

Tooth Fractures Following the Placement of Adjacent Dental Implants: A Case Series and a Systematic Review of the Literature

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Abstract : This study is aimed to report a possible effect of the presence of dental implants on the development of crown or root fractures in adjacent natural teeth. A series of 26 cases of teeth diagnosed with crown or root fractures following the placement of adjacent dental implants is presented. In addition, a comprehensive systematic review of the literature was performed to detect other studies that evaluated this possible complication. The case series analysis revealed that all crown-fractured teeth were non-endodontically treated teeth (n=18), and all root fractured teeth were endodontically treated teeth (n=8). The time from implant loading to the diagnosis of a fracture in an adjacent tooth was longer than 1 year in 78% of cases. The majority of crown or root fractures occurred in female patients, over 50 years of age, with an average age of 59 in the crown fractures group, and 54 in the root fractures group. Most of the patients received 2 or more implants. Nine (50%) of the teeth with crown fracture were molars, 7 (39%) were mandibular premolars, and 2 (11%) were incisor teeth. The majority of teeth with root fracture were premolar or mandibular molar teeth (6 (75%)). The systematic review of the literature did not reveal additional studies that reported on this possible complication. To the best of the author's knowledge this case series, although limited in its extent, is the first clinical report of a possible serious complication of implants, associated fractures in adjacent endodontically and non-endodontically treated natural teeth. The most common patient profile found in this series was a woman over 50 years of age, having a fractured premolar tooth, which was diagnosed more than 1 year after reconstruction that was based on multiple adjacent implants. Additional clinical studies are required in order to shed light on this potential serious complication.

Keywords : complications, dental implants, endodontics, fractured teeth

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