

Comparative evaluation of the effectiveness of electronic dental anesthesia and conventional local anesthesia in primary teeth

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Abstract

Background and Aim: Dental injection is one of the major reasons of fear in children. Electronic dental anesthesia (EDA) is a method for performing dental local anesthesia. The purpose of this study was to evaluate the effectiveness of electronic dental anesthesia (EDA) in comparison with conventional injectable local anesthesia in 5 to 7 years old children at Pediatric department of Tehran Dental branch, Islamic Azad University.

Materials and Methods: Twenty 5 to 7 years old children were selected for participation in this clinical trial study. Each selected child had two antimere maxillary first or second primary molars requiring class II cavity preparations. One tooth was treated by conventional local anesthesia. The antimere tooth was treated by electronic dental anesthesia at the next week. At the end of the each session, rating of pain were recorded using Wong-Baker FACES® Pain Rating Scale. Mann-Whitney U test was used to determine any statistically significant difference between two techniques at a level of $P < 0.05$.

Result: Pain rating for first primary molar in EDA method was less compared to local infiltration although the difference was not statistically significant ($P = 0.63$). For Second primary molar, pain rating in local infiltration was significantly higher compared to EDA technique ($P = 0.023$).

Conclusion: EDA technique is an effective method for performing restorative procedures for maxillary primary molars in 5 to 7 years old patients, especially in needle-phobic children.

Keywords: Transcutaneous electric nerve stimulation, Local anesthesia pain, Measurement