

Chapter 5

Clinical Diagnosis and Treatment - Orbital Fungal Infections

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Infections of the orbit usually occur as a secondary process from the surrounding structures, such as the paranasal sinuses, skin, brain, and the nasopharyngeal cavity. The inflammatory conditions that affect the eyelids and the orbit are broadly divided into preseptal (periorbital) and postseptal (orbital) cellulitis. There are, however, some other entities that are grouped within the orbital infection group. The current classification of orbital inflammation was proposed by Smith and Spencer¹ and later modified by Chandler et al.² They classified orbital inflammation in 5 groups: group 1 for preseptal cellulitis; group 2 for orbital cellulitis; group 3 refers to subperiosteal abscess; group 4 classifies diffuse orbital abscess; and group 5 refers to cavernous sinus thrombosis.

Orbital cellulitis is most commonly caused by bacterial infection. Fungal and viral etiologies occur less frequently. Mycotic orbital cellulitis is seen in patients with uncontrolled diabetes mellitus or other immunocompromised states such as AIDS, malignancy or steroids use.³ They may be invasive or non-invasive. Fungal etiologies include Mucoromycotina (Formerly Zygomycetes) (*Mucor*, *Rhizopus* and *Lichtemia*, formerly *Absidia* spp.), *Aspergillus* spp., and to less extent *Blastomyces*, *Sporothrix* spp and *Bipolaria* spp.³ Invasive *Aspergillus* and Mucoromycotina infections have a marked predilection for the orbit and the paranasal sinuses.

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suggest that response rates to the different drugs are only 40 % to 60 %.¹⁷ Of the azole class, itraconazole and voriconazole are promising and are safer and easier to administer than amphotericin B. Orbital invasive aspergillosis is often fatal with a mortality rate up to 40-50 %.¹² Poor prognostic factors are reported to be associated with delayed and incorrect initial diagnosis, presence of fever, intracranial extension of infection, and histopathology demonstrating hyphal invasion in blood vessels or adjacent tissue.¹⁵⁻¹⁸

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