

**PERBEDAAN KEBERSIHAN SEPERTIGA APIKAL SALURAN  
AKAR PASCA PREPARASI ANTARA SISTEM SATU *FILE*  
DAN MULTI *FILE* DENGAN GERAKAN  
ROTASI KONTINU**

**INTISARI**

Kebersihan suatu perawatan saluran akar diukur dengan tingkat kebersihan saluran akar meliputi pada bagian sepertiga apikal, sepertiga tengah, dan sepertiga koronal. Daerah yang paling sulit dibersihkan oleh instrumen *file* adalah dinding sepertiga apikal saluran akar karena mempunyai bentuk saluran akar yang kompleks, terdapat ramifikasi, lebih sempit, berlekuk, dan seringkali terdapat percabangan saluran akar, banyaknya mikroorganisme yang berkembang pada daerah sepertiga apikal. Instrumen putar sistem satu *file* dan multi *file* memiliki kelebihan dan kekurangan masing-masing bergantung pada desain *file* suatu alat. Penelitian ini bertujuan untuk mengetahui perbedaan kebersihan sepertiga apikal saluran akar pasca preparasi menggunakan sistem satu *file* dan multi *file* dengan gerakan rotasi kontinu.

Dua belas gigi premolar mandibula pasca pencabutan digunakan dalam penelitian ini. Spesimen dibagi secara random kedalam dua grup. Kelompok I dipreparasi menggunakan sistem satu *file One Curve*, kelompok II dipreparasi menggunakan sistem multi *file ProTaper Next* dengan teknik *crown down*. Seluruh subjek penelitian dipotong longitudinal, kemudian dilakukan pelapisan menggunakan platina. Pengamatan tingkat kebersihan saluran akar dilakukan menggunakan Scanning Electron Microscope (SEM) dengan perbesaran 2.000 dan 5000 kali pada 1/3 apikal. Hasil foto mikrografis (SEM) kemudian diberi skor 1-4 berdasarkan tubuli dentinalis yang tidak tertutup oleh material hasil preparasi.

Hasil uji U Mann-Whitney berada pada nilai  $p = 0,036$  ( $p < 0,05$ ). Nilai Mean Rank terendah berada pada kelompok Protaper Next. Pada penelitian ini, disimpulkan bahwa kebersihan sepertiga saluran akar pasca preparasi menggunakan instrumen multi *file* lebih baik dibandingkan dengan satu *file*

Kata Kunci : Satu *file*, Multi *file*, SEM, Kebersihan Saluran Akar

***THE DIFFERENCE OF ONE-THIRD APICAL ROOT CANAL  
CLEANLINESS AFTER INSTRUMENTATION BETWEEN  
SINGLE FILE SYSTEM AND MULTIPLE FILE WITH  
CONTINUOUS ROTATION MOTION***

**ABSTRACT**

Cleanliness of a root canal treatment is measured by the level of cleanliness of the root canal covering the apical third, middle third, and coronal third. The area that is most difficult to clear by the instrument file is the apical third root canal wall because it has a complex root canal shape, there is ramification, is narrower, curved, and often has a root canal branching, the microorganisms that develop in the apical third region. single file and multi file system rotating instruments have their own advantages and disadvantages depending on the design of the file of a device. The aim of this study was to compare the ability of single file and multi file system with continuous rotation motion on the cleanliness of apical third root canal after instrumentation .

Twelve freshly extracted mandibular premolar were used for the study. The specimens were randomly divided into two groups. Group I single file system prepared using a One Curve , group II multiple file system prepared using ProTaper Next with the crown down technique. All research subjects were cut longitudinally, then coating platina. Observation of the level of cleanliness of the root canal was carried out using a Scanning Electron Microscope (SEM) with magnification of 2000 and 5000 times at 1/3 apical. The results of micrographic photographs (SEM) are then given a score of 1-4 based on the dentinal tubules which are not covered by the preparation material.

Mann-Whitney U test results are at p values 0.036 ( $p < 0.05$ ). The lowest Mean Rank value is in the Protaper Next group. In this study, it was concluded that the cleanliness of one-third root canals after preparation using a multi-*file* instrument was better than one *file* system.

Keywords: Single file, Multi File, SEM, Root Canal Cleanliness