

Comprehensive management of severe dentoalveolar trauma from childhood to adulthood: A case report

Introduction: Dental alveolar trauma in pediatric patients constitutes a challenge to health care professionals. It may lead to early tooth loss that can compromise function, aesthetics, and self-esteem and complicate future rehabilitation options. The objective of this presentation is to display a case of severe dentoalveolar trauma in a pediatric patient, from the urgent initial treatment and teeth reimplantation, to implant rehabilitation in adulthood.

Case description: A 14-year-old girl was referred to hospital emergency room, following a severe dentoalveolar trauma caused by fall. The alveolar mandibular ridge had suffered a comminuted fracture, from left to right permanent canine, with avulsion of all incisors and left canine. The injury included a penetrating soft tissue trauma at the level of the chin-labial groove.

Treatment, under general anesthesia, included reduction of the fractured alveolar ridge, reimplantation and immobilization of the teeth, via a flexible splint and soft tissue suturing. Post-operative period was uneventful; further interventions included endodontic treatments and regular follow up.

Two years after trauma, teeth #41, #42, #43 showed first signs of resorption, which eventually resulted in their extraction seven years after trauma, with bone regeneration at the same time. Fully guided implant placement at #41 and #43 was performed.

In radiographic examination prior to second stage implant exposure, root resorption of teeth #31 and #32 was also noticed; their extraction was followed by immediate placement of a third implant. Temporary restorations were used when teeth were lost and additional soft tissue improvement with free gingival graft was performed prior to the final prosthetic restoration which was an implant supported screw retained all ceramic bridge.

Discussion: Severe dentoalveolar trauma in childhood needs immediate treatment and long-lasting follow-up. In cases of secondary teeth loss due to root resorption, dental implants are the indicated solution, in adulthood. By applying this treatment plan further loss of healthy dental tissues is avoided while delivering a retrievable restoration.