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A comparison of two sphenoidotomy approaches using a novel computerized tomography grading system

Gheriani H, Flamer D, Orton T, Mechor B and Javer A R

St Paul's Hospital and University of British Columbia, Canada

Introduction: Endoscopic management of sphenoid sinus disease has great potential for surgical complications. A variety of endoscopic surgical techniques have been described for entering the sphenoid sinus. The utility of these surgical techniques is based on the position of the superior turbinate attachment to the sphenoid face (Parson's ridge). A novel computerized tomography (CT) grading system is introduced for the attachment of the superior turbinate to the sphenoid face. Using this new grading system, we recommend a safer systematic approach for entry into the sphenoid sinus.

Methods: A grading based on the attachment of the superior turbinate to the sphenoid face at the level of the natural sphenoid ostium was developed. A total of 53 patients were enrolled. Types A, B, and C refer to the superior turbinate attachment at the medial, middle, or lateral third of the anterior sphenoid face, respectively, and type D refers to orbital attachment of the superior turbinate. The surgical approach used (superior turbinate intact [STI] or superior turbinate resection [STR]) was recorded and correlated to the type of superior turbinate attachment.

Results: The overall incidence of the various superior turbinate attachments were 40% (41) for type A, 41% (42) for type B, 18% (19) for type C, and 1% (1) for type D. STR was used in 38 sides (44%) and STI was used in 48 sides (56%). Spearman correlation study showed that the closer the superior turbinate attachment was to the orbit the more likely STR was used as the choice of entry into the sphenoid ($p < 0.001$).

Conclusion: To perform a safe sphenoid entry it is pertinent to evaluate the superior turbinate attachment to the sphenoid face before making a decision on the method of entry.

Biography

Heitham Gheriani is a Rhinologist currently based at St Paul's Hospital in Vancouver British Columbia in Canada and affiliated to the University of British Columbia. He has obtained his MBChB degree with honours from Benghazi University and completed his otolaryngology residency training program in Ireland based at the Royal College of Surgeons in Ireland. He then moved to Vancouver, BC Canada to join St Paul's Hospital Sinus Center for fellowship training under Dr. Amin Javer and subsequently joined the faculty staff team at University of British Columbia. His main field of interest is rhinology, endoscopic sinus and skull base surgery.

gheriani@live.ca