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Camouflage Orthodontic Retreatment Of Class II Malocclusion with Severe Overjet, Previously Treated by General Practitioner : A Case Report

Steffi Tanusetiawan[1], Ardiansyah S Pawinru [2], Eddy Heriyanto Habar[2]

[1] Orthodontics Specialist Study Program, Faculty of Dentistry, Hasanuddin University.
[2]Department of Orthodontics, Faculty of Dentistry, Hasanuddin University.

Abstract

Introduction: Since so many decades, various treatment modalities have been presented for the class II division 1 malocclusions treatment. In recent times, there are increasing numbers of patients who desire the shortest, cost effective and a non-surgical correction of Class II malocclusions and they accept dental camouflage as a treatment option to mask the skeletal discrepancy. Therefore, an accurate diagnosis and good treatment planning should be done. Patients previously treated by general practitioner usually were not satisfied because of poor diagnosis and treatment plan. **Case Report:** This case report presents a 25-year-old female who had a skeletal Class II division 1 malocclusion. She had convex profile with an orthognathic maxilla, a retrognathic mandible. Intraoral examination showed an overjet of 6 mm. She was previously treated by a general practitioner and already had her upper first premolars extracted. The treatment plan consisted of an extraction unilateral mandibular first premolar and standard edgewise appliance. Following the treatment, a satisfactory result was achieved with a stable and functional occlusion, and an ideal facial profile. **Conclusion:** A good occlusion and better facial profile can be achieved in an orthodontic retreatment case by carefully planning treatment objectives and biomechanics.

Keywords: Retreatment, Class II division 1, Severe overjet, Camouflage treatment.

INTRODUCTION

Skeletal Class II malocclusions can be treated with or without orthognathic surgery. It has been suggested that anteroposterior maxillomandibular discrepancies should have an ANB angle greater than 6 to indicate the need for orthodontic-surgical correction, otherwise profile esthetic improvement may become unpredictable.[1,2]

When an orthodontic-surgical treatment of skeletal discrepancy is not accepted by the patient, orthodontic camouflage becomes the only way to achieve a good occlusion. However, excessive labial tipping of the mandibular incisors is a common occurrence in patients with skeletal Class II malocclusions,[3-6] and it cannot be easily corrected during Class II camouflage treatment, [2, 7-9] The purpose of this report is to present a successful treatment of Class II sekeltal malocclusion patient with camouflage approach and to illustrated and discuss the dentoskeletal changes that contributed to the correction.

DIAGNOSIS AND ETIOLOGY

A 25-year-old female presented with a chief complaint of protruded front teeth. Clinical examination revealed covex profile with retrognatic mandible, 6 mm overjet, missing upper first premolars and unfinished orthodontic treatment by a general practitioner. Figure 1 initial examination showed severe overjet and missing maxillary premolars. Figure 2 showed panoramic radiograph and lateral chepalometric

TREATMENT OBJECTIVE

To present a successful treatment of Class II sekeltal malocclusion patient with camouflage approach and to illustrated and discuss the dentoskeletal changes that contributed to the correction

TREATMENT PROGRESS

Cephalometric analysis indicated skeletal class II division 1 malocclusion.The treatment plan consisted of an extraction unilateral mandibular first premolar and standard edgewise appliance. Maximum retraction was done on the upper arch and reciprocal retraction was done on the lower left arch to achieve class I molar and canine relation on the left side. Controlled tipping movement was done with 0,017 x 0,025 SS archwire and closing loop. Finishing and artistic positioning was done with 0,017 x 0,025 SS archwire. Figure 3 after 17 months of treatment, a satisfactory result was achieved with a stable and functional occlusion, and an ideal facial profile. Figure 4 showed panoramic radiograph and chepalometric analysis after treatment.

Fig 1. Pretreatment facial and intraoral photograph

Fig 2. Pretreatment radiographs: A,panoramic radiograph; B, lateral cephalogram

Fig 3. Post-treatment facial and intraoral potograph.

Fig 4. Post-treatment radiographs: A,panoramic radiograph; B, lateral cephalogram

Table 1. Post-treatment cephalometric measurement

	Normal	Pre	Post
SNA	82 ± 2	84	84
SNB	80 ± 2	75	76
ANB	2 ± 2	9	8
Dental Analysis			
U1 – NA (mm)	4 ± 2	5	-2
U1 – NA (°)	22 ± 2	19	0
L1 – NB (mm)	4 ± 2	14	11
L1 – NB (°)	25± 2	47	46
Interincisal (°)	135 ± 10	104	125
Facial Analysis			
E-line to upper lip(mm)	1 ± 2	5	3
E-line to lower lip(mm)	0 ± 2	6	2
Nasolabial (°)	102 ± 8	99	107

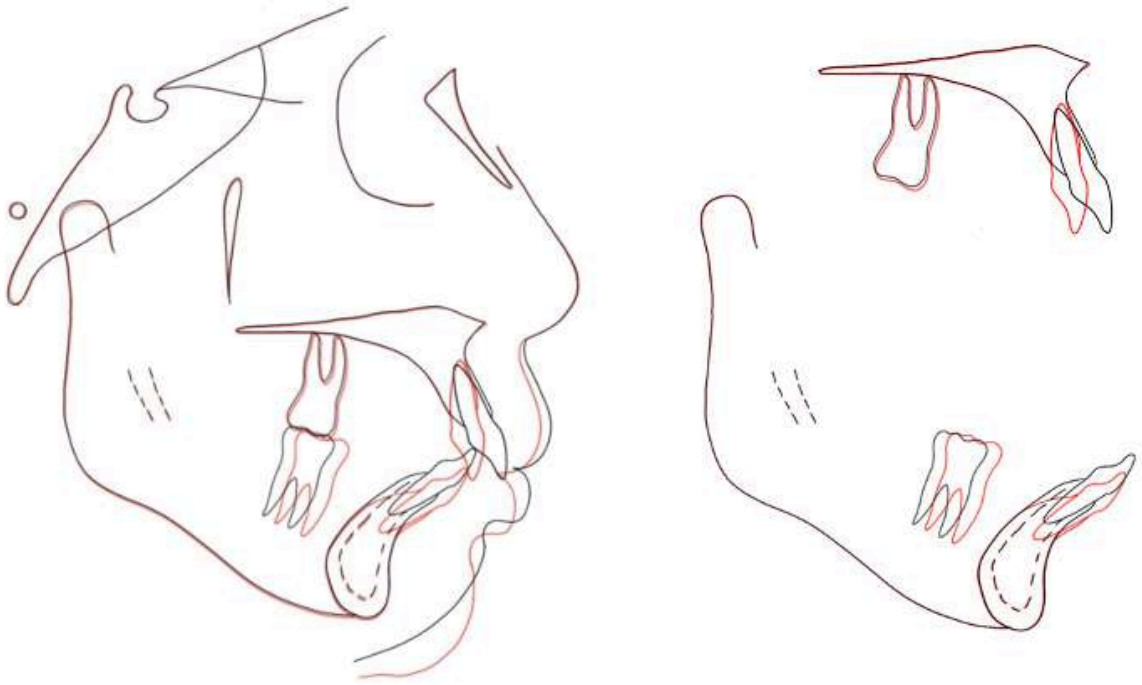

Fig 5. Cephalometric superimpositions: *black line*, pretreatment; *red line*, post treatment

DISCUSSION

Treatment of any Class II patient requires careful diagnosis and treatment plan involving esthetic, occlusal and functional considerations. When planning treatment in such cases, the orthodontists often faced the dilemma whether to go with extraction plan[10] or mandibular advancement plan or distalization of maxillary arch in growing patients or surgical correction in case of adult patients. Class II malocclusion can be treated by several means according to the characteristics associated with the problem, such as antero-posterior discrepancy, age, patient compliance.[11] In adolescents, the correction of Class II malocclusion by growth modification is the treatment of choice, the Herbst and Forsus also known as functional appliances are usually used in young patients to modify growth.[12-15] Surgical-orthodontic treatment was found to be more effective for skeletal measurement (ANB, SNB) and covexity of the soft tissue profile including the nose (N'-Pn-Pog').[16] In this case, a surgical treatment was rejected by the patient.

In orthodontic camouflage treatment the aim is to mask the skeletal discrepancy through dental compensations. When extractions are required, they are generally done in the upper arch (first premolars) to correct the protrusion of the incisors[17], or two maxillary and two mandibular premolars. In the present case, it was slightly mesial drifting on lower left molar and lower midline shifted to the right, so the lower left premolar extraction was done to achieve molar Class I relationship on the left side

During the treatment, progression anchorage was important part of the treatment which had to be planned. The anchorage on the maxilla was reinforced by including second permanent molar. Light continuous force was used to close the extraction space on the lower arch. This helped in reducing the load over the anchor segment (anterior segment of the mandible).

CONCLUSION

A good occlusion and better facial profile can be achieved in an orthodontic retreatment case by carefully planning treatment objectives and biomechanics.

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