Prevalence of Apical Periodontitis in Root Canal–Treated Teeth From an Urban French Population: Influence of the Quality of Root Canal Fillings and Coronal Restorations

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Periradicular status of root canal–treated teeth as related to quality of the coronal restoration combined with quality of the endodontic treatment determined by the length and homogeneity of the root canal filling (n = 1035)

Endodontic treatment	Coronal restoration	PAI 1	PAI 2	PAI 3	PAI 4	PAI 5	Healthy (PAI 1 & 2)
Adequate	Adequate	126/153 (82%)	17/153 (11%)	0/153 (0%)	8/153 (5%)	2/153 (1%)	143/153 (93.5%)
Adequate	Inadequate	28/45 (62%)	9/45 (20%)	0/45 (0%)	3/45 (7%)	5/45 (12%)	37/45 (82%)
Inadequate	Adequate	227/515 (44%)	103/515 (20%)	99/515 (19%)	58/515 (11%)	28/515 (5%)	330/515 (64%)
Inadequate	Inadequate	100/322 (31%)	81/322 (25%)	54/322 (17%)	56/322 (17%)	31/322 (10%)	181/322 (56%)

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A 1-year follow-up study on leakage of four root canal sealers at different thicknesses.

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Author information

Abstract

Determination of leakage using a fluid transport model allows measurement of leakage in a longitudinal manner. Leakage of four sealers at three different thicknesses in 225 bovine root sections, after storage in water for 1 year, was measured again using the same methodology. The change in seal over time for each sealer was observed. The results after the second measurement showed that every sealer produced the best seal when the sealer layer was the thinnest. AH26, Ketac-Endo and Tubli-Seal showed a reduction in leakage over time and gave significantly less leakage than Sealapex ($P<0.005$). Sealapex showed significantly more leakage after storing in water for 1 year ($P<0.005$). Therefore, the long-lasting seal of sealer may, among other influencing factors, depend on the layer thickness and the solubility of the material.