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Clinical Image
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Nonsurgical Treatment of Mandibular Prognathism in Adults

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Clinical Image

The Mandibular prognathism is the most typical trait in Class III adults [**1**] by skeletal and dental Class III malocclusion and/or maxillary deficiency**.** A concave facial profile, retrusive nasomaxillary area and procline chin tip are characteristics for these patients. While the maxilla is generally much narrower than the mandible, the lower lip often is protruded relative to the upper lip. The overjet and overbite are generally reduced. As well relatively high prevalence of mandibular prognathism is observed in Asian populations, it has sighted in most of European and American peoples.

It can be considered that ancestral or hereditary tendency most important factor for mandibular prognathism. For many adult Class III patients, surgical treatment which is mandibular set-back and/or maxillary advancement can be the best alternative treatment. However, use of the compensation mechanics can be best alternative treatment choice. In this short communication, the use of the compensation mechanics will be discussed for nonsurgical orthodontic treatment for patients with a mandibular prognathism.

Main Rule

Basically patient expectations are very important. An attractive profile is always unobtainable by using the compensation mechanics. However the treatment objectives need to be covered;

1. To set up Cl I canine relationship,
2. To provide appropriate overbite and overjet and
3. To constitute a good smile aesthetic.

Treatment Plan

Maxillary and mandibular fixed appliances (standard edgewise 0.018-inch slot) are used.

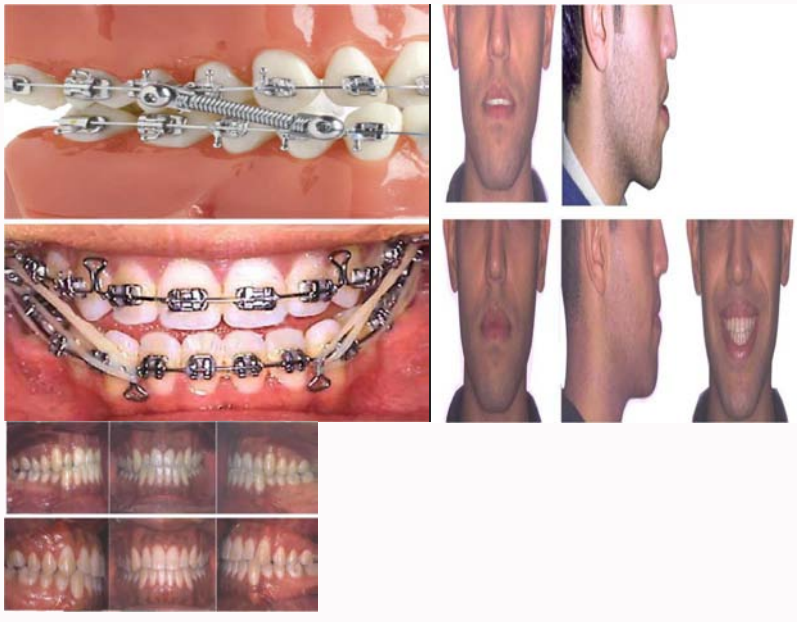

Figure 1: Upper first molar and lower canine.

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After initial leveling and alignment with round wires (.014-.018 Niti and.018 ss) in both arches, a 0.016 x.022- inch ss utility arch are used for protrusion of the upper incisors. For retrusion of the mandibular incisors a.016 x.022-inch continuous ss arch and Class III elastics (300 g force) can be used. Another option is that it can be used a Cl III Niti pull coil spring which is giving 300 g force between upper first molar and lower canine on.016 x.022-inch continuous ss arches (Figure 1). Fixed appliance treatment is completed in 16-20 months.

Treatment Results

Using a 0.016 x.022- inch ss utility arch during 4-6 months, the upper incisors can be easily upright. Eight months after, use of the Cl III elastics or Niti springs, labially inclined mandibular incisors moved lingually avarege 5-8 degree. So an anterior cross bite can be successfully treated without surgery.

Generally a diastema appears between upper right and left lateral and canine teeth by using the utility arch. The problem can be solved with a composite build up which is performed to upper right and left lateral and canine teeth.

The health of the periodontium should always be considered in this a treatment plan. Proclination of maxillary incisors may be dependent on gingival health and contour. It must be careful against the gingival recession and/or fenestration in that area and must also be considered before deciding on this treatment choice.

References

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