Article type: Mini Review
Home Page URL: https://www.alliedacademies.org/trauma-and-critical-care/

Evaluation of Postoperative Pain Control Using Long-Acting Local Anesthetics in Oral Surgery.

Maria Gonzalez*

Department of Oral Medicine, University of São Paulo, Brazil

***Correspondence to:** Maria Gonzalez. Department of Oral Medicine, University of São Paulo, Brazil. Email: maria.gonzalez.work@email.com

Received: *27-May-2025, Manuscript No. AAOMT-25-169578;* ***Editor assigned:*** *01-Jun-2025, PreQC No. AAOMT-25-169578 (PQ);* ***Reviewed:*** *15- Jun-2025, QC No. AAOMT-25-169578;* ***Revised:*** *22- Jun-2025, Manuscript No. AAOMT-25-169578 (R);* ***Published:*** *29- Jun-2025, DOI:10.35841/AAOMT-8.1.190*

Introduction

Postoperative pain remains a significant concern in oral and maxillofacial surgery, often affecting patient comfort, wound healing, and overall recovery outcomes. The intensity of pain following surgical procedures such as third molar extractions, apicoectomies, and cyst enucleations can vary, but effective pain management is essential to improve patient satisfaction and reduce the need for systemic analgesics. Traditionally, pain control has relied on short-acting local anesthetics supplemented with nonsteroidal anti-inflammatory drugs (NSAIDs) or opioids. However, the advent of long-acting local anesthetics, such as bupivacaine and ropivacaine, has provided an opportunity for extended postoperative analgesia without the drawbacks associated with systemic medications [1, 2, 3, 4, 5].

These anesthetics act by blocking sodium ion channels in nerve membranes for an extended period, thereby delaying the return of nociceptive transmission. Their prolonged duration of action reduces the frequency of postoperative pain spikes, particularly within the critical first 8–12 hours after surgery, which is often the peak discomfort period. Furthermore, the strategic use of long-acting agents can contribute to decreased opioid consumption, aligning with modern pain management protocols aimed at minimizing opioid dependency risks. Despite their proven efficacy, clinical adoption varies, and debates persist regarding potential side effects such as delayed motor recovery or local tissue toxicity. Therefore, evaluating the effectiveness and safety of long-acting local anesthetics in oral surgery remains crucial for evidence-based practice.

Conclusion

Long-acting local anesthetics offer a promising approach to enhance postoperative pain control in oral surgery, enabling improved patient comfort and potentially reducing reliance on systemic analgesics. By extending the analgesic window during the most critical postoperative period, these agents can contribute to faster recovery and better patient-reported outcomes. Further large-scale clinical trials and meta-analyses are warranted to establish standardized protocols and assess long-term safety profiles, ensuring their optimal use in surgical practice.

References

1. Becker, D. E., & Reed, K. L. (2012). Local anesthetics: Review of pharmacological considerations. *Anesthesia Progress*, 59(2), 90–101.
2. Moore, P. A., & Hersh, E. V. (2010). Local anesthetics: Pharmacology and toxicity. *Dental Clinics of North America*, 54(4), 587–599.
3. Joshi, A., & Eipe, N. (2020). Efficacy of long-acting local anesthetics in postoperative pain management: A review. *Journal of Oral and Maxillofacial Surgery*, 78(9), 1584–1591.
4. Malamed, S. F. (2013). Handbook of local anesthesia (6th ed.). Elsevier Health Sciences.
5. Tong, D. C., & Alzahrani, F. S. (2017). The effect of bupivacaine on postoperative pain following third molar surgery: A systematic review and meta-analysis. *Journal of Oral and Maxillofacial Surgery*, 75(5), 915–924.

Citation: Maria Gonzalez. Evaluation of Postoperative Pain Control Using Long-Acting Local Anesthetics in Oral Surgery. *J Oral Med Surg*. 2025; 8(1):190