Comparison of the Effects of Bupivacaine and Lidocaine as Local Anesthetics on the Incidence of Pain after Root Canal Therapy


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Abstract

Statement of Problem: Post-treatment endodontic pain is a concern of both patients and dentists. Several methods and drugs have been suggested to prevent the pain. In several studies, the use of long acting local anesthetics has been considered in the prevention of pain after some dental procedures.

Purpose: The purpose of this study was to compare the effect of Bupivacaine and Lidocaine as local anesthetics on the incidence of pain after root canal therapy.

Materials and Method: A total of 60 patients referring to 3 endodontists were invited to participate in this double blind clinical trial study. The patients had no history of cardiovascular disease, hypersensitivity to amide types of local anaesthetics, renal failure and hyperthyroidism. They were randomly assigned to one of the two groups: 0.5 percent Bupivacaine with 1.200000 Epinephrine or 2 percent Lidocaine with 1.100000 Epinephrine. After root canal therapy, the extent of postoperative pain was measured during 48 hours and categorized into 4 scores, 0 to 3. The results were analyzed using Mann-Whitney test for comparing the pain scores among the patients and Fischer’s Exact test for evaluating the correlation between, sex, jaw position, type of pulpal disease and preoperative pain with postoperative pain.

Results: Statistical analysis showed that Bupivacaine significantly reduced the incidence of flare-up after root canal therapy ($p=0.002$) and the need for analgesics was significantly decreased using Bupivacaine ($p=0.01$).

Conclusion: Long acting local anesthetics can be used in endodontic treatment especially for patients with high prediction of postoperative pain.

Key words: Bupivacaine, Lidocaine, Postoperative pain, Long acting local anesthetics, Endodontics