

Postoperative Pain Scores and Analgesic Requirements in Bariatric Surgery: Impact of Anesthetic and Surgical Techniques – A Retrospective Audit

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ABSTRACT:

This paper is a retrospective audit of obesity patients' postoperative pain scores and their analgesic requirements after bariatric surgery. We compare various anesthetic and surgical techniques to plan an effective and economically efficient pain management practice. Data were collected over five years from 150 patients at Rashid Hospital. The study results showed that anesthetic and surgical techniques did not notably affect postoperative pain, suggesting the potential for streamlining and cost-effectiveness. It is recommended to develop a standardized, evidence-based protocol to enhance better outcomes for pain management.

Keywords: Postoperative Pain Scores, Bariatric Surgery, Surgical Techniques

INTRODUCTION:

Bariatric surgery has grown to become one of the most prominent methods of managing morbid obesity. However, this type of surgery presents specific anesthetic challenges due to patient comorbidities, such as obstructive sleep apnea, which increase sensitivity to opioids. High dosages of opioids contribute to postoperative morbidity. This study examines whether anesthesia methods, such as TIVA and inhalational anesthesia combined with fentanyl, and variations in surgical techniques, such as sleeve gastrectomy versus mini-gastric bypass, affect postoperative pain scores and analgesic needs.

The objectives of this audit are:

1. To assess the impact of anesthetic techniques on postoperative pain scores and analgesic requirements.

2. To evaluate the effect of surgical techniques on postoperative pain and analgesic needs.
3. To recommend a cost-effective anesthetic protocol to improve patient outcomes.

METHODOLOGY:

Study Design:

A retrospective audit based on data from 150 obese patients who underwent laparoscopic sleeve gastrectomy or mini-gastric bypass at Rashid Hospital.

Population and Grouping:

Patients were grouped based on anesthetic technique:

1. TIVA (Propofol + Remifentanyl)
2. Inhalational Anesthesia (Propofol induction + Fentanyl maintenance)
3. Combination of anesthesia with regional blocks

	Without RA	With RA
Inhalation + Fentanyl	50	22
Total Intravenous Anesthesia (TIVA)	50	28

Data Collection and Analysis:

Data collection and analysis focused on pain scores at 0, 6, 12, and 24 hours, along with analgesic requirements in the PACU. Statistical analysis evaluated group differences.

RESULTS:

Postoperative Pain Scores:

Patients receiving TIVA did not experience significantly different pain scores compared to those who received inhalational anesthesia.

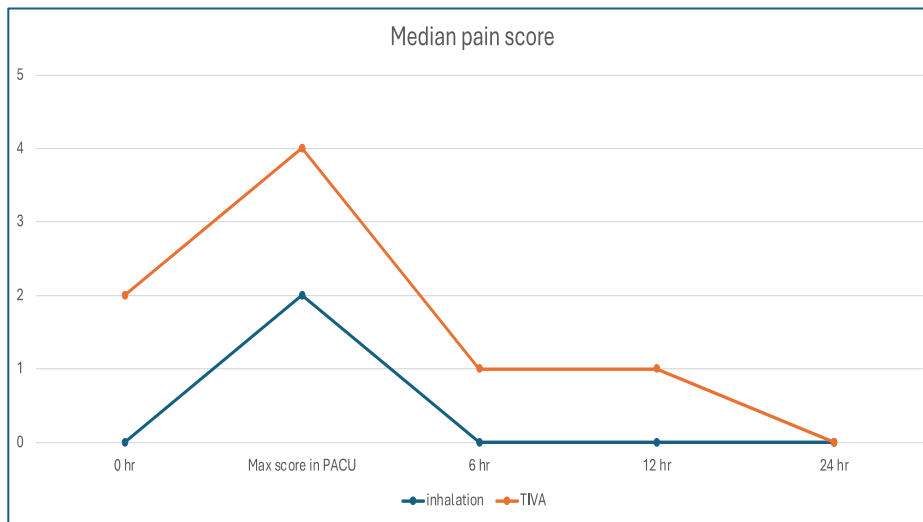


Figure 1: Line graph comparing average pain scores at 0, 6, 12, and 24 hours for TIVA vs. inhalational anesthesia, with and without regional blocks.

Analgesic Requirements:

Both anesthetic techniques showed similar analgesic needs in the PACU, with requirements significantly decreasing after 6 hours.

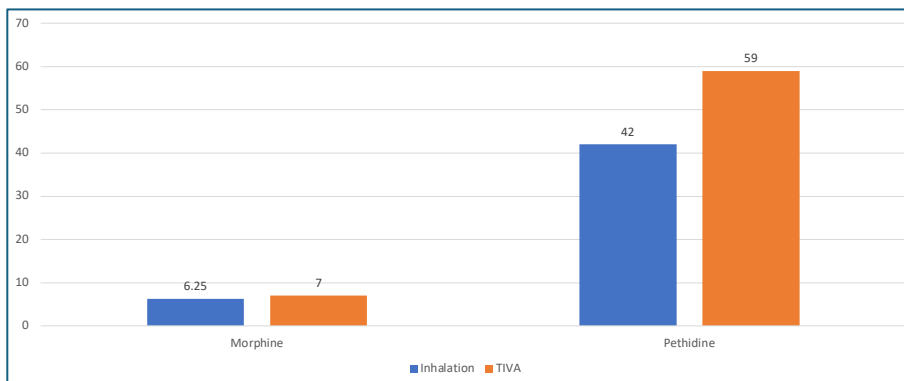


Figure 2: Bar graph showing the average opioid consumption across anesthesia techniques in the PACU.

Influence of Surgical Technique:

No significant differences in pain scores or analgesic needs were observed between sleeve gastrectomy and mini-gastric bypass surgeries.

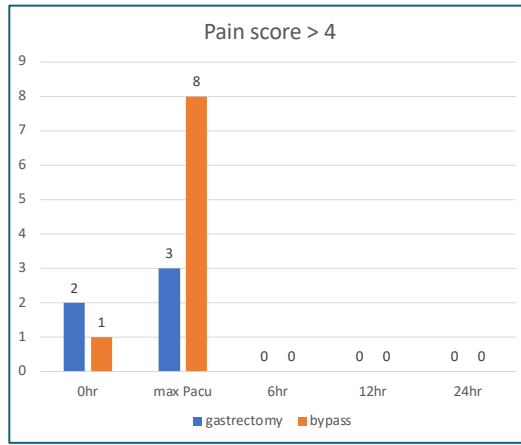


Figure 3: Pain score >4 in inhalational group

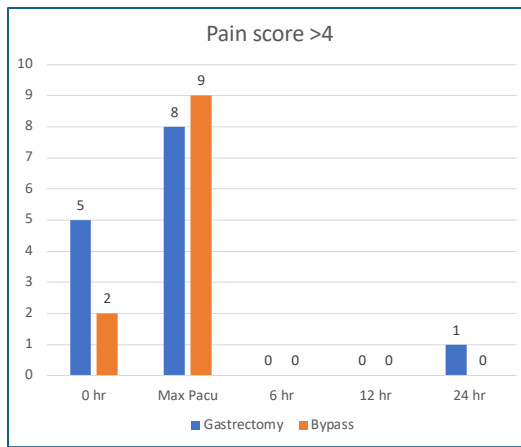


Figure 4: Pain score >4 in intravenous group

Impact of Regional Blocks:

Patients with regional blocks required earlier analgesics but did not demonstrate better pain outcomes compared to those without blocks.

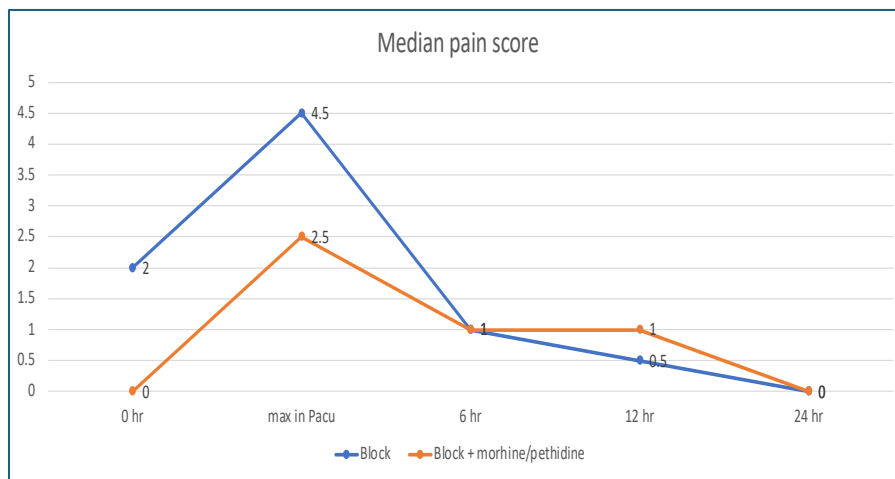


Figure 5: Comparison of post-op analgesia with block alone vs. block + intraoperative opioids.

Cost-Effectiveness of Techniques:

Inhalational anesthesia with fentanyl was found to be more cost-effective than TIVA.

DISCUSSION:

The study indicates that neither the anesthetic technique (TIVA vs. inhalational anesthesia) nor the surgical technique (sleeve gastrectomy vs. mini-gastric bypass) significantly affects postoperative pain scores or analgesic needs. Both TIVA and inhalational anesthesia provide effective pain control, but inhalational anesthesia with fentanyl offers a more cost-efficient solution, making it a viable option in resource-limited settings.

The limited benefits of regional blocks suggest that their advantages are mostly limited to early analgesia, with little impact on overall outcomes compared to systemic analgesics. The type of surgery performed also did not influence pain levels, implying that individual patient factors may have a greater role. These findings underscore the need for a standardized, evidence-based protocol to improve pain management, reduce opioid use, and streamline care.

CONCLUSION:

This audit highlights that anesthetic and surgical techniques have minimal influence on postoperative pain and analgesic requirements in bariatric surgery. Adopting a standardized inhalational anesthesia protocol with fentanyl can enhance cost-efficiency and optimize pain management for this patient group.

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