

NON- EXTRACTION TREATMENT OF A HIGH ANGLE SKELETAL CLASS II MALOCCLUSION WITH EXCESSIVE MAXILLARY INCISOR DISPLAY USING TEMPORARY ANCHORAGE DEVICE: A CASE REPORT.

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INTRODUCTION

"For every action there is an equal and opposite reaction." This is often demonstrated in traditional mechanics done to intrude maxillary incisors using auxiliary intrusion arches. The sequelae of these traditional mechanics is often the extrusion and distal tipping of the maxillary first molars. With the advent of Temporary Anchorage Devices (TADs), intrusion of the maxillary incisors no longer require the use of molars as anchorage. This case presentation aims to show the correction of excessive maxillary incisor display using TADs. The case was completed with a satisfactory dental occlusion, improvement in the patient's esthetic profile and adequate function. This case justifies TADs as a viable treatment alternative to orthognathic surgery for adults with high-angle skeletal Class II malocclusion with excessive maxillary incisor display.

OBJECTIVE

The main treatment objectives include normalizing the overjet and overbite, improving the maxillary incisor display, and establishing a satisfactory occlusion through intrusion mechanics using temporary anchorage device (TADs)



Figure 1: Patient's Pre-operative Photos

CASE REPORT:

- 38 years old
- Female
- Straight profile and competent lips.
- Chief Complaint: "I want my bite fixed."
- Patient presented with Skeletal Class II High Angle with Orthognathic Maxilla and Bidental Protusion, Class II Molar relationship and Class III Canine relationship.
- Excessive maxillary incisors display
- The patient has missing maxillary 2nd molars.
- Overbite of 4mm
- Overjet of 5mm

TREATMENT MECHANICS:

Patient was banded and bonded with an 0.018 slot standard edgewise brackets.

Stage I: Leveling and Alignment

Maxillary Arch:

- 0.014 SS, with stop loops on molars.
- Followed by 0.016 SS with stop loops on molars.

Mandibular Arch:

- 0.014 SS followed by 0.016 SS with stop loops on molars.
- Multiloops on 42, 43.



Figure 2 and 3 : Leveling and alignment



Stage II: Space Closure and Molar Correction

Maxillary Arch:

- Placement of TADs on the buccal area between tooth # 15 and #16.
- Use of 016 x 022SS Niti and placement of coil spring to distalize and correction of molar relationship.
- Figure of eight on all anteriors and use of elatic chain to intrude the anteriors.

Mandibular Arch:

- Use of 016 x 022SS with proper torque, tipbacks and toe-ins. Canine, premolar and molar offsets.

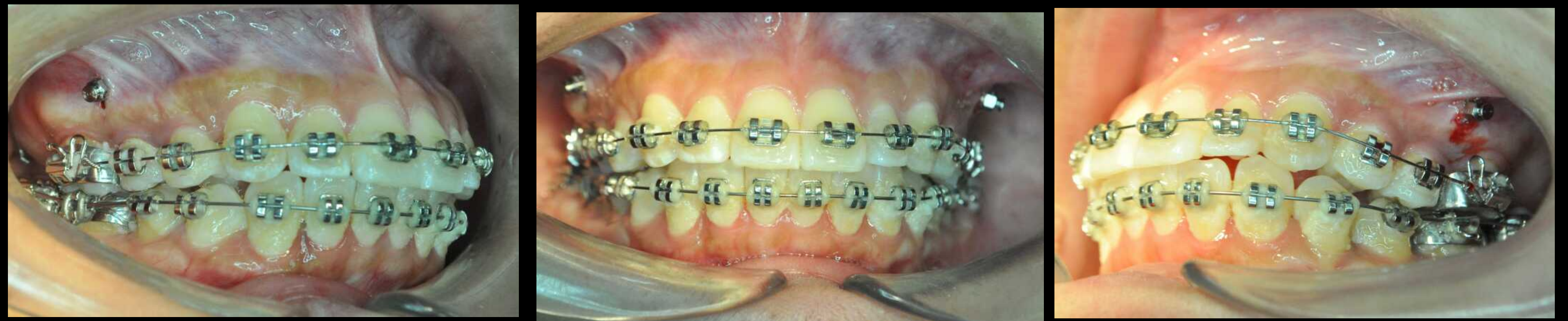


Figure 4: Placement of Temporary Anchorage Devise (TADs).



Figure 5: Intrusion using TADs and elastic chain, Coil spring to distalize and correction of molar.



Figure 6: Continue intrusion with a 1mm step up on anterior with L loops on canines and premolars. Elastic chains on both sides attached to TADs.

Stage III: Finishing and Root Paralleling

Maxillary Arch:

- 0.017 x 0.025 SS wire with offsets, proper torque and stop loops.

Mandibular Arch:

- 0.017 x 0.025 SS wire with offsets, proper torque and stop loops and tie back.



Figure 7: Finishing.



Figure 8: Debonding.

CONCLUSION:

Intrusion and distalization of the maxillary dentition with skeletal anchorage and improved nickel-titanium wires provided a satisfactory dental occlusion, esthetic improvement, and adequate function since the patient lacks maxillary second molars. This approach should be considered as an alternative treatment option to orthognathic surgery for adults with high-angle skeletal Class II malocclusion with excessive maxillary incisor display.

List of References:

- 1 Eui Seon Baek, Soonshin Hwang, Kyung-Ho Kim Total intrusion and distalization of the maxillary arch to improve smile esthetics. The Korean Journal of Orthodontics.
- 2 Proffit WR, Fields H. Contemporary Orthodontics. 5th Edition. St. Louis, Missouri, USA Mosby. 2012