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Anatomic Variations of the Paranasal Sinuses on CT scan Images

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Abstract:

Statement of Problem: Variation in paranasal sinus anatomy as shown on computed tomographic scans is of potential significance for it may pose risks during surgery or predispose to certain pathologic conditions. Purpose: The aim of this study was to assess the relative frequency and concurrence of variations in paranasal sinus anatomy in a given population and to compare the results with previous investigations conducted on different populations. Materials and Methods: All patients over 16 years of age referred to Valiasr hospital, Tehran, Iran, with paranasal sinus tomographic scans and a clinical diagnosis of chronic sinusitis were considered for this study. After excluding those with altered anatomy (iatrogenic or pathologic), scans of unaltered patients were meticulously analyzed for variations in sinus anatomy. Findings were recorded on the patient's data sheet. The distance between the maxillary sinus floor and the alveolar ridge at the level of the 1st molar was recorded. All findings were analyzed, and tested with Chi square, where applicable. Results: Overall 143 patients were analyzed (48.3% male and 51.7% female). The frequency of major sinus variations was: Agger nasi cell in 56.7%, Haller cell in 3.5%, Onodi cell in 7%, nasal septal deviation in 63%, Concha bullosa in 35%, and dental anomalies in 4.9% of the studied cases. The distance between the upper alveolar ridge and maxillary sinus floor was 0-30mm (mean 12.16) on the right, and 0-52mm (mean 12.20) on the left. Conclusion: The frequency of anatomic variations in sinus anatomy may be related to race and heredity. A lower number of cases in addition to the use of low yield imaging may explain the discrepancies observed between our results and other investigations. The findings of the present study were based on computed tomography.

Keywords:

Anatomic variation ، Concha ، Nasal

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