Acute onset curvularia- An unusual presentation

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Abstract
Pigmented fungi (Dematiaceous fungi) have emerged recently as important opportunists and seen commonly in debilitated and immuno-deficient hosts. They produce characteristic corneal lesions which can be diagnosed by examination of 10% KOH preparations provided an index of suspicion is kept.

Keywords: Keratitis, dematiaceous fungi, immunodeficient, curvularia.

Case Report
A 58 years old male farmer came with history of trauma to right eye with wheat husk 35 days back and painful gradual diminution of vision, redness, watering of right eye for last one week. Past history revealed inability to close right eye & sagging of right angle of mouth occurring spontaneously during childhood but not congenital. His visual acuity was 20/200 in the right eye & 20/60 in the left eye. There was lagophthalmos in the right eye & Bell’s phenomenon was present due to right facial palsy. On slit lamp examination there was a blackish pigmented plaque in the center of right cornea along with 2mm thick immobile Hypopyon (Figure 1). There was pigment deposition over the lens, pupil was constricted and left eye was normal.

Fig.1: Right eye showing blackish plaque on cornea and hypopyon at presentation

Systemic evaluation of the patient was done, which on chest x-ray showed fibrotic lesion bilateral upper zone & mass in left upper zone with foci of calcifications (Old healed pulmonary tuberculosis). Under topical anesthesia pigmented plaque could be lifted up as a whole leaving underlying tissue clean (Figure 2). This was sent for 10% KOH wet mount and fungal culture on Saboraud's dextrose agar medium.

Fig.2: Right eye after the black plaque removal KOH wet mount revealed pigmented, septate, branching hyphal structures along with terminal & intercalary chlamydospores (Figure 3). The characteristic brown pigmentation of the Curvularia nata was confirmed on histological staining (Fontana Masson) and growth on SDA. Patient was treated with 2 hourly Natamycin 5 % eye drop, 6 hourly Moxifloxacin eye drops and 12 hourly Cyclopentolate. Patient improved symptomatically within 3 days of therapy (Figure 4). The vision was 6/36 at 6 weeks of follow up with central macular corneal opacity.

Fig.3: KOH smear showing pigmented hyphae of curvularia
Discussion

Fusarium and Aspergillus are recognized as ocular pathogens for a long time, but the dematiaceous fungi have emerged recently as important opportunists and seen commonly in debilitated and immuno-deficient hosts as our patient was debilitated and had old treated tuberculosis. Among the pigmented fungi (Curvularia, Cladosporium, Bipolaris, Alternaria and Exophiala) Curvularia is the most prevalent one\(^1\) whose filamentous fungi colonizes soil, vegetation & spreads by airborne spores. Out of 40 known species of Curvularia some are phytopathogens & others are zoopathogenic. Corneal infection caused by Curvularia was reported in 1959 as the first human disease.\(^2\) The histopathological recognition of Dematiaceous hyphomycetes is based on seeing tissue invasion by pigmented hyphae. Curvularia is one of the several genera of the “black fungi”. Dematiaceous moulds live and linger in the soil, & on the plants in warm climates\(^3\). Curvularia accounts for 29% of all fungi isolated from patients with mycotic keratitis in North India.\(^1\) Trauma is most common cause in patients with Curvularia keratitis apart from post-keratorefractive surgery, corneal exposure, climatic droplet keratopathy & rarely seen contact lens user. In this patient in addition to trauma he had Bell’s palsy of the involved eye that predisposed him for trauma and lack of blinking probably lead to the formation of this plaque on corneal surface. Curvularia keratitis has a slower course & less inflammation than other fungal corneal infections. Melanin in the cell wall of Dematiaceous hyphae & conidia resists killing & could be involved in pathogenicity. Although melanin production by Dematiaceous fungi is down regulated at body temperature\(^4\) but our patient had visible superficial corneal pigmentation which is rare in Curvularia\(^3\). The main feature of the keratitis in this case was the characteristic pigmented plaque visible on the cornea, which was peeled off from the surface as such leaving the underlying tissue clean as excision is the best treatment in these fungi.

References


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