

عنوان مقاله:

The effect of preserving the mid-occlusal enamel-dentin bridge during access cavity preparation on fracture resistance of endodontically treated mandibular molars

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خلاصه مقاله:

Objective: The access cavity preparation technique might influence the fracture resistance of endodontically treated teeth. This study evaluated the impact of preserving the enamel-dentin bridge on fracture resistance of endodontically treated mandibular molars. **Methods:** A total of ۴۲ mandibular molars were randomly divided into three groups according to the access cavity design: Traditional endodontic access cavity (TEC), truss endodontic access cavity (TREC), and control (CON) (n=۱۴). The teeth in each group were divided into two equal subgroups (with and without thermocycling). The control group was stored in saline over the experiment, whereas class II mesio-occlusal access cavities were prepared in the two experimental groups. In the TEC design, a conventional access cavity was prepared. In the TREC design, the occlusal enamel and dentin between the mesial and distal root canal orifices were not removed. Endodontic treatment, and composite resin restoration were performed similarly in the experimental groups. The teeth were subjected to fracture resistance testing in an Instron machine and the load at fracture was compared among the groups. **Results:** The CON group had significantly superior fracture resistance than the two experimental groups ($P < 0.05$), which showed comparable fracture load values at both conditions ($P > 0.05$). Thermal cycling reduced fracture resistance in both TEC and TREC groups ($P < 0.05$), but had no significant effect in the control group ($P = 0.624$). **Conclusions:** Considering the similar fracture resistance of the TEC and TREC groups, the study suggested that preserving the enamel-dentin bridge does not enhance fracture resistance in endodontically treated teeth with mesio-occlusal cavities.

کلمات کلیدی:

conservative treatment, Dental Pulp Cavity, Dentin, fracture resistance, root canal obturation, Root Canal Therapy

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