

Microimplant in Lingual Tori to Correct Anterior Crossbite in Adult

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ABSTRACT

Anterior crossbites are difficult to correct in adults. A case where microimplants were placed in the lingual tori of an adult patient along with a lingual appliance is reported. The use of the esthetic lingual appliance along with the stable anchorage provided by the microimplants, aids in decreasing the duration of treatment as well as making the same more acceptable to the patient.

Keywords: Microimplants, Lingual appliance, TADs, Lingual tori.

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INTRODUCTION

Anterior crossbites should be treated as soon as detected¹ as they become difficult to treat with advancing age. The correction requires the jumping of the bite along with stable retention. Crossbites in adult patients are complicated with the added concern for esthetics of the appliance. The lingual appliance is the most esthetic appliance available to the orthodontist and microimplants (TADs) provide the most stable anchorage.

The TADs placed on the lingual aspect fail most frequently probably due to the forces exerted by the tongue and thin cortex.² The retention potential of a TAD is primarily due to the quality of bone in which it is embedded. Cortical bone is stronger³ and provides the best retentive properties for TAD anchorage.

CASE REPORT

An adult patient presented with an anterior crossbite (Fig. 1A), along with spacing in the anterior region (Fig. 1B). Patient wanted his lower teeth to go back and a prosthetic rehabilitation

in the maxillary arch. It was decided to close the spaces using a lingual appliance and TAD assisted anchorage. The TADs (6 mm length, 1.5 mm diameter) were placed in the lingual tori of the patient (Fig. 2A) and the spaces closed using e-chains (Fig. 2B). The constant and stable force resulted in an ideal overjet and overbite, being achieved in a relatively short span of 6 months (Figs 3A and B).



Fig. 1A: Severe anterior crossbite with spacing



Fig. 1B: Flared mandibular incisors

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Fig. 2A: Self ligating lingual appliance in place



Fig. 2B: Mandibular anteriors retracted using TAD as anchorage



Fig. 3A: Resolution of the crossbite



Fig. 3B: Correction of the mandibular anterior flaring

DISCUSSION

The correction of anterior crossbite within the free way space does not usually require the use of any bite raising appliance. But, considering the age and the amount of flaring, it was decided to open the bite using glass ionomer cement blocks on the mandibular posterior teeth before starting the retraction process. Since, the patient was an adult and concerned about esthetics, it was decided to use a lingual appliance. The mandibular anteriors required to be tipped back and the same could be achieved using a round wire. A self ligation lingual appliance bracket (2D from Forestadent) was used to achieve better rotational control as well as an ease in engagement of the archwire. The lingual aspect of the mandible generally does not lend itself to be a favorable site for TAD placement.² The presence of lingual tori, which has been advocated as a suitable site for TAD placement,⁴ was decided

to be used for the placement of the TADs. Use of lingual appliance and anchorage from microimplants ensured fast predictable correction of crossbite, allowing good functional occlusion and a satisfied patient.

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