

Introduction

Fungal infections of the nasal sinuses are not commonly invasive; however, in rare cases, fungal invasion beyond the sinus cavity can lead to life-threatening complications. Invasive fungal rhinosinusitis (FRS) is usually seen in immunocompromised patients and can be acute (4-weeks duration) or chronic, in which symptoms persist for more than 12-weeks. Here we present a rare presentation of chronic invasive FRS (CIFRS) in an immunocompetent patient.

Clinical Case

A 45-year-old male was evaluated for dull left eye pain for about a year associated with night sweats. He denied any weight loss, fevers, chills, or vision changes. He was a non-smoker with no past medical history except for chewing betel nuts which he quit a month ago. Physical examination showed proptosis of the left eye with redness. CT scan of orbits showed subperiosteal mass which was confirmed by MRI. Surgical biopsy of the mass was done and preliminary pathology revealed aspergillus-like hyphae vs. *Candida* and the patient was started on caspofungin. He developed worsening left eye chemosis and injection with ophthalmoplegia which was treated with antibiotics and local injection of amphotericin B. He underwent ethmoidectomy with decompression and specimen revealed semi-invasive aspergillosis of the sinuses extending to the left orbit. Caspofungin was switched to voriconazole for a year. Screening for HIV was negative. During the hospital stay, the patient's blood sugar was elevated with an HbA1C of 7% and type 2 diabetes mellitus was diagnosed.

Discussion

Fungal sinusitis can have different histologic features. Our patient displayed a combination of fungal ball and CIFRS. Even though he did not have a classical immunocompromised state such as malignancy, HIV infection or immunosuppressive medication use, he did have undiagnosed diabetes mellitus which may have contributed towards impaired immunity.

Conclusion

Invasive FRS may mimic the behavior of malignant neoplasm and histopathology is the key in making a prompt diagnosis.

Figure 1.

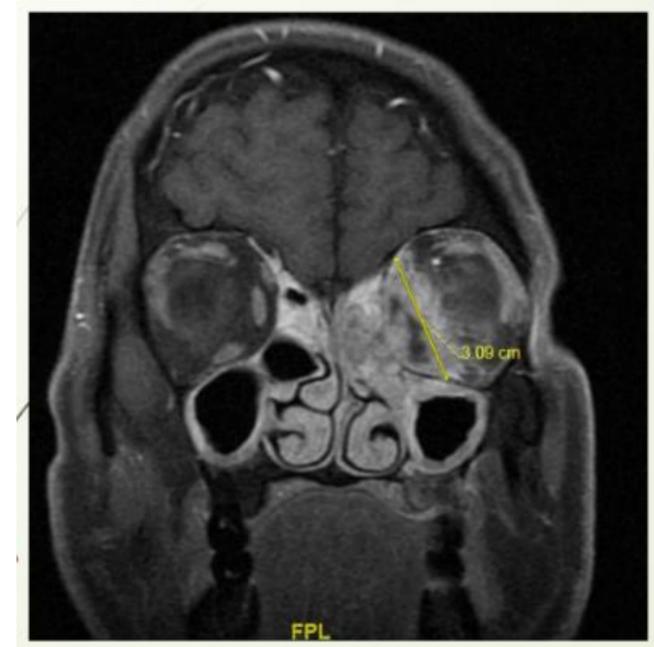


Figure 1: Centrally decreased enhancement is seen which correlates with regions of increased T2 signal. This abnormal soft tissue measures 1.6 cm in greatest width by 3.1 cm craniocaudally by 3.9 cm anterior to posterior and reaches the orbital apex.

References:

1. Duggal P, Wise SK. *Am J Rhinol Allergy*. Chapter 8: Invasive fungal rhinosinusitis. 2013 May-Jun;27 Suppl 1:S28-30. doi: 10.2500/ajra.2013.27.3892 <https://www.ncbi.nlm.nih.gov/pubmed/23711036>
2. Gillespie M.B., O'Malley B.W., Jr., Francis H.W. An approach to fulminant invasive fungal rhinosinusitis in the immunocompromised host. *Arch Otolaryngol Head Neck Surg*. 1998;124(5):520-526. <https://www.ncbi.nlm.nih.gov/pubmed/9604977>
3. Gillespie M.B., Huchton D.M., O'Malley B.W. Role of middle turbinate biopsy in the diagnosis of fulminant invasive fungal rhinosinusitis. *Laryngoscope*. 2000;100(11):1832-1836. <https://www.ncbi.nlm.nih.gov/pubmed/11081595>.