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Original Article

A Comparison between Amalgam and MTA in Repairing Furcal Perforation

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Abstract:

Objective: The purpose of this study was to investigate the histological response to deliberate perforation repaired using amalgam or MTA either immediately or with delay on cats' molars.

Materials and Methods: Twenty-eight molar teeth from four cats were used in this experimental randomized study. After preparing the access cavity, the floor of pulp chambers were deliberately perforated with a round bur No. 5. The teeth were randomly divided into four groups of seven. In groups one and two, the perforation was immediately sealed with amalgam and MTA, respectively. In groups three and four, the perforations were left exposed to saliva for six weeks and then sealed with amalgam or MTA. The animals were sacrificed four months later and the specimens processed. The samples were blindly examined for inflammatory reaction and healing process under light microscope. The data were analyzed with Mann-Whitney U and Fisher exact tests.

Results: The type of the materials used has no significant effect on the severity of inflammation; while, immediate or delayed repair of furcal perforation has, and immediate application of, MTA produced less inflammation than that of amalgam ($P < 0.05$). No differences were found in vasodilatation, abscess formation or healing process between the immediate and the delayed repair groups ($P = 0.13$).

Conclusion: MTA is a more suitable material than amalgam for perforation repair, particularly when used immediately after perforation.

Keywords:

Inflammation , mineral trioxide aggregate , Dental Amalgam

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