Case Report

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Occuloplastic intervention in mycosis

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ABSTRACT

Mycosis of the paranasal sinuses with an indolent course is usually noted in the immunocompetent and the likely species is usually aspergillosis. The fungus is predominantly seen in the maxillary sinus. It encroaches into its vicinity either by contiguous spread or as a skip lesion, with a normal tissue in between. Imaging studies, CT or MRI clinches the diagnosis. Laterally the infratemporal fossa and superiorly the orbit are the regions of concern. Progressive cheek paresthesia and restricted eye movements and field of vision are the clinical presentations in such a scenario. Oral antifungals "the imidazoles" though are quite effective but often a surgical intervention is called for, other than for the purpose of a biopsy. Oculoplastic intervention was undertaken in one patient.

Keywords: Aspergillosis, Subcutaneous mass, Orbit

INTRODUCTION

Primary cutaneous mycoses are rare entity to be seen in immuno competent patients especially in the rhino facial region.¹ Cutaneous aspergillosis is either primary or secondary, primary occurring from direct inoculation post trauma and secondary from disseminated aspergillosis.²

Spore inhalation results in sinus disease and subcutaneous infection which eventually progress to involve paranasal sinuses and soft tissue of the face.

The common species responsible for cutaneous aspergillosis are A. fumigates, A. niger, A. flavus, A. ustus.^{3,4}

Diagnosis is based on histopathology with the identification of the hyphae of Aspergillus spp. which are 3-4 mm in diameter, septate and branch at acute angles.⁵

We present a rare case report in which surgical intervention was undertaken in the vicinity of the eye where temporal vision was getting affected due to a mass adherent to the orbital fascia.

CASE REPORT

A 53-year male patient presented with a 3 x 2 cm swelling on the left infraorbital margin and extending till the lateral canthus for 8 months (Figure 1). There was no history of nasal obstruction, discharge, bleed or infraorbital paraesthesia. There was no history of hypertension, diabetes mellitus, steroid intake or any disease or condition leading to immune compromised state or trauma or surgical procedure over the cheek and infraorbital region. Nasal endoscopy was normal and no discharge was noted in the middle meatus.

The swelling was non tender, circumscribed with stretched overlying skin. Local temperature was similar

as the adjoining surface, firm in consistency with no pulsations. A computed tomography corroborated the clinical findings with additional information regarding the third dimension i.e. depth of the swelling (Figure 2).

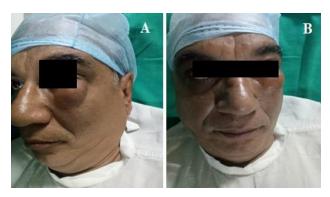


Figure 1: Left 3x2 cm infraorbital swelling extending till the (A) Lateral canthus (B) Lateral canthus.

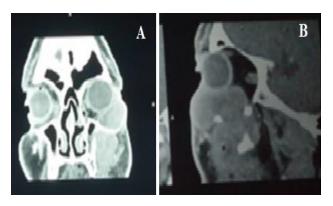


Figure 2: (A) Coronal section (B) parasagittal section showing soft tissue density in infraorbital region.

The swelling was attached to the orbital fascia and in proximity to the inferior rectus, without infilteration. Eye movements were restricted in the inferior quadrant. Fine needle aspiration cytology had been reported as aspergillosis and he was already on voriconazole for 6 months, without much regression of this subcutameous mass. Under general anesthesia, he was taken up for surgical intervention. An infraorbital skin crease incision was made and a superior flap was raised (Figure 3).



Figure 3: An infraorbital skin crease incision with raised superior flap.

The superior flap was meticulously dissected to separate the globular mass, from the lower tarsal plate and the orbital fascia, (Figure 4). A sharp plane was created deep to the mass and the bony infraorbital rim to lift it out of the anterior orbital floor (Figure 5).



Figure 4: The globular mass lifted from the lower tarsal plate and the orbital fascia.



Figure 5: Subcutaneous mass lifted out of the anterior orbital floor.



Figure 6: Skin wound sutured with 3, O vicryl.

Histopathology reported as aspergillosis for which he was to continue voriconazole. A one year follow up showed a well healed and imperceptible incision line, unrestricted eye movements and no residual or recurrent mass at the primary site.

DISCUSSION

Initial presentation of invasive aspergillosis is often seen after involvement of the orbit or cranium. Bony erosion allows the spread of this fungus, results from increased pressure, demineralisation of bone, or expansion of fungal mass.⁶ Intracranial extension may occur through the superior orbital fissure, haematogenous spread, or erosion through the affected sinus.⁷

Computed tomography shows homogenous soft tissue density mass with occasional evidence of bone destruction. High clinical suspicion and communication to the pathologist and microbiologist helps in clinching the diagnosis.

Azoles particularly Itraconazole and voriconazole have proven to be effective even in immunocompromised states previously reported in the literature. 9,10

In general, the role of surgical intervention is in the removal of infected tissue for tissue diagnosis and to prevent dissemination. The extent of intervention varies from minor debridement to complete excision and is based on the presence of persistent immunocompromise, the presence and extent of tissue necrosis, and response and the rate of progression during antifungal therapy.¹¹

Verma reported a series of three cases of cutaneous mycoses of facial region in immune-competent persons managed with oral antifungal therapy with fine needle aspiration cytology confirming the diagnosis of aspergillosis. ¹² Our patient had not much regression of this subcutaneous mass even with 6 months treatment of voriconazole so oculoplastic intervention was undertaken and the subcutaneous mass was excised completely.

Two patients were treated with complete surgical excision alone while 6 were treated with antifungal medications in a muticentre study of 8 patients of isolated orbital aspergillosis.¹³

Two cases of subcutaneous facial aspergillosis where the mode of localisation of fungus remained unclear with diagnosis brought out only by histology were reported by Madhyan et al.¹⁴

CONCLUSION

Subcutaneous aspergillosis is a rare entity. Characteristic histologic features of septate branching hyphae are diagnostic. Medical therapy with azoles is the first line of management with surgical intervention being carried out in those with rapid progression and no relief with medical treatment.

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