In vitro evaluation of apical transportation during calcium hydroxide paste removal using rotary systems

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Abstrak

ABSTRAK
Objectives: To comparatively evaluate the incidence of apical transportation during calcium hydroxide paste removal using two rotary systems on 40o curved simulated root canal blocks. Methods: Two groups (n 15: Group1, iRace; Group 2, ProTaper) of simulated root canals (40o curvature) were instrumented until working length was
achieved. Stereomicroscopic post instrumentation images were captured, and the final file was inserted into canal to the working length. Calcium hydroxide paste with iodoform was placed until working length was achieved and removed after 7 days using the master apical file with copious irrigation. Stereomicroscopic images were taken after calcium hydroxide paste removal, with the final file inserted until working length was achieved to assess the incidence of apical transportation. Stereomicroscopic images were obtained and superimposed using Adobe Photoshop 8. Results: Mean angle change after rotary instrumentation and calcium hydroxide paste removal
was observed in both groups and was greater in Group 2 than in Group 1. Superimposed images showed greater root canal deviation in Group 2 than in Group 1. Conclusion: Both file systems showed apical transportation upon calcium hydroxide paste removal from simulated curved root canals. A greater angle deviation and apical transportation was recorded with ProTaper.