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Basic Medical Sciences

Poster

## Assessment of Sphenoid Sinus Variations and Its Related Neurovascular Structures Using Contrast Thin Slice Computed Tomography Scan Of The Brain

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**Introduction:** Sphenoid sinus is the most variable structure in human. The prevalence of anatomical variations varies with the population. Increasing endoscopic procedures around the sphenoid sinus and advances in imaging techniques, allowed precise evaluation of sinus anatomical variation in each population. This study measured the prevalences and described the variations of the sphenoid sinus using thin slice contrasted computed tomography scan of brain scans. **Materials and Methods:** A retrospective cross-sectional study of 250 brain scans of patients between 18-60 years old attending Hospital Tengku Ampuan Afzan, Kuantan, Pahang from 1<sup>st</sup> January to 31<sup>st</sup> December 2017. The sphenoid sinus pneumatization types, volume, optic nerve relation according to Delano's classification, internal carotid artery relation, and the number of sinus septum and attachment site were studied. **Results:** Post sellar pneumatization type was most common (52%). The mean sinus volume was 19 cm<sup>3</sup> which was significantly different between genders. Delano optic nerve type 1 was most frequent (43%) and most were seen bilaterally with significant differences between gender. The internal carotid artery was seen non-protruded 41.6% cases, protruded in 36.4% cases, and protrusion with wall dehiscence in 22% cases. Two septate sinuses were more prominent (44.3%), aseptate sinus in 2.4% cases. The principle septa attachment site was sella (28%), internal carotid artery related septa found in 10% cases and 3.2% of cases with optic nerve septal attachment. **Conclusion:** This study revealed the presence of all sphenoid sinus variations amongst the study population. The preoperative determination of these anatomical variations minimizes vital neurovascular structures injury.