

Original Article

Immunohistochemical study of mixing mineral trioxide aggregate with hyaluronic acid as a pulp-capping agent in dog teeth

A b s t r a c t:

Objective: The purpose of this study was to evaluate the immunohistochemical effect of hyaluronic acid (HA) on the mineralization.

rate of the reparative dentin when it is used as a mixing medium with mineral trioxide aggregate (MTA).

Materials and Methods: Direct pulp capping (DPC) was performed on 90 teeth from 10 dogs that had been experimentally exposed.

The exposed pulps were divided into three groups according to the mixing medium with MTA:

Group I: MTA + distilled

water (control group), Group II: MTA + hybrid cooperative complex HA (HCC-HA), Group III: MTA + high molecular weight

HA (HMW-HA). After pulp capping, all cavities were restored with final restoration. The dogs were divided randomly into five

groups (two dogs each) according to the evaluation periods (7, 14, 21, 30, and 60) days. At the end of the study, the dogs

were euthanized, and the sampled teeth were processed for immunohistochemical investigation.

Results: Both types of HA (HCC-HA, HMW-HA) showed an increase in the expression of alkaline phosphatase (ALP) at a higher

Conclusions: Within the limitations of this study, HA proved to be an effective additive to MTA for DPC