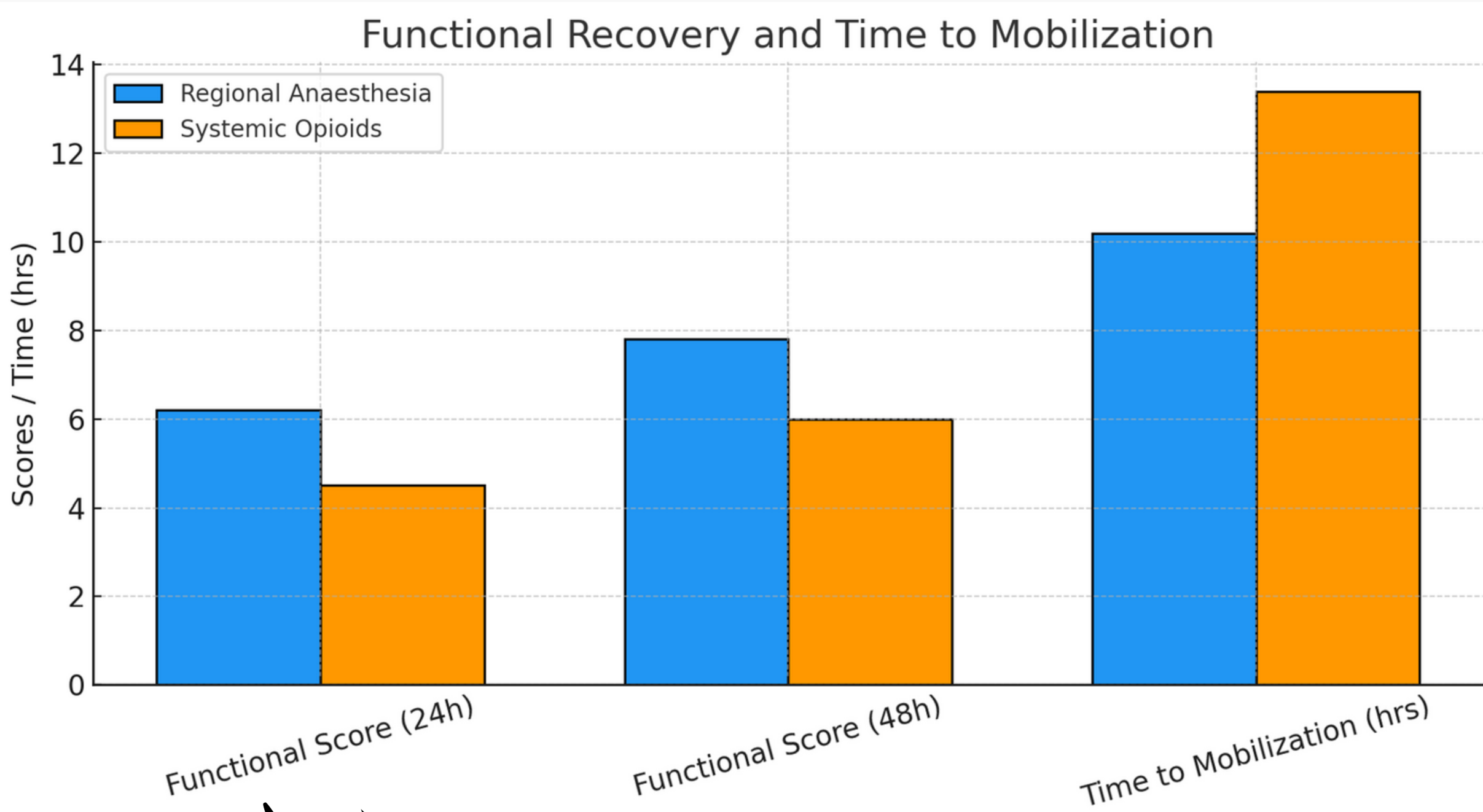


PATIENT SATISFACTION

- RA: 4.7 ± 0.5
- Opioids: 3.8 ± 0.7
- $p < 0.001$
- Patient satisfaction was significantly higher in the regional anaesthesia group, likely due to better pain control and fewer side effects

LENGTH OF HOSPITAL STAY

- RA: 4.1 ± 1.3 days
- Opioids: 4.4 ± 1.6 days
- $p = 0.116$ (Not significant)



DISCUSSION

Regional Anaesthesia provided:

- Better pain relief at all time points
- Significantly reduced opioid use
- Lower incidence of nausea, constipation, and respiratory depression
- Faster functional recovery and mobilization
- Higher patient satisfaction
- No difference in hospital stay duration

Conclusion

RA is safer and more effective option for post-operative pain control

Limitations

- Single-center study – limits generalizability
- Short-term outcomes only – no long-term follow-up
- Sample size ($n = 100$) may limit subgroup analysis
- Patient factors may influence RA suitability (e.g., contraindications, anaesthetist expertise)
- Blinding not feasible due to nature of interventions

References

