Case Report

Orthodontic Camouflage Treatment For Skeletal Class III Malocclusion

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A 20-year-old woman came to the OPD of Charitable Hospital, a branch of R.D. Gardi Medical College, expressing her concerns about a forwardly placed lower jaw. On clinical and radiographic examination, it shows that the patient has a concave profile and a positive lip step, which indicates Class III Malocclusion with a Prognathic mandible of skeletal origin and a hypodivergent growth Pattern.

As the patient was an adult and preferred to avoid surgical intervention, a non-surgical orthodontic Camouflage Treatment was plan.

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Introduction

The Class III Skeletal Malocclusion is characterised by both maxillary retrusion and mandibular prognathism.[1]

To come to the diagnosis of Class III malocclusion of skeletal origin requires evaluation of not only the sagittal position of maxillary and mandibular bone but also the contribution of transverse and vertical factors.[2]

According to Ellis and McNamara in their study of adult subjects with class III malocclusion, found a combination of maxillary retrusion and mandibular protrusion to be the most common skeletal relationship. The role of heredity in the aetiology of skeletal class III malocclusion is well established.

Litton et al reported a typical finding that one-third of a group of patients with severe class III malocclusion had a parent with the same problem, and one-sixth had an affected sibling.[3]

In this case, Class III skeletal Problems are caused by a maxillary deficiency, a mandibular excess,

Although class III skeletal problems are fewer in comparison to class II problems, it is widely acknowledged that a significant proportion of class III patients are affected aesthetically and psychologically by their condition.[4]

Class III problems are often not as amenable to growth modulation or camouflage treatment mechanics as compared to the class II counterparts that respond more readily and effectively to these measures.[5]

Treatment Plan

A 20-year-old female patient, referred to as A.S., reported in the Charitable Hospital branch of R.D. Gardi Medical College with the chief complaint of Lingually placed upper incisors and protruded lower jaw.[6]

On examination, the following was observed:

- All Permanent teeth have erupted
- Flat Cheekbone Contour,
- Maxillary third molars are absent.
- Good oral hygiene.
- Maxillary 2nd premolars on right & left erupt palatally and are not in occlusion.
- Angles Class III molar relationship.
- Canines are in Class III malocclusion.
- Reverse overjet 2 mm. present.

Before starting the fixed orthodontic treatment, all records, like impression, OPG and lateral cephalogram, were taken. 0.022 x 028 MBT is the appliance chosen for this

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Treatment plan

- Maxillary right and left 2nd premolar extracted.
- Banding and Bonding of maxillary and mandibular teeth were done.
- Levelling and alignment of both arches are done.
- Mandibular 1st premolar right and left extracted.
- Maxillary right and left 2nd premolars extracted.
- Bite increased to disocclude the molars.
- Class III elastics are used to achieve molar Class 1 molar occlusion.

Problem List

- Concave Profile
- Protruded Lower jaw
- Irregularly Placed maxillary anterior teeth
- Reverse overjet: 1-mm.
- Anterior Crossbite
- Overbite: 0 %
- Class III Skeletal Malocclusion
- Angles Class III molar relation is present bilaterally.
- Crowding of the mandibular anterior
- 15/25 Palatally erupted

Discussion

Class III Skeletal Malocclusion of genetic origin can occur due to the following causes:

Figure 1: Pre-treatment

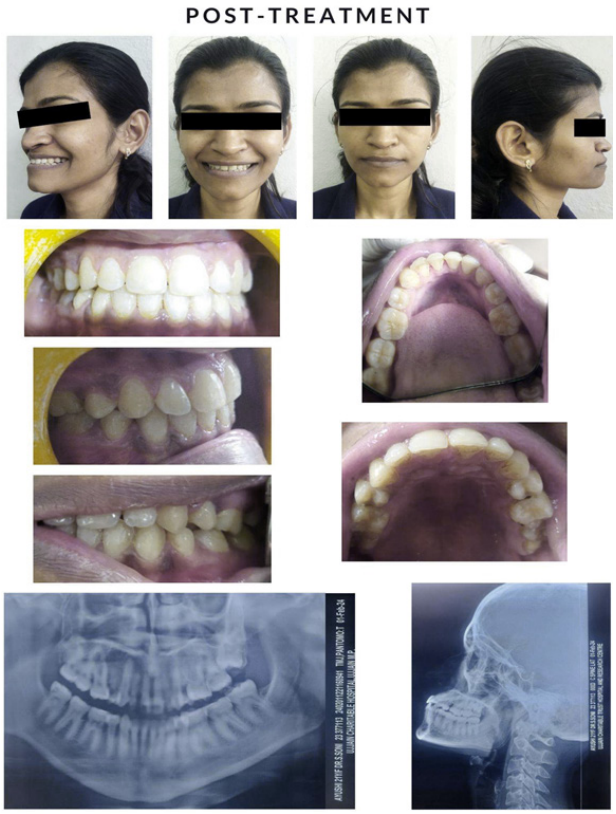

Figure 2: Post-treatment

- Hypertrophic mandible or mandibular excess
- Protruded mandible.
- Hypotrophic maxilla or maxillary deficiency
- Retro-position maxilla.
- Combination of the above causes.

Common morphological features include lingual inclination of mandibular incisors, anterior crossbite, or a concave facial profile.

Due to increased anteroposterior space, the tongue often rests lower in the oral cavity, which may contribute to a constricted Maxillary Arch.

Treatment options for Class III malocclusion depend on the patient's age, growth potential, and severity of skeletal discrepancy. In growing patients, orthopaedic approaches such as functional appliances or chin cups can modulate growth. In adults, where skeletal modification is limited, management typically involves either orthodontic camouflage or orthognathic surgery.

In the present case, orthodontic camouflage was chosen due to the patient's refusal of surgical intervention. Strategic extractions, levelling and alignment, and the use of Class III elastics facilitated correction of the anterior crossbite and establishment of a Class I molar relationship. This approach, though unable to modify skeletal structures, achieved functional occlusion and

improved facial aesthetics within the limitations of non-surgical treatment.[7-9]

Conclusion

This case demonstrates that orthodontic camouflage can be an effective alternative for adult patients with mild-to-moderate skeletal Class III malocclusion who decline surgery. Through careful extraction planning, appliance selection, and consistent use of Class III elastics, satisfactory occlusal and aesthetic results were achieved. While orthognathic surgery could potentially yield more ideal facial proportions, camouflage remains a viable, less invasive, and more cost-effective option when patient compliance is high and expectations are realistic.

Declarations by the Author

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Declaration of Patient Consent

The author certifies that they have obtained the patient's consent. The patient gave her consent for the images and other clinical information to be reported in the journal. The patient understands that her name will not be published, due efforts will be made to conceal their identity and anonymity can't be guaranteed.

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