Perbandingan kebocoran mikro sepertiga apeks pada pengisian saluran akar dengan semen resin epoksi dan MTA = The comparison of microleakage of obturation with epoxy resin based and mineral trioxide aggregate based root canal sealer in one third apical root canal

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Abstrak

Latar Belakang: Kebocoran mikro dipengaruhi oleh jenis semen saluran akar.
Tujuan: menganalisis tingkat kebocoran mikro pengisian saluran akar menggunakan semen resin epoksi (SRE) dan Mineral Trioxide Aggregate (SMTA).
Metode: Tiga puluh dua gigi premolar bawah, dibagi dua kelompok sama besar, yaitu kelompok SRE dan SMTA. Setelah pengisian saluran akar, sampel diinkubasi (370C, 24 jam), kemudian direndam dalam tinta India selama 7 X 24 jam. Sampel didekalsifikasi sampai dengan transparan. Kedalaman penetrasi tinta dievaluasi dengan mikroskop stereo. Skor 1 untuk penetrasi tinta 0-0,5 mm, skor 2 untuk penetrasi tinta 0,51-1 mm, dan skor 3 untuk penetrasi tinta >1 mm.
Hasil: Distribusi proporsi kebocoran terbesar kelompok SRE terdapat pada skor 1, yaitu sebesar 37,5%. Sedangkan distribusi proporsi kebocoran terbesar kelompok SMTA terdapat pada skor 1, yaitu sebesar 21,9%. Tidak terdapat perbedaan bermakna antara kelompok SRE dan SMTA.
Kesimpulan: Semen resin epoksi dan semen MTA memiliki tingkat kebocoran yang sama.
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Background: The microleakage affected by type of root canal sealer.
Purpose: to analyze the microleakage of obturation using epoxy resin-based (SRE) and mineral trioxide aggregate-based (SMTA) as root canal sealer.
Methods: Thirty two mandibular first premolars were equally divided into two groups. They were SRE group and SMTA group. After obturation, the specimens were incubated (370C, 24 h), immersed in Indian ink for 7 days, decalcified, dehydrated, and made transparent. Dye penetration were evaluated under stereomicroscope and given score 1-3. Specimen with 0-0,5 mm dye penetration was given score 1, while 0,51-1 mm penetration was given score 2, and > 1 mm was given score 3. The results were statistically analyzed with Kolmogorov Smirnov test.
Results: The largest proportion distribution in SMTA group was score 1 (37,5%), whilst the largest proportion distribution in SMTA group was score 1 (21,9%). There was no significant difference between the microleakage of epoxy resin-based and mineral trioxide aggregate-based sealer, observed from the one-third apical leakage.
Conclusion: The microleakage of mineral trioxide aggregate based sealer and epoxy resin-based sealer was relatively similar.