Topical anesthetic efficacy on palatal mucosa pretreated with microneedles

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Abstract
This research evaluated whether topical anesthetic efficacy increases on palatal mucosa pretreated with microneedles.

Key words:
Microneedles, Topical Anesthetic, Oral mucosa.

Introduction
This research evaluated whether topical anesthetic efficacy increases on palatal mucosa pretreated with microneedles.

Results and Discussion
In this crossover, randomized, double-blind study, 20 male volunteers were submitted to topical application of microneedles or flat patches on palatal mucosa, bilaterally in the canine region followed by topical anesthesia procedure with EMLA® (Eutectic mixture of lidocaine and prilocaine) during 2 or 5 minutes. Immediately after, an infiltrative anesthesia was performed by using a 30-gauge short needle and 0.3 mL of lidocaine 2% with epinephrine 1:100,000. Pain sensation during needle insertion and local anesthetic injection was evaluated by using 2 different visual analogical scale (VAS). VAS (in mm) results of microneedles and EMLA in reducing pain during needle insertion or local infiltrative anesthesia was performed by using 2 different substances (EMLA/Oraqix vs. benzocaine) on pain experienced during palatal needle injection. — Oral Surg Oral Med Oral Pathol Oral Radiol Endod 103, e16-20.

Conclusions
In conclusion, microneedle treatment of palatal mucosa was able to increase topical anesthetic efficacy of EMLA® and not increase topical anesthetic efficacy of EMLA® after 5 minutes of application resulted in reduction of pain during needle insertion, but not to local anesthetic injection (p>0.05).

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