

# Prevalensi Variasi Bentuk Penampang Melintang Sepertiga Apikal Saluran Akar Gigi Premolar Dua dan Molar Satu Rahang Atas serta Molar Satu Rahang Bawah (Analisis dengan Micro-CT) = Prevalence Variation of Apical One-Third Root Canal Cross Section Shape in Maxillary Second Premolars and First Molars and Mandibular First Molars (Analyze with Micro-CT)

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## Abstrak

### **ABSTRAK**

Bentuk oval pada sepertiga apikal saluran akar gigi premolar dua dan molar satu rahang atas serta molar satu rahang bawah seringkali tidak dapat terpreparasi dan dapat menyebabkan kegagalan. Tujuan: Mengetahui prevalensi variasi penampang melintang sepertiga apikal saluran akar gigi premolar dua dan molar satu rahang atas serta molar satu rahang bawah. Metode: Penelitian ini menggunakan 80 sampel gigi, di-scan menggunakan micro-CT Bruker SkyScan 1173. Masing-masing sepertiga apikal saluran akar dipotong dengan perangkat lunak DataViewer. Rasio diameter maksimum dan minimum dihitung dengan perangkat lunak Fiji ImageJ dan dikategorikan: bulat, oval, long oval, flat. Hasil: Prevalensi penampang melintang saluran akar premolar dua rahang atas, oval 66,7 , long oval 24,6 , flat 7 , bulat 1,7 . Molar satu rahang atas akar mesiobukal, oval 68,2 , long oval 22,7 , flat 9,1 ; distobukal, oval 94,1 , long oval 5,9 ; palatal oval 100 . Molar satu rahang bawah akar mesiobukal, long oval 47,4 , oval 36,8 , dan flat 15,8 ; mesiolingual oval 100 ; dan distal, oval 68,4 , long oval 21,1 , flat 10,5 . Kesimpulan: Penampang melintang oval pada sepertiga apikal saluran akar gigi premolar dua dan molar satu rahang atas serta molar satu rahang bawah ditemukan paling banyak, kecuali pada akar mesiobukal gigi molar satu rahang bawah ditemukan long oval 47,4 .

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### **ABSTRACT**

Oval shaped in apical one third maxillary second premolars, maxillary first molars, and mandibular first molars often can not be cleaned and shaped, and could cause failure in the process. Objective To know the prevalence variation of apical one third cross section in root canals of maxillary second premolars, maxillary first molars, and mandibular first molars. Methods This research used 80 tooth samples, were scanned using micro CT Bruker SkyScan 1173. Each of apical one third root canal were sectioned using DataViewer software. Maximum and minimum diameter ratio was calculated using the Fiji ImageJ software and categorized round, oval, long oval, and flat. Results Prevalence of apical one third root canal cross section shape in maxillary second premolar, oval 66,7 , long oval 24,6 , flat 7 , round 1,7 . Maxillary first molar mesiobuccal root, oval 68,2 , long oval 22,7 , flat 9,1 distobuccal, oval 94,1 , long oval 5,9 and palatal oval 100 . Mandibular first molar mesiobuccal root, long oval 47,4 , oval 36,8 , flat 15,8 mesiolingual oval 100 and distal, oval 68,4 , long oval 21,1 , flat 10,5 . Conclusion Oval shape in cross section of apical one third in root canals of maxillary second premolars, maxillary first molars, and mandibular first molars were most found, except in mesiobuccal root in mandibular first molar was found long oval 47,4 .