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Needle-less local anesthesia: clinical evaluation of the effectiveness of the jet anesthesia Injex in local anesthesia in dentistry.

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Abstract

OBJECTIVES: To clinically evaluate the jet injection Injex (Rösch AG Medizintechnik) using 2 different anesthetic solutions, and to compare the jet injection and the standard needle injection techniques.

METHOD AND MATERIALS: Of the 32 patients in the study, 10 received mepivacaine 3% anesthetic solution by means of the jet injection technique, while the remaining 22 patients received lidocaine 2% with epinephrine 1:80,000 by the same method. The 14 patients in whom pulp anesthesia was achieved were selected for an additional evaluation of the pulp reaction using standard needle injection anesthesia. The differences between the 2 compounds with Injex were statistically evaluated by means of independent-samples t test analysis. The differences between subgroups receiving both jet injection and needle injection anesthesia were evaluated by means of paired t test analysis.

RESULTS: The administration of mepivacaine 3% using Injex did not achieve pulp anesthesia in any of the 10 patients, although the soft tissue anesthesia was successful. The administration of lidocaine with epinephrine using Injex resulted in pulp anesthesia in only 14 patients; soft tissue anesthesia was observed in all patients of this group. There was no statistically significant difference between Injex and the needle injection technique in onset of anesthesia. However, the duration of anesthesia was significantly longer for the needle infiltration group than for the Injex injection group.

CONCLUSION: The anesthetic solution should be combined with a vasoconstriction agent when the Injex technique is implemented.

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