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Original Articles

Pulp Vitality in Teeth Suffering Trauma during Orthodontic Therapy

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Abstract

Objective: To examine pulpal vitality in teeth suffering dental trauma during orthodontic therapy with fixed appliances.

Materials and Methods: Pulpal condition was evaluated in 59 teeth that had suffered dental trauma during orthodontic treatment (TO-group), in 800 orthodontically treated teeth without previous dental trauma (O-group), and in 193 orthodontically untreated teeth with previous dental trauma (T-group). Pulpal vitality was examined clinically and with radiographs. Degree of pulp obliteration was rated as absent, partial, or total. All teeth in the TO-group showed a positive sensibility test prior to resumption of orthodontic therapy.

Results: Teeth in the TO-group revealed a significantly higher frequency of pulp necrosis than teeth in the O-group or teeth in the T-group ($P < .001$, respectively). In the TO-group, teeth with extrusive or lateral luxation ($P = .031$) and teeth with intrusive luxation ($P = .015$) injuries showed a significantly higher rate of pulp necrosis than teeth with fracture of enamel. In addition, teeth with total pulp obliteration showed a significantly higher frequency of pulp necrosis than teeth without pulp obliteration ($P = .013$).

Conclusion: Teeth with severe periodontal injury during orthodontic therapy and subsequent total pulp obliteration have an increased risk of pulp necrosis during additional orthodontic treatment stages.

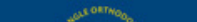
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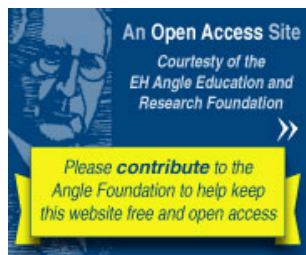
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