

P85: IN-VIVO EVALUATION OF THE EFFICACY OF OZONE AND MOUTH RINSES ON THE SALIVARY LEVELS OF S.MUTANS IN CHILDREN WITH FIXED ORTHODONTIC APPLIANCES

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Objective: Orthodontic patients with fixed appliances have difficulty to keep their daily oral care due to orthodontic bands, brackets and arc wire. Therefore, the prevalence and severity of dental caries during orthodontic treatment is increasing significantly. Because of Streptococcus mutans (S.mutans) is one of the most important factor for dental caries, the aim of this study was to compare evaluation of efficiency of Ozone and mouth rinses against Streptococcus mutans (S.mutans) numbers in the saliva of these patients.

Method: Thirty patients, aged between 13–18, with fixed orthodontic appliances were participated in the study. The levels of S.mutans in saliva and dental plaque around the brackets samples were evaluated at baseline.

Patients were randomly divided into three groups as; Group 1: Ozone (Ozoytron), Group 2: Mouth rinse (Listerine®), Group 3: Distilled water (as negative control). The patients used ozone and mouthrinses twice daily for one week. Then, dental plaque and saliva samples were collected and cultured by using conventional microbiological methods. Number of S.mutans, was determined in terms of cfu (colony forming unit)/mL. Data analysis was performed by using "SPSS for Windows 21". Logarithmic transformation of the numbers of S.mutans and Mann-Whitney U, Kruskal-Wallis and Wilcoxon T tests were used for statistical analyses (p<0,05, statistically significant).

Results: The number of salivary S.mutans was found to be reduced immediately after the application of the Ozone treatment and Listerin® and these reductions were found to be statistically significant (p<0,05). The number of S.mutans in both groups increased by the first 1-week period; but these increment were not found to be statistically significant (p>0.05).

Conclusion: It was observed that Ozone treatment may have an instataneous lethal effect but only a short-time preventive effect on S.mutans. Whereas, Listerin® showed better results on decreasing the number of S.mutans, for prophylaxis and in preventing dental caries.

Keywords: Orthodontic treatment, S.mutans, Prophylaxis, Ozone, Mouth rinses