The Sphenoid Sinuses: Computed Tomographic Assessment of Septation, Relationship to the Internal Carotid Arteries, and Sidewall Thickness in the Malaysian Population

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Objective: To evaluate the septation, wall thickness, and relationship of the sphenoid sinuses to the internal carotid arteries on computed tomography. Methods: Seventy patients with normal sphenoid sinuses were evaluated. Scans were done in both axial and coronal planes. The number of septations of the sphenoid sinuses was analysed, along with the incidence of septa directly related to the internal carotid arteries. The thickness of the bony wall of the sphenoid sinus adjacent to the internal carotid arteries was also measured. Results: Significantly more septa were noted on the coronal than on the axial view. Septa were not directly related to one or other internal carotid artery in the majority of patients (68.6%). Septa were directly related to the right internal carotid artery in 13 patients (18.6%), and to the left internal carotid artery in nine patients (12.9%). The bony wall thickness of the sphenoid sinuses adjacent to the internal carotid arteries ranged from 0.4 mm to 1.7 mm. There was no significant difference in wall measurements between the right and left sides. Conclusion: This study highlights the anatomy, variants, and the relationship of the internal carotid arteries to the sphenoid sinuses. Sphenoid septations were better demonstrated on coronal plane views. (J HK Coll Radiol 2001;4:185-188)

Key words: Carotid artery,Computed tomography, Sphenoid sinuses