

**Accuracy of Spiral Computed Tomography in  
evaluation of maxillary sinus septa among  
dentate and edentulous Iraqi subjects  
(Comparative study)**

A thesis

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By:

**Farah Abdul Salam Hadi**

B.D.S.

Supervised by :

**Assistant prof. Dr. Ahlam Ahmed Fatah**

B.D.S., M.Sc.

Oral Radiology

1434AH

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**Abstract**

**Background :** Presence of maxillary sinus septa has been known to be a complicating factor for sinus elevation procedure and implant placement in posterior maxilla. The maxillary sinuses septa are thin walls of cortical bone inside the sinus. They vary in number, location, and height.

**Aims of study:** Accuracy of Spiral Computed Tomographic Scan in evaluation the maxillary sinus septa (prevalence, location, height) in subjects with dentate, partially edentulous and completely edentulous maxilla.

**Materials and Methods:** This study included (267) subjects ranged from (20-70 years), (132) male and (135) female divided into three groups, (97) fully dentate group, (102) partially edentulous group and (68) completely edentulous group who admitted to Spiral Computed Tomography Scan in Al-Karkh General Hospital in Baghdad to have Computed Tomography Scan of the brain and paranasal sinuses for different diagnostic purposes from November 2012 to April 2013. The maxillary sinus septa were evaluated in the axial and sagittal views and the data were subjected to statistical analysis using Statistical Package for Social Sciences version 20.

**Results:** The statistical analysis of maxillary sinus septa for dentate and edentulous groups showed that the prevalence rate of septa was 77.3% among fully dentate maxilla sample. Almost the same prevalence rate was obtained in the other two study sample (partially edentulous maxilla 77.5% and completely edentulous maxilla 76.5%). No important or statistically significant difference in prevalence was observed between the three study groups. Age and gender showed no important or statistically significant difference in prevalence rate in each study group, the mean septal height was slightly higher in fully dentate group (7mm) compared

to partially edentulous maxilla group (6.2 mm) and completely edentulous maxilla group (6.5 mm). The difference in mean between the 3 groups however was not significant statistically. The rate of septa at floor position was significantly lowest in fully dentate maxilla group (36.1%) compared to partially edentulous maxilla group (52.1%) and completely edentulous maxilla group (53.3%).

**Conclusion:** Spiral Computed Tomography is a precise diagnostic tool for the examination of this zone capable for investigating their location and height during different maxillary sinus surgical procedures. In the posterior maxilla, regardless of type of ridge (atrophy/edentulous or non-atrophy/dentate), the anatomical variation of sinus septa is diverse in its prevalence and location.