

Case report of reimplantation for challenging tooth fracture

Kemal Aksoy

Izmir Katip Çelebi University, Faculty of Dentistry, Department of Periodontics, Izmir – Turkey

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Introduction / Treatment goals

Treatment of dental fractures especially after endodontic treatment still maintain its popularity. It is very challenging in the sense of catching both fractures repair and prognosis. Novel resin based cements are alternative options for fractures of hopeless teeth and CAD-CAM crowns are considered to be important in function, prognosis and treatments of the fractured tooth. Rehabilitation of fractured teeth procedures could be achieved with or without extraction of fractured teeth but reimplantation after extraction is more predictable. Recent treatment success criteria have changed from extraction to save and proprioception.

Case report / Materials and methods

A horizontal fracture was detected at lower second molar tooth in the clinical and radiographic examination. After atraumatic extraction was performed a self-cure dental adhesive system which contains 4-META/MMA-TBB (Superbond®) was applied on fractured part for repair. After starting polymerization, tooth was reimplanted to its original socket. The tooth was secured in socket with cross periosteal sutures because of missing adjacent teeth. Suture was renewed each 3 weeks for 3 months period for fixing tooth to the socket. The tooth was prepared in chamfer steps f and scanned with 3D intraoral scanner (Sirona Omnicam®). For completing missing area and to maintain the tooth, a dental bridge was performed. Bridge was bonded with dual-cure fluid composite and patient was instructed for oral hygiene procedures.

Controls and Clinical outcomes

The patient was followed at 1st, 3rd and 6th months. Healing was uneventful and no inflammation and no recession were observed around tooth.

Conclusion

The fractured teeth is quite a hard case to be rehabilitated. Functional bonding by resin based cement resolves the patient's functional concerns. When administered with proper cement and crown, the tooth would function permanently instead of extraction. It has been proposed as a permanent prosthetic restoration method with the patient's own tooth.