

Use of a Multi-disciplinary Approach to Restore a Dentition with Congenitally Missing Secondary Teeth

Often, patients present with simple restorative and esthetic requests that initially seem easy to fulfill. However, after careful analysis, the case might be fraught with multiple complexities that, unless properly addressed, will cause failure.

This case demonstrates how an adult patient who desired implants to replace three retained primary teeth that had no secondary successors, first required significant orthodontic intervention.

Diagnosis and Treatment Plan

A healthy, 33 year-old male requested treatment for several dental concerns. Three retained primary teeth (upper right canine and lower anterior central incisors) had no secondary teeth present and their undersized appearance had always bothered him. Further, he was unhappy with the esthetic appearance of an underdeveloped upper right lateral incisor, incisal space between the upper central incisors, and space between the lower right canine and lateral incisor.

Examination showed a very deep overbite, such that the incisal edges of the upper centrals were causing traumatic inflammation to the lower

anterior gingiva. The distally inclined lower right canine had extruded over the occlusal plane because of the undersized upper right primary cuspid.

Treatment objectives were to reduce the amount of overbite, attain a more favorable overjet by intruding the upper central incisors and reducing their degree of procline (HUH?), and improve the position of the upper right lateral incisor (SPECIFICALLY?).

Further objectives were to increase the overly narrow space between the lower lateral incisors so that two normal-looking central incisors could be placed over the eventual implant, and to upright the distally inclined lower right cuspid so that it would no longer intrude into the space that would eventually be occupied by an upper right canine implant and crown.

In addition, bone grafting was necessary in order to provide for sufficient bone for successful placement of a (WIDE BODY? SINGLE?) implant in the edentulous lower central incisors space.

Treatment

Treatment objectives were realized through the use of a series of 26(???) Invisalign orthodontic aligners over a 12 month course of treatment.

The overbite was reduced, and overjet improved (????), and judicious use of interproximal reduction discs (???) improved the alignment of the upper incisors.

The lower right lateral was successfully moved distally so as to close the canine-lateral space and provide sufficient room for the lower central incisor crowns and implant. Significantly, the orthodontic movements succeeded in moving the lateral bodily, while avoiding the potential pitfall of tipping the coronal portion distally and the root tip mesially into the future lower central implant area.

After the retained primary teeth were removed, resin pontics for the three missing secondary teeth were placed into the Invisalign aligners, so that the patient was never embarrassed with edentulous spaces. The aligners are worn 24 hours a day and are only removed for eating and for oral hygiene.

Between weeks XXXXX and XXXXX, the patient whitened his teeth, using the take-home XXXXX bleaching system. The appearance of the underdeveloped upper right lateral incisor was improved with resin bonding.

An XXXXXXXXXXXX implant was placed in the upper right canine edentulous area, and an XXXXXXXXXXXX implant was placed in the lower central incisor area. A single porcelain-fused-to-gold crown was placed over

the upper canine implant, and a double, porcelain-fused-to-gold crown was placed over the lower central implant.

Discussion

This case illustrates a successful, multi-disciplinary approach to a very complex restorative challenge. Bringing into play orthodontics, oral surgery, prosthetics, and cosmetic dentistry enabled the attainment of a highly satisfactory result.