In Vitro Comparison of the Apical Microleakage of Mineral Trioxide Aggregate (MTA) with Amalgam as a Retrograde Filling Material

Microleakage of Mineral Trioxide Aggregate

(MTA) with Amalgam as a Retrograde Filling Material

{Original Article (Dentistry)}

ABSTRACT

Objective: The objective of this study was to compare apical microleakage of MTA with Amalgam following retrograde root filling.

Study Design: Experimental study

Place and Duration of Study: This study was conducted at the Department of Operative Dentistry, Fatima Jinnah Dental College & Hospital, Karachi March 2006-March 2007.

Materials and Methods: One hundred twenty extracted human single rooted teeth were randomly assigned into four groups of 30 teeth each. The root canal filling carried out and retropreparations were cut in each root using round bur to a depth of 2-3mm.cavity varnish applied prior to retrofillings. Group I retrofilled with amalgam. In group II MTA was used, Group III served as negative control and group IV as a positive control. Roots were suspended in 2% methylene blue and placed into incubator at 37°C for 7 days. Teeth were split and chosen halve evaluated using a dissecting microscope at 10x magnification. The roots were evaluated and scored as either acceptable or unacceptable.
Results: The results showed that MTA displayed significantly less dye leakage than Amalgam. 24 samples (83%) out of 29 samples of MTA scored as acceptable, whereas 4 specimens (16%) out of 28 samples of Amalgam showed acceptable score. MTA was found to be superior to Amalgam in providing an apical seal when used as a root-end filling material.

Conclusions: Favorable results were obtained with MTA in leakage study and it was concluded that MTA provided a better apical seal than Amalgam.

Key Words: Apicectomy, Amalgam, Retrograde filling, MTA.

REFERENCES


3. Dina Al-Saudani, Saad AY. Use of a chemically activated resin modified glass ionomer as a retrograde filling material: An In Vitro Study JADA 2001;10(1).


31. Owadlly ID, Pit Ford TR, Effects of addition of hydroxyapatite on the physical properties of
In Vitro Comparison of the Apical Microleakage of Mineral Trioxide Aggregate (MTA) with Amalgam as a Retrograde filling Material


Address for Corresponding Author:

Dr. Faisal Bhangar

15/c Old Railway Bunglow.Opp: Karachi Club Dr Ziauddi Road, Karachi, Pakistan.