

Combined Ortho-Perio treatment with severe crowding of anterior teeth - A Case Report

Dr. Davender Kumar¹, Dr. Nishi Tanwar², Dr. Rekha Sharma³, Dr. Amit Dahiya⁴

¹Asstt. Professor, Deptt. of Orthodontics and Dentofacial Orthopedics PGIDS Rohtak, Haryana

²Asstt. Professor, Deptt. of Periodontics PGIDS Rohtak, Haryana

³Sr. Professor and Head of Deptt. of Orthodontics and Dentofacial Orthopedics, PGIDS Rohtak, Haryana

⁴Dr. Amit Dahiya, SR Department of Orthodontics, PGIDS Rohtak

INTRODUCTION

There is an ever increasing concern for dentofacial esthetics in adult population. The primary motivating factor for seeking orthodontic treatment is dental appearance¹. The disruption of equilibrium in tooth position may be caused by several etiologic factors. These include pressure from inflamed tissues, periodontal attachment loss, occlusal factors, loss of teeth without replacement oral habits such as tongue thrusting and bruxism, gingival enlargement and crowding. Periodontal disease in the upper anterior region can be in isolation or may affect more teeth. The periodontal disease and its sequelae such as pathological migration, diastema, labial and lingual tipping or missing teeth often lead to functional and esthetic problems either alone or with restorative problems. Advanced periodontal disease is characterized by severe attachment loss, reduced alveolar bone support, tooth mobility and gingival recession. Orthodontic treatment is initiated only after periodontal disease is brought under control³. This communication highlights good treatment outcome achieved in a patient with impaired dentofacial aesthetics and advanced periodontal disease with severe crowding.

Key Words: orthodontics; dental treatment; Periodontally compromised patient.

CASE REPORT

A 18 year old male presented for orthodontic treatment with periodontally compromised upper right lateral incisor, Midline shift and palatally placed in the maxillary anterior region (Fig. 1).





Fig. 1: pre treatment photograph

The patient's chief complaint was to improve his esthetics because his “maxillary incisors were crowded and did not look good”. The maxillary right lateral incisor was palatally placed, mobile, extruded and the periodontal tissue around was grossly inflamed. (Fig. 2).



Fig. 2: pre treatment photograph of patient- occlusal view

The lower teeth were impinging against the inflamed upper gingiva causing lot of discomfort. Ant. Cross bite and crowding were present in upper and lower arch. Deciduous canine was present. Upper right lateral incisor, deciduous canine and lower incisor were extracted.

Patient was referred to periodontist for evaluation. On periodontal examination gingiva palatal to maxillary lateral incisor was inflamed with deep periodontal pocket and purulent discharge. Subgingival scaling was carried out. Patient was given a course of doxycycline and was placed on 0.2% chlorhexidine rinse as part of periodontal maintenance care.

At this phase, orthodontic treatment was initiated to create cosmetically acceptable tooth positions extraction of palatal placed incisor, up righting the anterior teeth and reducing the overjet. An acrylic plate with anterior bite plane relieving upper gingiva of trauma from occlusion was provided. Fixed orthodontic appliance (O18 Roth PEA) was placed and initial alignment wire O14 NITI arch wire was used for alignment.

Patient was referred to periodontist once the overjet was reduced and trauma from occlusion eliminated.

There was gross improvement in the dentofacial esthetics and periodontal health (Fig. 3,4).



Fig 3: post treatment photograph



Fig 4: post treatment photograph –occlusal view

DISCUSSION

Majority of adult orthodontic patients manifest with a coexisting periodontal pathology resulting in pathologic migration, spacing, flared incisors and trauma from occlusion. Orthodontic treatment is not a contraindication in the therapy of severe adult periodontal disease and the maintenance of healthy periodontal status after orthodontic treatment⁵. In such cases, orthodontic treatment often improves the health of the deteriorated dentition. It is of paramount importance to control the existing periodontal disease before initiating comprehensive orthodontics⁵.

In the present case, comprehensive orthodontics was initiated with pre adjusted edgewise appliances using very light force which resulted in optimal biological response. Since there was trauma from lower anterior teeth, anterior bite

plane allowed posterior eruption of teeth which resulted in the opening of the bite. The Periodontal health improved the moment trauma was relieved.

Case reports in the literature have demonstrated that, with adequate plaque control, teeth with reduced. Periodontal support can undergo successful tooth movement without compromising their periodontal condition⁶. Initial periodontal condition was improved by scaling and root planning before the start of the orthodontic treatment, if this had not been done, an orthodontically applied force could have enhanced the gingival inflammation and periodontal destruction. Clinical examinations during post active orthodontic phase have demonstrated that reduced periodontal support can successfully undergo tooth movement without compromising their periodontal situation.

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