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Pulp Tissue Reaction of Dog Canines to Root MTA and Portland Cement Compared to ProRoot MTA as Pulp Capping Agents

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Abstract:

Statement of Problem: Mineral trioxid aggregate (MTA) cement is widely used for root-end filling, pulp capping, perforation repair and other treatments in endodontics. Investigations have shown similar physical and chemical properties for Portland cement (type I), Root MTA and ProRoot MTA. Purpose: The aim of this in vivo study was to evaluate the reaction of dog canine pulp after pulp capping with Root MTA and Portland cement versus ProRoot MTA. Materials and Methods: All four canines from fifteen healthy dogs, 12-18 months of age, were mechanically exposed via buccal class V cavities under aseptic conditions. MTA, Portland cement and Root MTA were prepared according to the manufactures' instructions and placed in the cavities. Tricresol formalin was used in the control group. After 4, 8 and 12 weeks, the animals were sacrificed and the teeth were fixed and processed for light microscopic analysis. The presence and thickness of the dentinal bridge and the degree of inflammation were evaluated. Data were submitted to Mann-Whitney and Kruskal Wallis tests for statistical analysis. Results: No statistically significant difference was found in the presence and thickness of the dentinal bridge, and the degree of inflammation between Root MTA, Portland cement and ProRoot MTA ($P>0.05$). Conclusion: Root MTA, Portland cement and ProRoot MTA showed similar comparative results when used as direct pulp capping materials. The results of this study support the idea that Portland cement and Root MTA have the potential to be used in clinical situation similar to those in which ProRoot MTA is being used.

Keywords:

[Pulp capping](#) . [Dentinal bridge](#) . [ProRoot MTA](#) . [Portland cement](#)

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