

Case Report

Diagnosis and Treatment of an Infected Supraorbital Ethmoid Cell Cyst

Kento Koda^{1,2*}, Kazuo Yasuhara¹

¹Department of Otolaryngology and Head and Neck Surgery, Takeda General Hospital, Japan

²Department of Otolaryngology and Head and Neck Surgery, the University of Tokyo, Japan

***Corresponding Author:** Kento Koda, Department of Otolaryngology and Head and Neck Surgery, Takeda General Hospital, Japan

Received: 24 February 2022; **Accepted:** 07 March 2022; **Published:** 14 March 2022

Citation: Kento Koda, Kazuo Yasuhara. Diagnosis and Treatment of an Infected Supraorbital Ethmoid Cell Cyst. Archives of Clinical and Medical Case Reports 6 (2022): 199-202.

1. Case Report

A 79-year-old woman with no significant medical history visited an emergency room with a complaint of diplopia. Ocular motility disorder was noted, and a central lesion was suspected. Contrast-enhanced computed tomography (CT) revealed a cystic lesion, and cyst infection was suspected based on the rim enhancement. Coronal images (Figure 1) suggested a frontal sinus cyst, but horizontal (Figure 2) and sagittal (Figure 3) sections revealed a Supraorbital Ethmoid-Cell (SOEC) cyst extending into the orbit. Diplopia disappeared immediately after endoscopic surgery for cyst enucleation. Anatomically, SOECs are associated with the anterior ethmoidal artery (AEA), which runs within or in continuity with the posterior border of the SOEC

opening [1] (Figure 4). Therefore, in endoscopic surgery, the risk of AEA damage increases with a posterior approach, and an approach from the front is recommended. If an axillary flap [2] is not created and the nasal ridge is not sufficiently excised, it is difficult to operate using an endoscope.

Keywords: Supraorbital Ethmoid-Cell; Computed tomography; Endoscopic surgery

Abbreviations: AEA: Anterior ethmoidal artery; CT: Computed tomography; SOEC: Supraorbital ethmoid-cell cyst



Figure 1: Coronal section: a frontal sinus cyst invading the orbit.

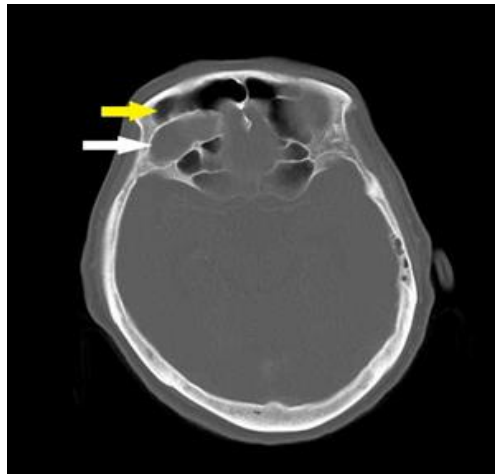


Figure 2: horizontal section: cyst is posterior to the frontal sinus.

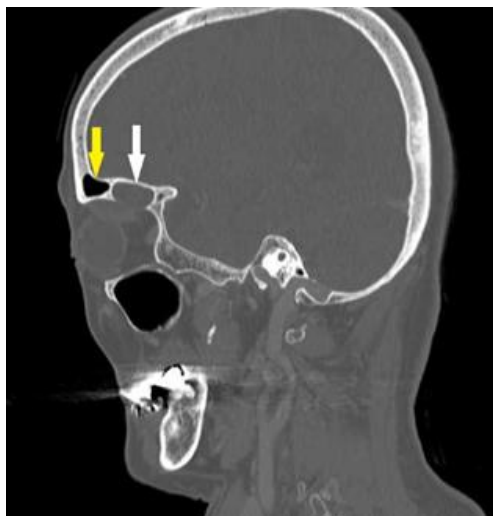


Figure 3: sagittal section: the cyst originates from the SOECs.

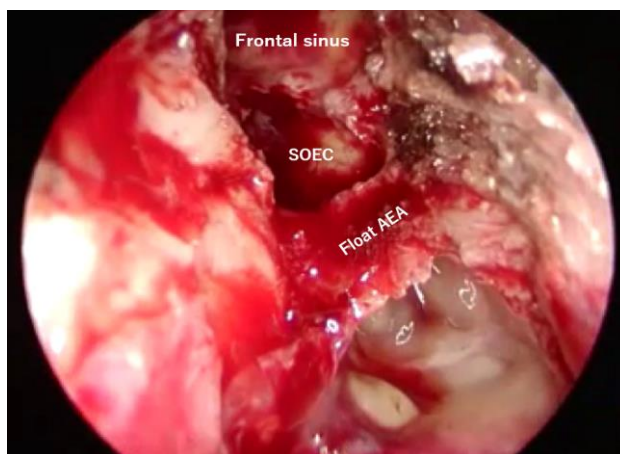


Figure 4: The AEA runs along the posterior border of the SOEC opening.

White arrows, cyst; yellow arrows, frontal sinus

2.1. Teaching point

Sinus lesions should be localized using horizontal, sagittal, and coronal CT images. Regarding the surgical technique, it is recommended to create a flap, remove the nasal ridge sufficiently, and approach from the front.

Acknowledgement

We would like to thank Editage (www.editage.com) for English language editing.

References

1. Jang DW, Lachanas VA, White LC, et al. Supraorbital ethmoid cell: a consistent landmark for endoscopic identification of the anterior ethmoidal artery. *Otolaryngol Head Neck Surg* 151 (2014): 1073-1077.
2. Wormald PJ. The axillary flap approach to the frontal recess. *Laryngoscope* 112 (2002): 494-499.



This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC-BY\) license 4.0](https://creativecommons.org/licenses/by/4.0/)