Perbedaan Microhardness dan Flexural Strength Dentin Saluran Akar Setelah Paparan Berbagai Larutan Irigasi Endodontik Regeneratif = Differences in Microhardness and Flexural Strength of Root Canal Dentin after Exposure Variuos Regenerative Endodontic Irrigation Solutions

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Abstrak

Tujuan: Menganalisis perbedaan microhardness dan flexural strength dentin saluran akar setelah paparan berbagai larutan irigasi endodontik regeneratif.
Metode: Tiga puluh enam sampel dentin gigi manusia yang baru diekstraksi dibagi menjadi 6 kelompok yaitu 2 kelompok kontrol (NaCl 0,9%), 2 kelompok uji 1 diirigasi dengan 20 ml NaOCl 1,5% selama 5 menit – 3 ml NaCl 0,9% selama 3 menit – 20 ml EDTA 17% selama 5 menit, 2 kelompok uji 2 diirigasi dengan 20 ml NaOCl 1,5% selama 5 menit – 3 ml PBS 10% selama 3 menit – 20 ml EDTA 17% selama 5 menit – 3 ml PBS 10% selama 3 menit. Perubahan microhardness dan flexural strength dievaluasi dengan uji Vickers dan 3-Point Flexural Tester. Data dianalisis menggunakan One-Way ANOVA dan Tamhane.
Hasil: Terdapat perbedaan bermakna antar kelompok uji 1 dan 2 dengan kelompok kontrol (One-Way ANOVA, $p < 0,05$). Berdasarkan uji Post Hoc (Tamhane, $p<0,05$) terdapat perbedaan bermakna microhardness dan flexural strength kelompok uji 2 dibandingkan kelompok uji 1, dengan nilai rerata lebih tinggi pada kelompok uji 2 terhadap kelompok uji lainnya.
Kesimpulan: Kelompok uji 2 memiliki nilai microhardness dan flexural strength lebih baik sebagai bahan regenerasi endodontik regeneratif.
.....Objective: To analyze the differences in microhardness and flexural strength of root canal dentin after exposure various regenerative endodontic irrigation solution.
Methods: Thirty-six dentine samples from fresh extracted were assigned to 6 groups, two groups as a control (NaCl 0,9%), two test groups 1 (20 ml NaOCl 1,5% for 5 min – 3 ml NaCl 0,9% for 3 min – 20 ml EDTA 17% for 5 min), two test groups 2 (20 ml NaOCl 1,5% for 5 min – 3 ml PBS 10% for 3 min – 20 ml EDTA 17% for 5 min – 3 ml PBS 10% for 3 min). The changing of microhardness and flexural strength were evaluated using Vickers and 3-point flexural tester. Data were analysed using One-Way ANOVA and Tamhane.
Result: There was significant difference between test groups 1 and 2 with control group (One-Way ANOVA, $p < 0,05$). Based on the Post hoc test (Tamhane, $p < 0,05$), showed significant difference in microhardness and flexural strength between group 2 and group 1, with higher mean in test group 2 compared to other test groups.
Conclusion: Test group 2 had better microhardness and flexural strength as regenerative endodontic irrigation.