Maxillary Sinus Dimensions and its Relation with Craniofacial Measurements in Mouth Breathing individuals Compared with Skeletal Cl I Nasal Breathers

(A comparative Study)

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ABSTRACT

The purpose of this study is to evaluate the effect of airway inadequacy on maxillary sinus dimensions and its effect on craniofacial morphology in both mouth breather and nasal breather subjects. The selection of 92 Iraqi patient subjects, the sample has been divided into two groups according to otolaryngology examination. The first group included 46 subjects who were mouth breathers. They were regarded as a sample group, which comprised of 23 males and 23 females. The second group was nasal breather subjects also included 46 subjects (23 males and 23 females) and they were regarded as an control group, The ages of the samples ranged between 18 & 25 years.

Lateral cephalometric radiograph had been taken for each examined subject, then traced and measured to determine the measurements of maxillary sinus (height and anteroposterior length) and craniofacial dimensions. The procedure was accomplished by mean of computer and AutoCAD program version 2006.

It had been found that maxillary sinus dimensions were larger in control (nasal breather) group than that in sample group (mouth breather) group. It is significant for anteroposterior dimension Probability <0.05 but it was not significant in height dimension. Also the maxillary sinus was larger in males than that in females.

The maxillary sinus in nasal breather group were correlated significantly with horizontal and vertical linear measurements that were used in this study (Anterior Facial Height, Lower Facial Height, Upper Facial Height, Posterior Facial Height, Extent of Anterior Cranial Base, Extent of maxillary Base, Extent of mandibular Base). This indicated that the growth of maxillary sinus was coordinated with the growth of craniofacial structure.

In mouth breather this correlation was affected by the impaired nasal function and their craniofacial structure which had a tendency to grow vertically more than horizontally.