Skeletodental Adaptation in Class II Division 1 Young Adults Treated by Hyrax Expander and Class II Elastics

(A radiographical and clinical study)

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A b s t r a c t

Some confusion faced the orthodontic clinician during treatment of skeletal class II malocclusion cases after puberty due to some obstacles of the traditional treatment plane (orthodontic camouflage, orthognathic surgery) which push the efforts to accept new ideas, like use the orthopedic and functional type of treatment in these individuals.

The present research was carried out to evaluate the skeletodental adaptation in class II division 1 for 11 young adults their ages ranged [(18- 22 years for 3 males) and (16-21 years for 8 females)] which treated by upper and lower fixed appliance with class II elastics associated with the use of Hyrax expander to correct the expected positional cross bite after advancement of lower jaw. For each, lateral and posteroanterior radiographies were taken before and after complete the active treatment (the average time of treatment was 15 months).

The evaluation would be done through 14 angular and 12 linear measurements from lateral cephalometric and 15 linear measurements from posteroanterior cephalometric, were digitized by using AutoCAD computer program, then describe and compared statistically along with significant changes were founded and explained scientifically as well as trigonometrically as following:

§ Reductions of over-jet and over-bite due to dentoalveolar modulation and through an increase in interincisal angle and downward positioning of the head of condylar.

§ The correction of the positional cross bite were skeletodental changes by action of Hyrax expander through maximum increases in transverse dimension of the upper intermolar distance followed the maxilla, in addition to the increase within the left parts of the measurements more than the right parts.

Concluding that this type of treatment would be produced effective dentoalveolar changes in anteroposterior plane and asymmetrical skeletodental changes in transverse plane.