Clinical Pearl

A Novel Approach for Anterior Open bite Correction

[1]Lijo K Jose, [2]Muhammed Raheesh P, [3]Varun Peter, [4]Sajitha K B, [5]Divya Babuji

[1]Professor, [2,4,5]PG student, [3]Senior lecturer

[1-5] Department of orthodontics and dentofacial orthopedics, PSM college dental science and research Akkikavu.PO, Thrissur , Kerala.

To cite: Lijo K Jose, Muhammed Raheesh P, Varun Peter, Sajitha K B, Divya Babuji

A novel approach for Anterior Open bite Correction

J Contemp Orthod 2020;4(4): 44-45.

Received on: 19-10-2020

Accepted on: 12-12-2020

Source of Support: Nil

Conflict of Interest: None

ABSTRACT

Over the years, several methods have evolved for correction of open bite. Open bite correction using elastics in clinical situation have always been a matter of concern for patient as well as clinician. This articles aims to explain an auxillary arch wire for closure of openbite with minimal patient compliance.

Keywords: Openbite, Extrusion, Auxillary Archwire

INTRODUCTION

Openbiteis a malocclusion in which the maxillary and mandibular teeth are vertically apart without interdigitation of teeth. The etiological causes of openbite are multifactorial.[1]Treatment for open bite involve various approaches, which includevertical facial height reduction with surgery in long-face skeletal problem or intrusion of molars, local causes by tongue are corrected by use of cribs, rake or tongue reduction surgery. Functional appliance shields are used for open bite caused by facial musculature pressure. Dental correction is achieved by use of elastics, which requires patient compliance and affects the comfort and esthetics of the patient[2].

This article explains about an auxillary arch wire for correction of dental openbite without the need for patient compliance.

CASE REPORT AND TREATMENT PLAN

A 23 year old male patient reported with the chief complaint of gap in front teeth in both upper and lower arches and lack of contact between the arches in the front region. On examination, patient was found to present with Angles class I molar relation with anterior open bite, convex profile and tongue thrusting habit.

Treatment plan included fixed tongue crib for correction of habit, fixed orthodontic therapy for alignment and space closure, followed by auxillary arch wire in upper and lower arch for correction of openbite.

APPLIANCE DESIGN

Steps in fabrication :

1. Alginate impression of upper and lower arch was made. The dental cast are then prepared.
2. A 17x25 continuous stainless steel wire is used for fabrication of auxillary arch wire.
3. Design –The appliance design is influenced by Rickett's utility arch[3] and Burstone's continuous arch[4]. (fig - 1)

   a. Starting from the molar segment, a 90 degree vertical bend is placedmesial to buccal tube of molars,a helix is incorporated in theappliance.
   b. After completing one turn of helix, the wire is contoured along the vestibule of the patient till distal of lateral incisor bracket.
   c. A 90 degree bent is placed towards the lateral incisor bracket to form anterior vertical arm which again take a right angle to enter lateral and central incisor brackets(incisal segment) and form a mirror image on opposite side.
   d. The appliance is activated by closing the helix, which displaces the incisal segment more incisal to bracket, thus producing an extrusive force (after engagement) on anterior teeth to close the openbite.

Fig 1 - Appliance in position

CONCLUSION

The auxillary arch wire method to correct anterior open bite is an easy chair side wire bending technique,highly accepted by patients. Patients do not have to change elastics daily nor any esthetic problems arise. Use of sleeves can be appreciated in vestibular part to avoid tissue irritation.

Fig 2 – post open bite correction

REFERENCE

1. Subtelny J D, sukada M, Open-bite: Diagnosis and treatment.Am. J. Orthodontics, 1964;50(5):337-358.
2. Isaacson R J and Lindauer S J, Closing Anterior Open Bites: The Extrusion Arch. Seminars in Orthodontics, 2001;7(1) :34-41.
3. Bench RW, Gugino CF, Hilgers JJ. Bioprogressive Therapy, Part Vll: The utility and sectional arches in bioprogressive therapy mechanics. J ClinOrthod 1978;12:192-207.
4. Burstone CD. Deep overbite correction by intrusion. Am J Orthod 1977;72:1-22.