

## CHAPTER VI

### CONCLUSION

The skeletal, dental and facial soft tissue measurements were made on the lateral cephalograms and the study models of Thai adults; 70 normal occlusion subjects and 70 class III malocclusion subjects. The normal occlusion group consisted of 35 males and 35 females. The class III malocclusion group consisted of 32 males and 38 females. These measurements were differentiated between the normal occlusion and the class III malocclusion groups, and between genders. Furthermore, the 3 subgroups of the vertical skeletal patterns in class III malocclusion group were analyzed. The following conclusions are reached:

1) The anterior and posterior cranial base length and the cranial base flexure were significantly less in class III malocclusion group than in normal occlusion group. In addition, the mandible was in protruded position in relation to the anterior cranial base and maxilla.

2) Most of class III malocclusion deformity existed below the palatal plane. The mandibular plane angle, the palatomandibular plane angle and the gonial angle were significantly steeper in class III malocclusion group than in normal occlusion group.

3) The maxillary length was shorter in class III malocclusion group than in normal occlusion group. However, the mandibular length and the effective mandibular length were not affected in class III malocclusion group but the ramus height had a trend toward shorter than the normal occlusion group.

4) The symphyseal width and the symphyseal height were less in class III malocclusion group than in normal occlusion group.

5) A trend toward shorter total anterior facial height was observed in class III malocclusion group but it was restricted to the upper face region. In addition, a strongly significant difference in the shorter total posterior facial height occurred primarily in the lower posterior facial height.

6) Class III malocclusion group exhibited decreasing in the UAFH/LAFH ratio and the TPFH/TAFH ratio but it showed increasing in the UPFH/LPFH ratio.

7) The proclination of the upper incisors in relation to the anterior cranial base and the maxilla, the retroclination of the lower incisors in relation to the mandible and the protruded position of the lower incisors in relation to the A-Pg line were clearly significant differences in the class III malocclusion group but the interincisal angle was not affected.

8) There was the lower dentoalveolar hypoplasia in class III malocclusion group. Furthermore, class III malocclusion group exhibited a trend toward increasing of the UPDH/UADH ratio, but decreasing in the LPDH/LADH ratio.

9) Almost of the facial soft tissue measurements had significant differences between class III malocclusion and normal occlusion groups. Class III malocclusion group showed increasing in the soft tissue facial angle, mentolabial angle, superior sulcus depth, upper lip thickness and lower lip to E line but it showed decreasing in the nasolabial angle, H angle, inferior sulcus depth, Sn to H line, lower lip thickness and upper lip to E line.

10) There were significantly less of the upper canine depth and the lower interpremolar width in class III malocclusion group than that in normal occlusion group.

11) In class III malocclusion group, the anterior cranial base length, the maxillary length, the ramus height, the effective mandibular length and the symphyseal height had strongly greater in male subjects than in female subjects. In addition, the mandibular corpus length and the symphyseal width also showed a trend increase.

12) All of the facial heights and the dentoalveolar heights in male subjects were significantly greater than that in female subjects for both class III malocclusion and normal occlusion groups.

13) Both of class III malocclusion and normal occlusion male subjects had statistically greater of the upper and lower lip thickness than that in class III malocclusion and normal occlusion female subjects.

14) For the model measurements, class III male subjects exhibited strongly greater in the interpremolar width and intermolar width of both dental arches than that in class III female subjects.

15) The cranial base flexure was not significant difference among skeletal class III normal overbite, deepbite and openbite groups.

16) Skeletal class III deepbite group presented more prognathic mandible, more acute angle of the gonial angle, Y axis angle, mandibular plane angle and palatomandibular plane angle, greater ramus height and soft tissue facial angle than in skeletal class III normal overbite and openbite groups.

17) Skeletal class III openbite group exhibited less upper canine width and lower canine depth than in skeletal class III normal overbite and deepbite groups.

18) Forward stepwise multiple logistic regression analyses showed the highly significant associations between type of occlusion and SNB, SH, U1-SN, L1-NB, L1-APg, nasolabial angle and upper lip to E line .

This study points out those class III malocclusion subjects who have different or even the same type of occlusion, have various skeletal, dental and facial soft tissue characteristics. Therefore, the orthodontists should concern about their variations. Thus orthodontists should have individual diagnosis and treatment planning for this type of malocclusion.