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Class III malocclusions are considered one of the most complex and difficult orthodontic problems to diagnose and treat. Skeletal and /or dental asymmetries in patient presenting with Class III malocclusion can worsen the prognosis recognizing the dentoalveolar and skeletal characteristics of class III malocclusion and their treatment possibilities is essential for a favorable nonsurgical correction. Therefore, this case presents a non-surgical extraction approach to class III malocclusion treatment which can significantly improve the occlusion and facial deformities. A male patient of 18 yrs attended a private dental office at Dhaka, Bangladesh with the complain of aesthetic problem. On examination, incisor, canine and molar relationships were found Class III on both sides with palatally placed upper central incisors and crowding on both anterior segments. The case was treated orthodontically. It took nearly 18 months to complete the treatment. The patient was happy with the new appearance and function.

Key words: Class III malocclusion, alignment, occlusion.

Introduction:

The skeletal Class III malocclusion is characterized by mandibular prognathism, maxillary deficiency or both.^{1,3} Clinically, these patients exhibit a concave facial profile, a retrusive nasomaxillary area and a prominent lower third of the face. The lower lip is often protruded relative to the upper lip, the upper arch is usually narrower than the lower, and the overjet and overbite can range from reduced to reverse.⁴ The effect of environmental factors and oral function on the etiological factors of a Class III malocclusion is not completely understood. However, there is a definite familial and racial tendency to mandibular prognathism.^{5,6} Sometimes a Class III relationship is caused by a forward shift of the mandible to avoid incisal interferences. This is a pseudo Class III malocclusion. In this case, it is important to establish the inter-occlusal relationship with the teeth in

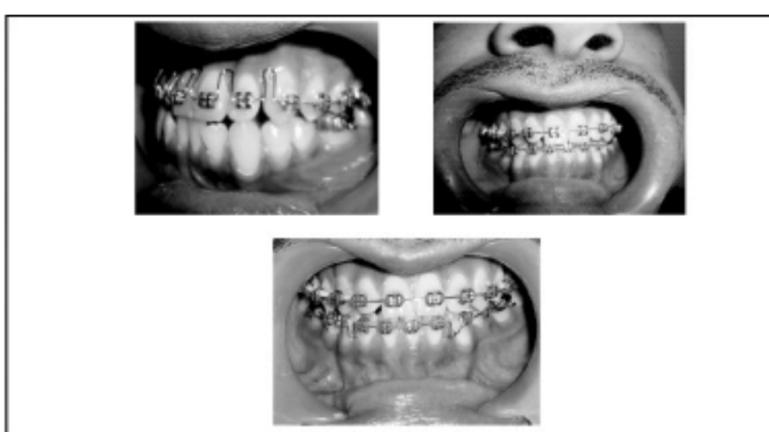
the detruded contact position.⁷

In this paper, the nonsurgical orthodontic treatment of a patient with a Class III malocclusion is discussed.

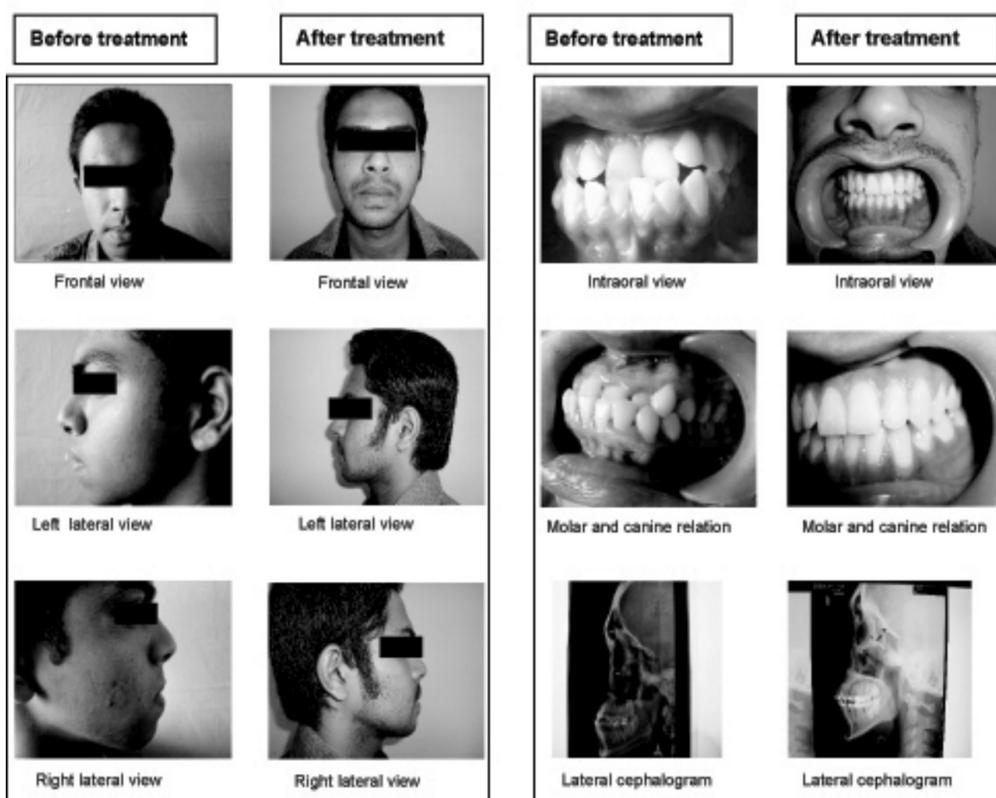
Case report:

Patient history-

A male patient of 18 years was presented at the attended a private dental office at Dhaka, Bangladesh with the complain of aesthetic problem. On examination, incisor, canine and molar relationships were found Class III on both sides with palatally placed upper central incisors and crowding on both anterior segments. The case was treated orthodontically. It took nearly 18 months to complete the treatment. The patient became happy with the new appearance and function. The lower lip was prominent and lips were competent with no mentalis strain. Vertical facial proportions showed increased lower facial height and there were no significant



Intraoral photographs during orthodontic treatment.



asymmetries. A full complement of permanent teeth was present. In both centric occlusion (CO) and centric relation (CR), molar and canine relationships were Class III, and the incisors had an anterior cross bite with a negative overjet of 3 mm.

Diagnosis-

A case of Class III malocclusion with crowding both upper and lower anterior segments.

Treatment objectives:

- * Elimination of anterior cross bite.
- * Establishment of normal overjet and overbite.
- * Alignment of the teeth in a favorable position.
- * Improvement of the function.
- * Improvement of the aesthetics.

Treatment plan:

1st phase- Initial leveling and alignment of the maxillary teeth by incorporating multiloop arch wire (0.014" S.S wire) and reassess the case.

2nd phase- Extraction of both 1st mandibular premolars, initial leveling and alignment. Retraction of canines. Contraction of lower arch, arch coordination and inter digitations (0.016 X0.022 inch arch wire combined with Class III elastics).

Treatment Results:

The treatment plan was a satisfactory nonsurgical alternative and the treatment objectives were achieved. Class III canine relationships were established with good alignment of the teeth. Some occlusion adjustment was needed to finalized the occlusion. A positive overjet was established and finally the over bite and over jet was normal. Good torque control was maintained while the mandibular incisors were retracted resulting in better incisal inclination after treatment. The maxillary incisors were proclined significantly resulting in better upper lip prominence and an improved facial profile. Correction of the malocclusion was accomplished with dental movement. Skeletally, the mandible was still prognathic.

Discussion:

In this study, the subject was a male patient of 18 years. Studies found no direct evidences that female were suffered from malocclusion than male. It may be due to aesthetic purpose and was supported by more female (75.8%), more students (60.8%), more young age group that was 11 to 30 years (70.0%).⁸ Rehabilitation of severe cases of Class III malocclusions is one of the most complex treatment modalities in dentistry because not only dentists should be involved, but also many other health professionals. In addition, patient compliance with the treatment is extremely important. The diagnosis may be faced as an important part of treatment and the patient can provide sufficient information to the clinician to allow for a differential diagnosis and to prevent further progression of those pathologies and prevent relapse. In Saleh series, 59.5% had malocclusions, 35.5% of which were of dental origin and 24% had skeletal discrepancy (19% Class II and

5% Class III malocclusions).⁹ Treatment plan must involve control of symptoms and removal of causes as much as possible.

Conclusions:

Oral health has made remarkable progress in most developed countries as a result of prevention program. However, the situation is beginning to deteriorate in many developing countries, where oral diseases are on the increase. The smile-a global language but many of our patients are deprived of both socially and economically especially young from this language. With growing importance imposed on nonsurgical treatment of oral and dental disease especially malocclusion can do much about avoiding costly, more time consuming and elaborate surgical orthodontic treatment. By a well thought and satisfactory treatment plan, the treatment objectives were achieved.

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