Photogrammetric Analysis of Facial Soft Tissue Profile of Iraqi Adults Sample with Class II Division 1 and Class III Malocclusion

(A Comparative study)

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Abstract

An understanding of the soft tissues and their normal ranges enables a treatment plan to be formulated to normalize the facial traits for a given individual. The photogrammetric technique is simple, low coast, non-invasive tool and can be valuable.

The aim of this study was to quantify the average parameters that define the soft tissue facial profile of Iraqi adults with Class II div.1 and Class III malocclusion by using standardized photogrammetric technique in natural head position (NHP) to assess (17) linear and (12) angular measurements.

The sample composed of 75 Iraqi orthodontic patients (50) class II div.1 (24 males and 26 females) and 25 class III (14 males and 11females); their age range between 18 and 28 years were selected, then after, a well-defined standardized photograph was taken for each, then by using (AutoCAD software 2007), analysis of these photographs were done.

Comparisons between genders and in both classes in addition to comparison between both classes of malocclusion were done using independent student's t-test. In general, regarding linear measurements, males had greater facial lengths and heights as well as greater prominences in CLII div.1 and CLIII, while the mean values for angular variables of CLII div.1 were larger in females than males except the: vertical nasal angle; angle of the nasal dorsum; cervicomental angle and angle of the lower facial third**.**

However the mean values for angular variables of CLIII were larger in males than females except the following: nasofrontal angle; nasal angle; nasolabial angle; mentolabial angle and angle of the middle facial third. The comparison between CLII div.1 and CLIII patients revealed significantly larger values regarding N-Prn/TV, Sn/TV and Ls-

TV in CLII div.1 than in CLIII, while the reverse was found regarding Li-Sm/pog, G-Sn/Pog, G-Prn/Pog and Sn-Sm/TH, Prn-Sn/Sm, Sti-Sm and Sm/Tv.