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Bioceramics as an innovative savior for perforation repair

Purpose: The purpose of this study was to compare the effect of two bioactive bioceramic materials on the repair of furcation perforation.

Materials & Methods: Ninety-six (96) teeth in six dogs were divided into two main groups according to the time of repair; immediate and delayed (one month). Each group was divided into three subgroups according to the evaluation period; one, two and three months. Each subgroup was further divided into two subgroups according to the material used; biodentine and MTA. Each subgroup was evaluated radiographically to assess bone change percentage, histologically to assess the inflammatory cell count and immunohistochemically to assess the hard tissue formation. Data were analyzed using ANOVA and Tukey's test.

Results: The evidence of new hard tissue was noticed with no significant difference between biodentine and MTA ($P=0.523$), both found with highest deposition of hard tissue. Time of repair and the evaluation period showed statistical significant effect on the bone change percentage, the inflammatory cell count and the hard tissue formation.

Conclusion: Furcation perforation has poorer prognosis if the perforation site is not immediately repaired. New hard tissue prevalence increased throughout the evaluation periods. Both tested materials; biodentine and MTA promote hard tissue formation.

Biography

Mahmoud Mohamed Badr is a Lecturer of Endodontics in the Faculty of Dentistry at Future University in Egypt. He has obtained his PhD degree in Endodontics from Future University in Egypt in 2017 and Master's degree in Endodontics from Ain Shams University in 2011. He is Owner/Endodontist in The Dental Lounge, Dental Center in Cairo, Egypt. He is also the Director of Basic and Advanced Endodontic courses in Arab Society for Continuous Dental Education in Egypt and served as Clinical Supervisor of Endodontics and Restorative Master's Program in Dundee University in Egypt.

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