Journal of oral science
Volume ٥١, Issue ٢, June ٢٠٠٩, Pages ٢٠٧-٢١٣

Evaluation of microleakage following application of a dentin bonding agent as root canal sealer in the presence or absence of smear layer.

Moradi, S., Naghavi, N., Rohani, E., Javidi, M.
Department of Endodontics, Dental Research Center, Faculty of Dentistry, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran.

Abstract

The aim of this study was to compare the apical leakage of roots obturated with gutta-percha using either an epoxy resin sealer (AH٢٦) or a dual cure dentin binding agent (Excite DSC) as sealer in the presence or absence of smear layer with fluid filtration method. The canals of eighty-six, single-rooted premolars were instrumented until a #٤٠ K-file fit at working length and then randomly divided into four groups (n = ٢٠) with the remaining six used as controls. Groups ١ and ٢ were filled with gutta-percha using AH٢٦ as sealer; groups ٣ and ٤ were filled with gutta-percha and Excite DSC as sealer. Groups ١ and ٣ were smear layer-positive, while group ٢ and ٤ were designated as smear layer-negative. After ٣ days and ٣ months, the samples were connected to a fluid filtration system. Analysis of data with the paired t-test showed that microleakage in AH٢٦ groups (with and without smear layer) decreased significantly at ٣ months compared to ٣ days; however, in the DBA groups, the amount of microleakage at ٣ days and ٣ months was not significantly different. According to the results of this study, DBA (Excite DSC) had better apical sealing ability and could be applied clinically.

Reaxys Database Information

|

Indexed Keywords

EMTREE drug terms: ah ٢٦ filling material; bismuth; dentin bonding agent; epoxy resin; Excite cement; methacrylic acid derivative; root canal filling material; silver; titanium

EMTREE medical terms: article; comparative study; dental surgery; drug combination; endodontics; filtration; human; methodology; premolar tooth; tooth disease

MeSH: Bicuspid; Bismuth; Dental Leakage; Dentin-Bonding Agents; Drug Combinations; Epoxy Resins; Filtration; Humans; Methacrylates; Root Canal Filling Materials; Root Canal Obturation; Silver; Smear Layer; Titanium
Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: ah ٢٦ filling material, ٥٥٥٩٩-٢٥-٢; bismuth, ٧٤٤٠-٦٩-٩; silver, ٧٤٤٠-٢٢-٤; titanium, ٧٤٤٠-٣٢-٦;AH ٢٦, ٥٥٥٩٩-٢٥-٢; Bismuth, ٧٤٤٠-٦٩-٩; Dentin-Bonding Agents; Drug Combinations; Epoxy Resins; Excite cement; Methacrylates; Root Canal Filling Materials; Silver, ٧٤٤٠-٢٢-٤; Titanium, ٧٤٤٠-٣٢-٦

ISSN: ١٨٨٠٤٩٢٦ **Source Type:** Journal **Original language:** English
PubMed ID: ١٩٥٥٠٠٨٨ **Document Type:** Article