Facial Transformation in a Class III Surgical Case

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Abstract

Orthodontic problems that cannot be treated by growth modification/camouflage treatment needs to be corrected by surgical method. The envelope of discrepancy needs to be respected while handling these cases. This case report presents an adult female patient with Skeletal Class II malocclusion.

Keywords: *Decompensation, skeletal, Class III.*

Introduction

It is a dream of every young girl to look good. The pleasant facial appearance is directly proportional to the self-confidence of a person, which in turn is very essential for a successful life in terms of carrier and quintessence.

We received a20yrs old female patient named Miss Sweta Samatray, at our dental office with a chief complaint of improper chewing and unacceptable facial appearance. She had a very low self-esteem. Reasons for Orthodontic treatment was esthetics.[1]We could sense the internal motivation of the patient who is about to graduate as an engineer and the amount of peer pressure to excel in each field, she is going through. In this situation to treat her to achieve a more pleasant face was superlative.

Clinical Findings: Clinically, she had Angle's Class III malocclusion on skeletal class III jaw bases. On extra-oral examination she had a concave facial profile, anterior divergent face, acute nasolabial angle, flat mentolabial sulcus, thick protruded lower lip, deficient malar prominence. A clinically insignificant amount of facial asymmetry was present.

On intraoral examination she had bilateral Class-III molar and canine relation, crowding in the maxillary and mandibular anterior region, anterior open bite, mandibular midline shifted to right side by 2mm (Figure 1). Cephalometric findings are presented underneath in table 1.

Table 1. Cephalometric findings (pre and post-treatment)

	Pretreatment (Degrees)	Posttreatment (Degrees)
SNA	78	83
SNB	87	81
ANB	9	2
GOGN-SN	45	37
Y AXIS	48	61
U1-NA	33	32
LI-NB	20, 2mm	21, 3 mm
UI-LI	122	130
IMPA	89	91
NASOLABIAL ANGLE	88	91

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Figure 1: Pre-treatment extraoral and Intraoral Photographs

Treatment Plan: The patient had undergone upper premolar extraction, leveling and alignment, maxillary space closure, followed by bijaw surgery to achieve a good functional occlusion as well as harmonically esthetic face.

Treatment Progress: Leveling alignment done with the wire sequence as depicted in Figure 2. The wire sequence includes: 0.014 NITI, 0.016 NITI, 0.016 SS, 0.019x025 NITI, 0.019X0.025 Stainless steel wires.

Remaining space closure was done with the bilateral active tie backs, on 0.019X0.025 SS

Figure 2: Pre-surgical Intraoral & Extraoral photographs

After the maxillary space closure the pre-surgical OPG & lateral cephalogram was done to do the cephalometric evaluation and the paper surgery. Surgical VTO was done suggesting a maxillary advancement of 5mm & mandibular setback of 7mm. A mock surgery was performed on a cast after proper face bow transfer and articulation (Figure 3).

Figure 3. Face bow transfer

The two-stage mock surgery was done with simulation of maxillary advancement first, which resulted in the fabrication of the first interim splint. The second stage mock surgery simulated the bilateral sagittal split osteotomy set back of mandible and resulted in the fabrication of final surgical splint (Figure 4).

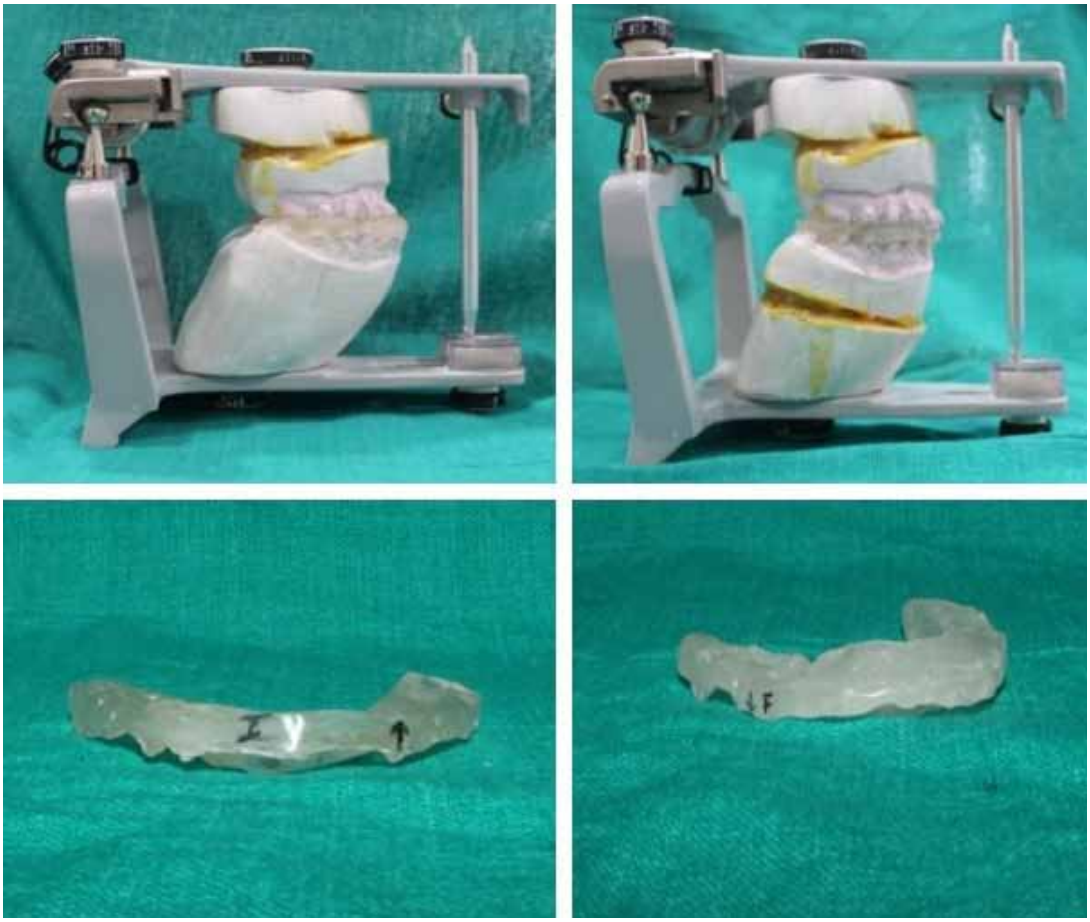

Figure 4. Surgical splints & mock surgery

The Orthognathic surgery was performed as per the plan and on table facial appearance was satisfactory. Illiaccrest bone grafting was done bilaterally to improve the malar prominence. The post-surgical healing was uneventful for the patient. Post-surgical Orthodontic finishing done for 4 months along with bracket repositioning and vertical settling. Debonding was done after 20 months of treatment. (Figure 5). Comparative radiographs are provided as shown in figure.6.

Figure 5. Pretreatment and post-treatment comparison photos

Figure 6: OPG and Lateral Cephalogram (Pretreatment & Posttreatment)

Conclusion

The intention of treating the case was purely to give a more esthetically acceptable face to the patient.[2,3] The patient's facial divergence changed from the concave to straight profile with a more prominent malar area of the face. The step formed by the maxillary and mandibular lips due to the prominent mandible became better. The throat chin angle became more pleasant.[4] We achieved all these extraoral features with a balanced occlusion at the end of debonding.[5,6] Now the girl is ready to face the world with more confidence and the proof of this lies in her eyes as noticed in the post-treatment extraoral photographs.

Conflict of Interests: The authors declare they have no conflicts of interest.

Ethical Issues: Approved

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