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Abstract

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The patient's diet has been considered an important etiological factor of dentin hypersensitivity. The frequent ingestion of acidic substances can promote the loss of dental structure or remove the smear layer. The purpose of this study was to evaluate the degree of smear layer removal and dentinal tubules exposure by different natural orange juices. Extracted human teeth were submitted to manual scaling in order to develop the smear layer. Seventy dentin samples were obtained and distributed into the following groups: Control, lime orange, lime, val?cia orange, navel orange, mandarin, and tangerine. Each group included 2 methods of application: Topical and topical + friction. After preparation for SEM analysis, photomicrographs were assessed by a blind calibrated examiner using an index system. The Kruskal-Wallis test indicated a significant influence of the orange juices on smear layer removal. Significant difference was observed between navel orange, val?cia orange, mandarin and the control group ($p < 0.05$). These orange juices resulted in greater removal of the smear layer and greater opening of dentinal tubules. The comparison between the application methods for each group using the Mann-Whitney test showed that friction increased smear layer removal significantly only for lime orange and lime. The data suggest that certain natural orange juices are more effective in terms of smear layer removal and dentinal tubules exposure than others.

Keywords : Dentin sensitivity; Diet; Smear layer.

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