

Case Report

CLADOSPORIUM CONJUNCTIVITIS– A RARE ENTITY

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ABSTRACT

A 61-year-old Malay lady with underlying hypertension presented with right eye pain, redness, swelling and discharge of two weeks duration. She denied preceding trauma or constitutional symptoms. Vision on the right eye was 6/12, ph same and left eye was 6/9. The right conjunctiva was injected with generalized chemosis and presence of follicles. The cornea was clear, anterior chamber was quiet and funduscopy was normal. Left eye examination was unremarkable. The clinical presentation was suggestive of bacterial conjunctivitis and the patient was prescribed topical antibiotics. By third week of follow up, the chemosis had worsened, and we proceeded with CT scan orbit and brain which shows no significant findings. Parinaud ocular-glandular syndrome was suspected as she developed right submandibular lymphadenopathy. She was then given a course of systemic Doxycycline and topical Gentamicin eyedrops. Laboratory investigations revealed leucocytosis, elevated ESR with positive Mantoux test and Bartonella IgM serology but MTB PCR was negative, hence treated as presume right tuberculous conjunctivitis with antitubercular therapy. However, the conjunctival biopsy revealed acute on chronic conjunctivitis with positive fungal culture for *Cladosporium* sp. A diagnosis of *Cladosporium* conjunctivitis was reached necessitating systemic Itraconazole and topical fluconazole with discontinuation of antitubercular therapy to which the patient favourably responded. In conclusion, fungal infection of the conjunctiva is rare and may mimic bacterial conjunctivitis and occurs mostly in patients with a weakened conjunctival defence mechanism. Early diagnosis and treatment are crucial to prevent vision-threatening complications.

INTRODUCTION

Acute conjunctivitis is one of the most common cause of eye pain and redness and is most frequently caused by virus or bacteria. Although fungal infection of the eye is considered an important cause of significant loss of vision when typically involving the cornea, sclera and retina, the prevalence of fungal conjunctivitis is low [1].

Candida sp and *Sporotrichum schenckii* has been reported to cause conjunctivitis by A. Lupett *et al* and T. Kashima *et al* respectively [2,3]. Conjunctivitis caused by *Candida* has been described mainly in two age groups, in the newborns and school children as well as in the adults, with the primary infection being localized in the oral mucosa or vagina [2,4]. Conjunctival infections caused by filamentous fungus are very rare and not frequently diagnosed and published. *Sporotrichum schenckii* was reported in Japan with the diagnosis made by histological study of the bulbar conjunctiva.

We report this unusual case of *Cladosporium* conjunctivitis to highlight the possibility of mycotic infections in chronic intractable cases of conjunctivitis.

CASE REPORT

A 61-year-old Malay lady with underlying hypertension presented with complaints of right eye pain, redness, swelling and discharge of two weeks duration. There were no other associated symptoms such as blurring of vision or floaters. She had no preceding trauma or constitutional symptoms such as loss of weight, loss of appetite, fever or upper respiratory tract infection. On examination, the best corrected visual acuity was 6/12 in the right eye, and 6/9 in the left eye. Intraocular pressures were within normal range in both eyes. Both pupil were

equal and reactive. Anterior segment examination revealed injected conjunctiva in the right eye associated with severe chemosis. There were follicles presence in the upper and lower palpebral conjunctiva. The extraocular muscles movements were full (Figure 1 and 2). The cornea was clear, anterior chamber was deep and quiet. Both fundi were normal. Left eye examination was unremarkable.

Topical antibiotics chloramphenicol was initially prescribed for presumed right bacterial conjunctivitis. After two weeks the antibiotic was changed to gutt. ciprofloxacin as no improvement observed. The chemosis worsened and there were limitation of extraocular movements. A computed tomography (CT) scan of orbit and brain done to rule out carotico-cavernous was normal. The diagnosis was then revised to Parinaud ocular glandular syndrome as she developed right submandibular lymphadenopathy. She was immediately started on oral Doxycycline 100mg twice daily and topical Gentamicin.

Hematological investigations revealed leucocytosis, raised erythrocyte sedimentation rate, a significantly positive Mantoux test, however Mycobacterium tuberculosis polymerase chain reaction was negative (MTB PCR). Bartonella IgM serology was also positive.

Conjunctival biopsy was then performed and sent for histopathological examination (HPE, as well as for culture and sensitivity (C&S). While awaiting the result, the infectious disease (ID) team was consulted and anti-tuberculosis treatment was instituted for presumed tuberculous conjunctivitis. Subsequent histopathological examination of the conjunctival biopsy revealed a congested tissue consisting of dense chronic inflammatory cells with scattered neutrophils (Figure 3). Culture of the biopsied specimen grew greenish brown to black and greyish velvety nap, with slightly heaped colony, septate hyphae, dark and branched

conidiophore, which produces two or more conidial chains suggesting of *Cladosporium sp.* The final diagnosis was then confirmed as right *Cladosporium* conjunctivitis.

The patient was co-managed with the ID team. Systemic antifungal, oral Itraconazole 200mg twice a day, taken after meal with acidic drink to produce high bioavailability and absorption. Topically, antifungal eye drops, topical Fluconazole hourly was commenced with simultaneous discontinuation of anti-tuberculous drugs.

Figure 3: shows A. Site of conjunctival biopsy B. Low magnification of the HPE results (Hematoxylin and Eosin stain) C. High magnification of HPE results showing a congested tissue consisting of dense chronic inflammatory cells with scattered neutrophils.

On subsequent follow up, the patient responded well clinically to the treatment with reduction of chemosis (Figure 4) and resolving lymphadenopathy. Systemic antifungal therapy was completed for 8 weeks then discontinued whereas the topical antifungal therapy was tapered slowly over a period of six months.

DISCUSSION

Cladosporium sp. are ubiquitous mold. It is one of the most common genera worldwide and found in soil, plant litter, plant pathogen, leaf surfaces, old or decayed plants. *Cladosporium* spores are wind-dispersed and they are often extremely abundant in outdoor air and are also widespread indoors on textiles, wood and moist window sills. It grows at 0°C thus is associated with refrigerated foods (1). Such widely distributed fungi can cause various presentations of illness and infections involving the skin, toenails as well as eyes, sinuses and lung.

Fungal ocular infectious diseases are not frequent, but they are more often described because there are more risky factors like prolonged corticosteroid

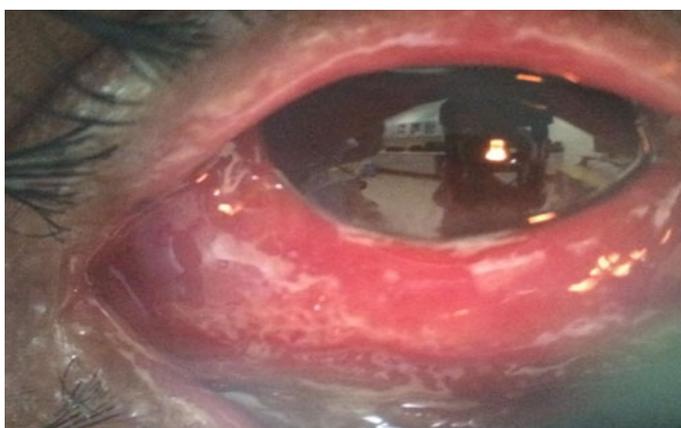


Figure 1: Shows generalised chemosis and redness of the conjunctiva in the right eye.

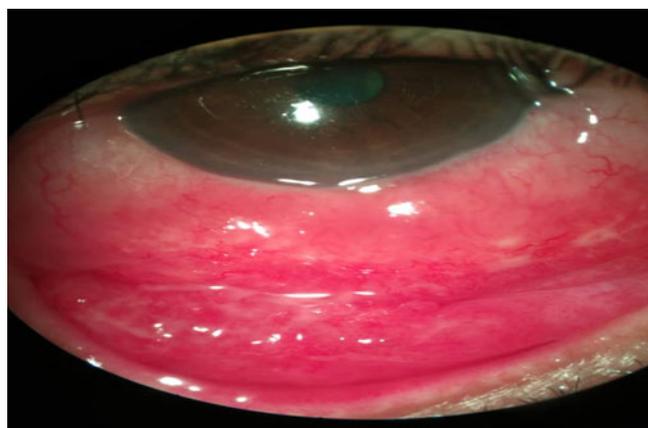


Figure 2: shows follicles in right inferior palpebral conjunctiva.

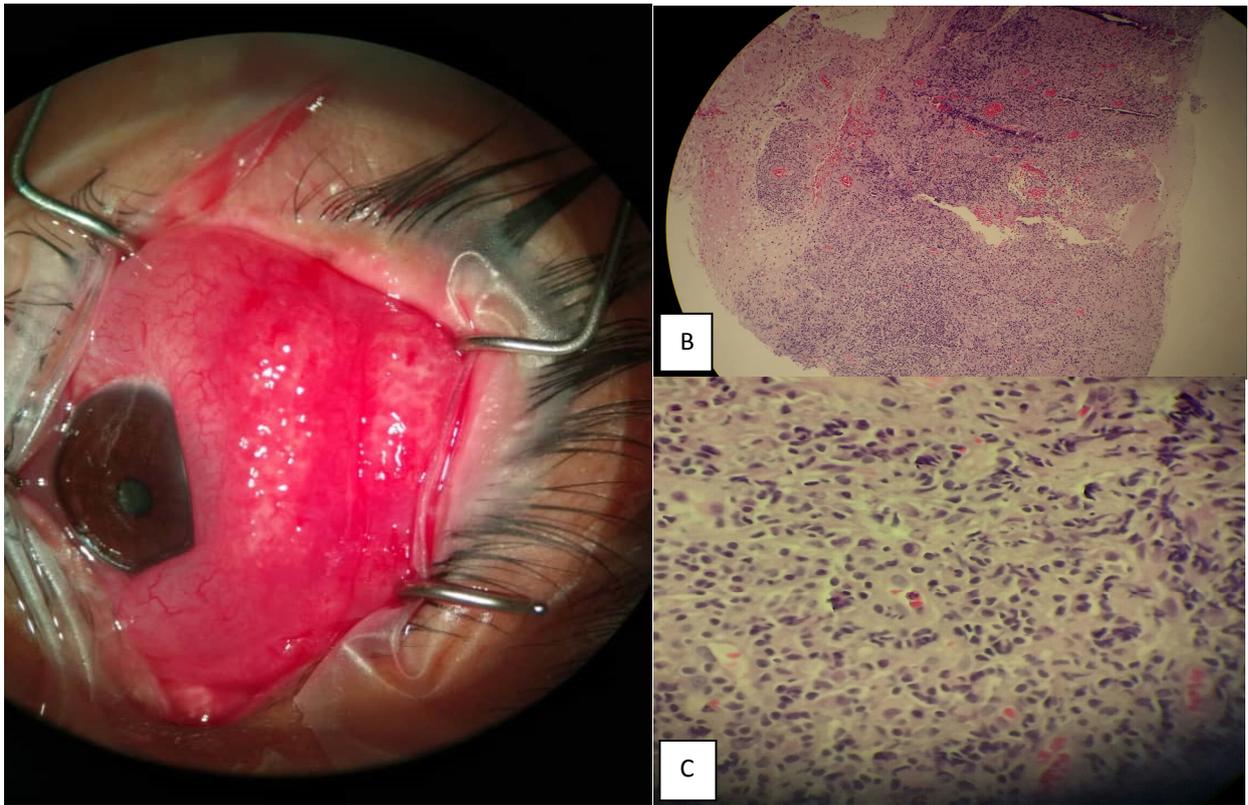


Figure 4: Resolving right conjunctival chemosis at 2 weeks after the systemic and topical antifungal treatment.

treatment or postsurgical long-lasting broad spectrum antibiotic treatment and intravenous drug abuse [5].

Cladosporium conjunctivitis is very rarely reported. Ando N, and Takatori K studied the fungal flora of conjunctival sac in 919 eyes and air-borne fungi [6]. In the study, fungi were cultured from 39 of 587 swabs (6.6%) from healthy conjunctivas. The incidence of positive cultures was significantly higher in diseased eyes (32 of 184 eyes; P less than .005). They found 49 strains of yeast among the 107

isolated conjunctival fungi, including 15 *Mycelia sterilia*, 12 *Cladosporium*, and several *Aspergillus*, *Fusarium*, and *Rhizoctonia* species. The air-borne fungi were mainly the filamentous types, especially *Cladosporium* and *Alternaria*.

Mirosław Slowik *et al*, reported that fungal conjunctivitis is usually secondary to inflammation of the cornea, lacrimal sac and tear ducts [1]. *Candida*, *Aspergillus*, *Sporotrichum*, *Blastomyces*, and *Dermatophytes* (*Microsporum*, *Trichophyton*,

Epidermophyton) have also been reported by the author as the etiologic agent causing the symptoms of acute inflammation of the conjunctiva with mucopurulent discharge. He concluded that intensive antifungal therapy is required along with surgical debridement if necessary.

In this patient, worsening of generalized chemosis with significant conjunctival follicles in a unilateral eye as well as associated submandibular lymphadenopathy within 3 weeks of intensive topical antibiotic prompted conjunctival biopsy. The diagnosis was finally arrived from the conjunctival biopsy which revealed acute on chronic conjunctivitis and the culture of the biopsied specimen that grew *Cladosporium sp.* She is a housewife and revealed later during the treatment that she does gardening occasionally and there was history of exposure to dust from tree bark that entered her eyes prior to symptoms. This could be the predisposing factor.

Hampton *et al* reported a case of conjunctival sporotrichosis in the absence of antecedent trauma [7]. The conjunctival infection in their case resolved completely after excision of the mass and treatment with oral Itraconazole and topical Fluconazole eye drops.

Fungal conjunctivitis is rarely reported and occurs mostly in patients with reduced conjunctival immunity but accidental inoculation of *Cladosporium sp* of the conjunctiva in an immunocompetent patient may occur due to its extreme abundance in the environment. Early diagnosis and treatment are crucial to prevent vision-threatening complications.

CONCLUSION

Fungal conjunctivitis remains rare and post a challenge to ophthalmologist by being resistant for conventional treatment. To have high index of suspicion to a follicular-papillary chronic conjunctivitis with no response to topical antibiotic and a slow evolution is crucial (5). *Cladosporium* as a cause of conjunctivitis, should be included in the differential diagnosis of chronic conjunctivitis lasting longer than 4 weeks. Systemic Itraconazole and topical fluconazole could be a good choice for treating conjunctival infection by *Cladosporium species*.

DISCLAIMER

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