

Orthodontic Management of Supernumerary Tooth - a case report

Paul KC¹ BDS, FCPS and Hossain MZ² BDS, PhD.

ABSTRACT

A 27 years old male presented with Class-II div 1 malocclusion with a mesodense. Treatment involved extraction of mesiodense. The alignment of teeth of both arch was achieved by edgewise orthodontic therapy.

Key Words: malocclusion, mesodense, edgewise orthodontic therapy

INTRODUCTION

Supernumerary tooth can be found in the both the arches and all segments; however, the maxillary anterior segment is the most common site.^{1,2} Supernumerary Tooth during mixed dentition may erupt, or be seen in various stages of formation and eruption.³ They may remain asymptomatic and be only discovered during routine radiographic examination. They can be single, twin or multiple. It can cause delayed eruption or impaction, crowding or protrusion, rotation/labial tipping, displacement or roots, root resorption, cyst formation, dilacerations.⁴⁻⁶

HISTORY AND DIAGNOSIS

A 27 year old male came to the department of Orthodontics and Dentofacial Orthopedics, Dhaka Dental College and Hospital with the chief compliant of proclination of upper anterior segment and an extra tooth in between upper two incisors.

The patient was in the permanent dentition. He had no relevant dental, medical or family history and had no history of previous orthodontic treatment.

On extra oral examination (Fig: 1) he had a symmetric face with a convex profile. Lips are competent. His TMJ was alright and had a normal path of closure.

Clinical examination (Fig.2) showed mesodense in upper jaw. He had Class I molar relationship with 8 mm overjet and 3 mm overbite. There was no premature contact or any other pathology.

Radiographic examination showed a full permanent dentition (Fig.3) and a Class I skeletal pattern (Fig.4).

TREATMENT OBJECTIVES

Considering the above findings the objectives of orthodontic

treatment of this patient were to –

1. Correction of increased overjet
2. Establish normal overjet and overbite.
3. Establish and maintain a Class I molar and canine relationship
4. Establish and maintain occlusal harmony and interdigitation for improved aesthetics and proper function.

TREATMENT PLAN AND PROGRESS

Due to the presence of mesodense, the first option of treatment plan was to extract it. Standard edgewise 0.018-inch slot bracket was bonded, Anchorage was enforced with molar stop, and initial leveling was done with the use of 0.014-inch stainless steel arch wire with multiloop over 3 months. Then upper four incisors were approximated by using of elastomeric chain on 0.016-inch stainless steel arch wires.

In the lower arch, then leveling and alignment was done by 0.014 multiloop arch wires.

The remaining extraction space on upper arch was closed with tear drop contraction loops on 0.016x 0.022 inch rectangular stainless steel arch wires.

After arch coordination and finishing, the appliance was removed; retention involved upper fixed retainer (Fig.6) and lower removable Hawley retainer.



Fig.1: Pretreatment facial photographs.

¹Dr. Kajal Chandra Paul BDS, FCPS, Asst, Professor, Department of Orthodontics and Dentofacial Orthopedics, Dhaka Dental College and Hospital and ² Prof. Dr. Md. Zakir Hossain, Professor and Head, Department of Orthodontics and Dentofacial Orthopedics, Dhaka dental college



Fig.2: Pretreatment intraoral photographs



Fig.3: Panoramic Radiograph before (A) and after treatment (B)



Fig.4: Cephalogram before (A) and after treatment (B)



Fig.5: Post-treatment intraoral photographs



Fig.6: Fixed Retainer



Fig.7: Post-treatment intraoral photographs

RESULTS AND DISCUSSION:

Total treatment time was 18 month. Post treatment records show that the treatment objectives were achieved. Facial photographs (Fig.7) show an improved profile and an attractive smile. Class I canine and molar relationships were established with canine-protected occlusion. Ideal overjet and overbite were achieved. Proper alignment and nice gingival contour were attained (Fig.5).

Post treatment panoramic radiographs (Fig.3B) show good parallelism of roots and normal structure of the periodontium. No sign of root resorption was seen.

The post-treatment lateral Cephalometric radiograph (fig.4B) showed a balanced facial profile. Cephalometric analysis showed a Class I skeletal relationship, the ANB angle decreased slightly. Dental measurements changed significantly.

A functional and good-looking occlusal result was achieved. The patient was satisfied with her teeth and profile.

REFERENCES:

1. Orthodontics: Diagnosis and management of malocclusion and Dentofacial Defomities.Prof. O.P. Kharbanda.
2. Nanda R. Biomechanics and aesthetic strategies in clinical orthodontics.
3. Burstone CJ,Koeing HA.Optimizing anterior anchorage and canine retraction.Am J Orthod1976;70:1-19
4. Proffit WR, Fields HW. Contemporary Orthodontics. 4th ed. St Louis: Mosby; 2001;P-159.
5. Proffit WR, et al.: The Biological Basis of Orthodontic Therapy. In Contemporary Orthodontics. 4th edition. St. Louis: Missouri; 2007:331-358.
6. Proffit WR, et al.: Mechanical Principles in Orthodontic Force Control. In Contemporary Orthodontics. 4th edition. St. Louis, Missouri; 2007:360-361

Correspondence

Dr. Kajal Chandra paul, BDS, FCPS

Asst. Professor

Dept. of Orthodontics and Dentofacial Orthopedic
Dhaka dental College and Hospital
Mirpur-14, Dhaka-1206
Mobile: +88 01916255411,
E-mail: kcpdent@googlemail.com