Abstract: Introduction: Direct pulp capping (DPC) is a method that covered the exposed pulp directly with a biocompatible substance to allow the pulp opportunity to form reparative dentin and so maintains pulp vitality. Recently, Portland cement has been introduced with the same properties as Mineral trioxide aggregate. Histopathological effects of direct pulp capping using Mineral trioxide aggregate and Portland cements on dog dental pulp tissue were evaluated.

Methods: Sixty-four premolar teeth from 4 male adult Iranian pedigree dogs, one-year old were used in this study. The exposed pulp was capped with white or dark Mineral trioxide aggregate, white or dark Portland cements in each quadrant and sealed with a glass ionomer. Specimens were evaluated under a light microscope after 6 months. Statistical analysis was done using the Kruskal-Wallis test.

Results: There is no acute inflammation in any of the specimens. Chronic inflammation was observed in 45.5% of the white MTA group, 27.3% of the gray MTA group, 57.1% of the white Portland group, and 34.1% of the gray Portland group with no significant difference between them. The largest extent of increased vascularization (45%) and the least increased fibrous tissue was adjacent to white MTA, but it was not significant. Also, the most calcified tissue was formed adjacent to MTA, although not significant.

Conclusion: In direct pulp capping of dog teeth, there was no significant difference in the extent of inflammation, calcified tissue, pulp necrosis, fibrous tissue and increased vascularity between the groups.

direct pulp capping, histologic evaluation, mineral trioxide aggregate, portland cement.

Presentation: Poster