

Simultaneous Removal of Horizontally Impacted Maxillary Canine and Placement of an Immediately Loaded Implant

To the Editor: Epidemiologic data show that, after the third molars, the canines, followed by the premolars, are the most frequently impacted teeth.¹ When impacted teeth are asymptomatic, surgical removal might not be necessary sometimes. Patients, however, seek rehabilitation of the site when the primary canine is lost and the presence of the impacted tooth must be dealt with. Treatment usually requires that either the canine be moved orthodontically to the ridge, when feasible,² or the impacted tooth be surgically removed before an implant is placed.³ Treatment of asymptomatic impacted maxillary canines in adults is inevitable when primary canine becomes lost through extraction or exfoliation or when the impacted tooth becomes symptomatic.⁴ The replacement of a single tooth with an implant in the anterior maxilla is a topic of interest for clinicians because of its aesthetic implications.⁵ The aim of this article is to present the method of simultaneous removal of impacted maxillary canine and placement of an immediately loaded implant to achieve an aesthetically stable result, with minimal bone resorption and shortened treatment period with no incidence of complication.

This article describes a case series of 5 patients where horizontally impacted maxillary canine was surgically removed and immediate implant placement with immediate provisionalization was done. All the patients had undergone thorough clinical and radiologic examination preoperatively. Panoramic radiographs were taken in all the 5 patients and cone beam computed tomography scan was done to further evaluate the position of the impacted canine. After confirmation of the exact position, patient was planned for surgery under local anesthesia. Instead of cutting more amount of bone, the crown was sectioned at cement–enamel junction in all the patients. After the removal of crown portion, the root was removed. After that the osteotomy was prepared and the site for placement of implant was prepared. Touareg-S implants (Adin Dental Implant Systems Ltd., Industrial Zone Alon Tavor, Afula, Israel) of the desired diameters and length were placed. The anchorage and stability of the implant was achieved from the bone in canine pillar region successfully. The residual defect was filled with alloplastic bone graft material (OsteoGen Synthetic Bioactive Resorbable Graft Implant Ltd.). The closure of the wound was done primarily. Temporization of the implant was immediately done within 48 hours of the procedure in all 5 patients. The crowns were cement-retained acrylic crowns and were kept infraocclusion to prevent excessive forces during the healing of implants.⁶

After 4 months, the patients were clinically evaluated and radiographs were taken to check the radiographic implant osseointegration. Temporary acrylic crowns were removed, impressions were taken, porcelain fused to metal crowns were fabricated and the restorations were successfully delivered to the patients. Implants were evaluated clinically and radiographically at the end of the healing period, at 6 months, and at an annual recall. The results were that there were no radiolucency noted around the implants, no abnormal reaction at the bone–implant interface, and there was a good consolidation of the graft at the site of removal of the impacted canine.

The removal of impacted canines followed by immediate implant placement and provisionalization minimizes the number of surgical interventions and the waiting time, although increased surgical skill is needed to place the implants. This treatment

modality avoids the need for conventional preparation of teeth as part of prosthetic reconstruction or prolonged orthodontic treatment aimed at bringing the impacted canine to the dental arch. Combining the implantation with immediate provisionalization, despite the initial large bone defect caused by the impacted canine extrusion, preserved the alveolar bone and shortened the treatment period.

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