Case Report

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A Protocol for Correction of Scissors Bite with TADS

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ABSTRACT

Background: Scissors bite is one of the complicated orthodontic problem which involves malocclusion in two planes. This can be limited to one or two teeth or one segment or complete arch. Scissors bite of complete arch is also called Broodies bite.

Keywords: Dentistry, scissors bite, TADS.

INTRODUCTION

A scissors bite is defined as buccal displacement of maxillary posterior tooth with or without contact between the lingual surface of the maxillary lingual cusp and the buccal surface of the mandibular molars.

It may occur as a result of assymetrical dental or skeletal development which could be result of genetic or environmental influences or a combination of both.[2] Incorrect function and malocclusion especially transverse discrepancies may lead to TMJ problems or facial asymmetry.[3]functional asymmetry in subjects with unilateral posterior cross bite can contribute to mandibular skeletal asymmetry as during growth continuous condylar displacement of glenoid fossa induces differential growth of the condyles.[4]

The various problems associated with scissors bite are

1. extrusion of maxillary dentition as there is no antagonist.

2. Rolling in of mandibular posteriors because of the occlusal forces.

3. constricted mandibular arch.

During correction of scissors bite the extruded posteriors should be corrected before attempting to address any other problem. Before introduction of TADS there was no means for intrusion of molars.

Passive bite blocks , active bite blocks with magnets or springs, high pull headgear , and fixed appliances with vertical elastics are the traditional techniques used to intrude molars. But often these techniques cannot bring about true intrusion of the molars.[1]

The various options for correcting extrusion of molars are

1. TADS on buccal segment and applying force from TADS to molar.

2. Palatal implants and TPA with hooks and applying force to hooks on TPA from implants

3. Bite blocks with TADs on both buccal and palatal side and crossing over the bite block with power chain from buccal to palatal aspect.

4. Bite blocks with TADS on buccal surface and applying force with closed coil spring from hooks on bite blocks to TADS. To avoid buccal rotation of teeth being intruded a TPA connecting right and left posterior teeth are placed or the combined use of buccal and palatal implants have been advocated bite.

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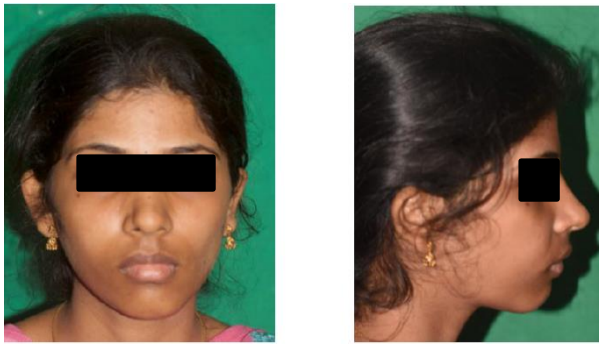

Fig 1: Pre-treatment Extra Oral photographs.

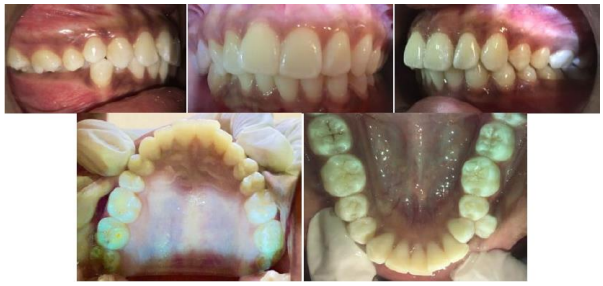

Fig 2: Pre-treatment Intra Oral photographs.

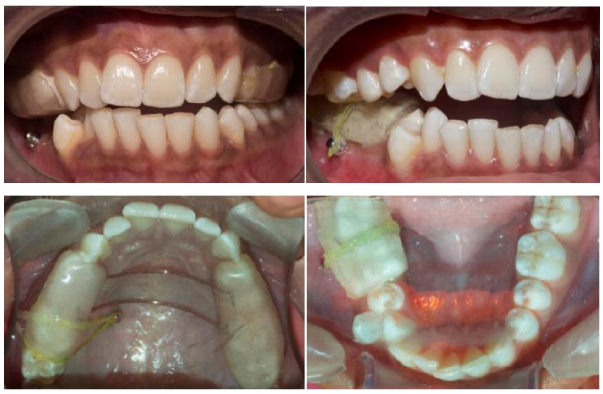

Fig 3: Intrusion of upper poteriors with biteblocks and implants.

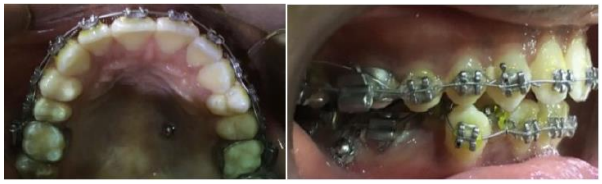

Fig 4: Uprighting of rolled in lower posteriors.

Implant placement sites in the maxillary arch are retromolar area in cases where patients are not in need of implants for prosthetic reasons, palatal region or alveolar area. Melsen et al, declerck et al, ervedi et al and Sherwood etal reported zygomatic anchorage as an alternative form of maxillary posterior anchorage.[5] The following is a case report of a patient with constricted maxillary arch, rolled in lower posteriors and severe crowding in anterior region upper posteriors were supra erupted.

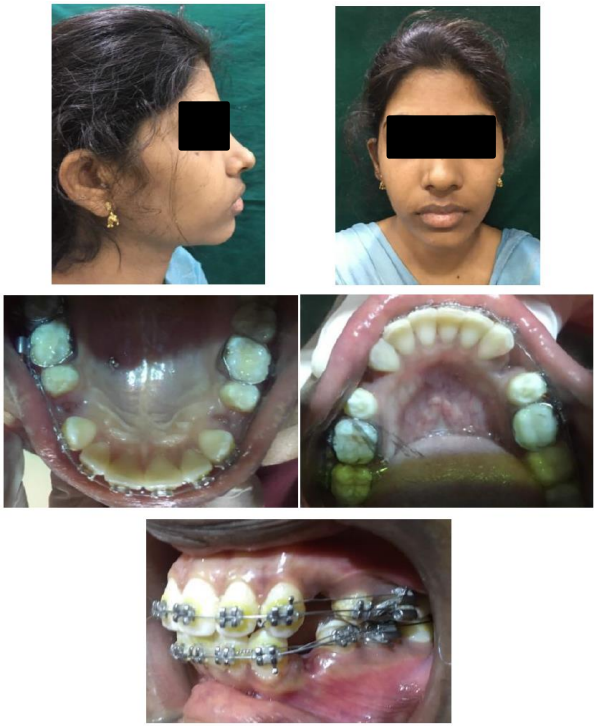

Fig 5: Upper and lower strap –up done.

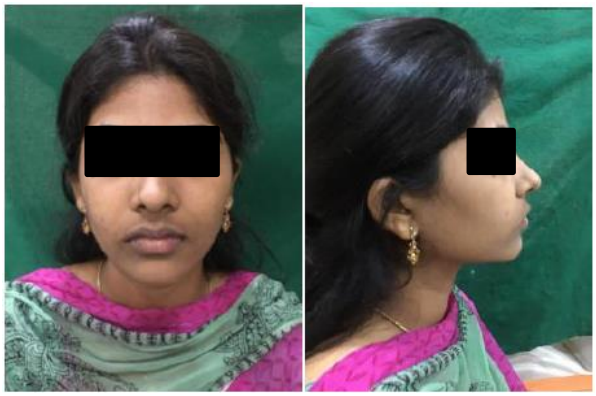

Fig 6: Extra oral pictures after scissors bite correction.

Diagnosis

Dentoalveolar classI on left side with scissors bite on right side on a skeletal classI. Maxilla was constricted with extruded upper posterior teeth on right side lingually rolled in posteriors on right side of the mandible and dental midlines were not coinciding. Facial asymmetry was present.

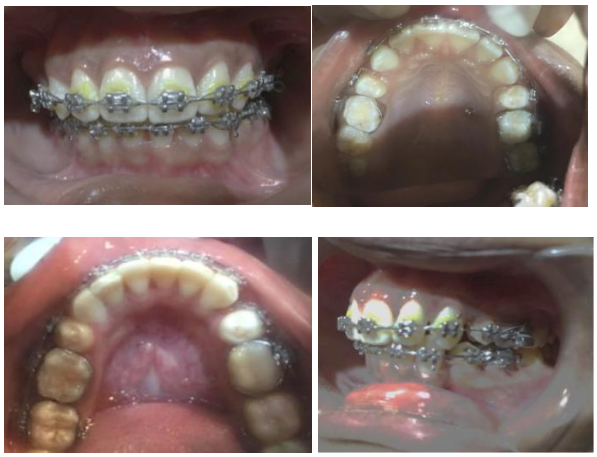

Fig 7: Intra oral pictures of the present situation.

Treatment plan:

Intrusion of upper right posteriors, up righting lower right posteriors, correction of dental midlines, crowding and proclination. Upper bite blocks were given to the posterior teeth and implants were placed on buccal and palatal aspect of the extruded posteriors. After intrusion of upper posteriors bite block with hooks was placed on the lower posteriors and power chain was placed to upright lingually rolled in lower posteriors. After lower posteriors up righted banding and bonding was done.

CONCLUSION

With the help of miniscrews, correction of scissors bite is not very difficult if proper treatment plan is followed.

CONFLICT OF INTEREST

No potential academic conflict of interest relevant to the above article was reported.

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