

Armando T. Isla Jr., MD
Josefino G. Hernandez, MD

Department of Otorhinolaryngology
College of Medicine – Philippine General Hospital
University of the Philippines Manila

Retroverted Uncinate Process: An Anatomic Variation

Considerable attention has been directed toward analysis of paranasal sinus anatomy through coronal plane computerized tomographic (CT) imaging in this age of functional endoscopic sinus surgery. Recently, it has become apparent that anatomic variations are also evident on CT analysis of patients. Subtle anatomic features can now be imaged through CT, with a level of clarity previously not afforded by standard sinus radiographs.¹

The key to a successful endoscopic sinus surgery is the proper identification of landmarks, and intelligent decision-making should there be any doubts as to what structure lies ahead. The middle turbinate is the main landmark in the region and should be preserved if possible. Attention to the limits of the middle turbinate landmark is one of the keys to uncomplicated surgery.² The presence of a retroverted uncinat process, wherein the uncinat process (rather than the middle turbinate) is the first bone to be encountered, can be misleading to the rhinologic surgeon and lead to inadequate surgery. Familiarity with anatomic variations such as the retroverted uncinat process should increase the safety and effectiveness of functional endoscopic sinus surgery.



Figure. 1 Coronal CT image passing through the level of the osteomeatal complex in a patient with severe nasal polyposis. Arrows point to a retroverted uncinat process on both sides. Recognition of this anatomic abnormality is essential for the determination of surgical landmarks for endoscopic sinus surgery.

Correspondence: Armando T. Isla Jr., MD
Department of Otorhinolaryngology
Ward 10, Philippine General Hospital
Taft Avenue, Ermita, Manila 1000
Philippines
Phone: (632) 526 4360
Fax: (632) 525 5444
Email: donisla.md@gmail.com
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