

***Pharyngeal Airway Volume and It's
Relationship to the Facial Morphology In
Nasal Breathing and Mouth Breathing
Subjects***

(A comparative computerized tomography study)

A thesis

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Abstract

Computed tomography (*CT*) scan used to evaluate the pharyngeal airway volume by the using semi-automatic segmentations to calculate real volumes instead of estimates based on linear measurements .

The purpose of this study was to Measure the pharyngeal airway volume and the size of the face , then compare between pharyngeal airway volume in mouth breathing subjects and nasal breathing subjects , find the gender difference between two groups , find a correlation between pharyngeal airway volume and the size of the face and finally comparison between different skeletal classes.

Computed tomography (*CT*) scan were records of **50** Iraqi mouth breather subjects (**28** male , **22** female) , with the age range (**18-35**) years in which they complain from nasal obstruction , the patients were examined by the otolaryngologist by using head mirror, speculum and flexible Nasofibroscope to certify their complaint and to identify the cause of the obstruction.

The control group was comprised of **20** Iraqi subjects (**10** males ,**10** females) the age range was (**18-35**) years, also they were examined by the otolaryngologist to certify the absence of nasal obstruction. Also all the control subjects were nasal breathing with normal occlusion.

The mouth breather sample were divided according to the gender in to male and female group .Also divided according to anteroposterior relationship in to **CL I,II** and **III** depend on synthetic lateral cephalogram and *Foster method* .

Abstract

In this study it has been shown that a statistically significant relationship between the pharyngeal airway volume and the mode of respiration ,Also there was a statistically significant relationship between pharyngeal airway volume and gender.

The pharyngeal airway volume was larger in nasal breather group rather than in mouth breather group and it was larger in male rather than in female.

The size of the face was larger in male rather than in female and most of mouth breather subjects was skeletal **CL II**.