Efek penggunaan instrumen single file rotasi kontinyu dan resiprokal terhadap terjadinya ekstrusi debri dan enterococcus faecalis = The influence of rotating and reciprocating single file system on apical extrusion of debris and enterococcus faecalis.

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Abstrak

Latar Belakang: Preparasi saluran akar berpotensi menyebabkan ekstrusi debri nekrotik dan bakteri intrakanal yang dapat memicu respon inflamasi di periapeks. Teknik instrumentasi, desain file, dan teknik irigasi diketahui memengaruhi potensi terjadinya ekstrusi debri dan bakteri.
Tujuan: Menganalisis dan membandingkan efek penggunaan single file rotasi kontinyu dan resiprokal terhadap terjadinya ekstrusi debri dan E.faecalis.
Metode: Tiga puluh dua gigi premolar rahang bawah, akar tunggal dipilih secara acak dikontaminasi bakteri E.faecalis isolat klinis ke dalam saluran akar, lalu dibagi menjadi dua kelompok. Saluran akar dipreparasi menggunakan single file gerakan rotasi kontinyu (One Curve), dan single file gerakan resiprokal (Reciproc Blue). Model Myers dan Montogomery digunakan untuk mengumpulkan ekstrusi debri dan bakteri. Jumlah ekstrusi debri diketahui dari selisih berat tabung debri sebelum dan setelah instrumentasi. Sementara ekstrusi E.faecalis diketahui dengan identifikasi koloni hijau-biru pada media chromagar selektif. Analisis statistik menggunakan uji Mann Whitney dan komparatif kategorik.
Hasil: Tidak terdapat perbedaan bermakna antara jumlah ekstrusi debri (p=0,513) dan persentase terjadinya ekstrusi E.faecalis (p=0,479) pada kelompok uji menggunakan single file rotasi kontinyu dengan resiprokal.
Simpulan: Instrumen single file rotasi kontinyu dan resiprokal, berpotensi menyebabkan ekstrusi debri dan E.faecalis, namun tidak ditemui perbedaan bermakna pada jumlah ekstrusi debri dan E.faecalis di antara kedua gerakan tersebut.
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Background: Root canal preparation potentially cause extrusion of necrotic debris and intracanal bacteria which lead to inflammation in periapical tissue. The preparation technique, file design, and irrigation techniques influences the risk of debris and bacterial extrusion.
Objective: The purpose of this study was to evaluate and compare the effects of rotating and reciprocating single file on debris and E.faecalis extrusion.
Method: Thirty-two mandibular premolars, single roots randomly contaminated with E.faecalis bacterial isolates into the root canal, then divided into two groups. The root canals were prepared using rotating single file (One Curve) and reciprocating single file (Reciproc Blue). Myers and Montogomery models are used to collect debri and bacterial extrusions. The amount of debris extrusion is known from the difference of the debris tubes weight before and after instrumentation. While E.faecalis extrusion is known by identification of blue-green colonies on selective chromagar media. Non parametric test like Mann Whitney test and categorical comparative test were applied to determine the significant difference among the group.
Results: There was no significant difference between debris extrusion (p = 0.513) and the percentage of E.faecalis extrusion (p = 0.479) among the group using rotating and reciprocating single file.
Conclusions: In this study, both rotating and reciprocating single file system used resulted in some debris

and E.faecalis extrusion, but there were no significant differences in the number of debris and E.faecalis extrusion between the instrumentation.