Effects of Different Irrigation Activation Techniques on the Healing of Large Periapical Lesions: A Randomized Controlled Study

Date: 30.06.2024

Statistical analysis

The Jamovi 2.3.28 statistical program was used for statistical analysis. Normal distribution in the comparisons was evaluated by the Shapiro–Wilk test, Kolmogorov–Smirnov test, Anderson–Darling test and Q–Q graph. Homogeneity between variances was analyzed by Levene's test. Since sex data were categorical, the differences between the groups were analyzed via the chi-square test. Since the distribution of age between groups was found to be normal, it was analyzed by Welch's one-way ANOVA test.

Although a normal distribution was obtained in fractal analysis, Welch's one-way ANOVA test was preferred for the comparison of irrigation groups because the variances were not homogeneously distributed, and pairwise comparisons were made with the Games–Howell test. Before and after comparisons within each group, paired sample t tests were used.

Since a normal distribution could not be obtained, the Kruskal–Wallis test was preferred for the comparison of irrigation groups for lesion size, and pairwise comparisons were made with the Dwass-Steel-Critchlow-Fligner test. Before and after comparisons within each group, the Wilcoxon rank test was used. The significance level for the statistical analysis was set to $p<0.05$.

Additionally, intraobserver reliability was evaluated for fractal and lesion size measurements via the concordance correlation coefficient (CCC).