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RADIOGRAPHIC COMPARISON OF THE EXTENT OF ORTHODONTICALLY INDUCED ROOT RESORPTION IN VITAL AND ROOT-FILLED TEETH: A SYSTEMATIC REVIEW

Stephanie Walker*, Long Tieu, Carlos Flores-Mir
University of Alberta

Objective: To critically analyze the available scientific literature radiographically comparing the prevalence of orthodontically induced external apical root resorption (OIEARR) in human root-filled and vital teeth, to determine if root-filled teeth are more susceptible to OIEARR during orthodontic treatment.

Methods: Several electronic databases (MEDLINE, PubMed, EMBASE, Scopus, Web of Science, CINAHL, the Cochrane Database of Systematic Reviews and Google Scholar) were searched without limits, with the assistance of a senior librarian specialized in Health Sciences database searches. Human, *in vivo* studies that radiographically compared root resorption following fixed orthodontic treatment in root-filled and vital teeth were selected for full article review. Additionally, the bibliographies of the finally selected articles were hand searched to identify any relevant publications that were not identified by electronic searches. Of these articles, the lowest levels of evidence accepted for inclusion were case controls or cohort studies. Two authors independently reviewed and extracted data from selected studies.

Results: A total of 161 original articles were identified from electronic database searches and 2 from hand searches. Once selection criteria were applied only 4 articles met all inclusion criteria and individual analysis of the selected articles was undertaken.

Conclusions: Based on available evidence, there is no reported difference in the amount of external apical root resorption following fixed orthodontic treatment in vital and root-filled teeth. Suggesting that root-filled teeth are not more susceptible to OIEARR during orthodontic treatment.

(* Presenter)