CASE REPORT

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An unusual Lecythophora fungal keratitis case report

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ABSTRACT

Introduction: The infective process of the cornea caused by any number of pathological fungi that can invade the ocular surface is referred to as fungal keratitis or Keratomycosis. Fungal keratitis is a major vision-impairing condition worldwide as it is so difficult to treat. In order to prevent or reduce severe complications following an infection, microbiological culture and direct microscopic examination are critical to be done. Thus, early diagnosis and prompt treatment can be established. In this report, we want to explain a rare case of *Lecythophora spp.* fungal keratitis on women with ocular trauma caused by the rope's end.

Case Description: A 62-year-old woman presented to the hospital with complaints of watery eyes, redness, corneal ulcer, and a sensation of something in the eye in her left eye for 12 days with progressive vision loss. A history of left eye trauma was found. The patient had left ocular trauma from the rope end. There were no other symptoms that suggested an underlying disease. On microbial examination, we observed a *Lecythophora spp*. The colony was flat, smooth, moist to slimy, pink to violet on the surface, and tan on the reverse. Antifungal susceptibility tests revealed the species was still tolerant to Terbinafine, while resistance to Ketoconazole, Fluconazole, and Itraconazole was detected. Because Terbinafine was unavailable, the patient was still receiving ketoconazole, fluconazole, and natamycin therapy. Therefore no significant improvement was achieved. The patient continued to require corneal ulcer debridement twice a day to gain further improvement.

Conclusion: Fungal Keratitis or Keratomycos is an invasive infection caused by a variety of Fungi, and sometimes it can be happened by the history of Corneal trauma and make a progressive decrease in vision.

Keywords: Fungal Keratitis, microbiological culture, *Lechythophora spp*.
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INTRODUCTION

The corneal infection affects the global population's visual quality, representing one of the leading causes of blindness owing to its severity.[1] A fungus causes corneal keratitis, one of the most severe forms of infection, and is difficult to diagnose and treat.[2]

Climates in tropical and subtropical zones are most conducive to keratitis. Keratitis may result from trauma incurred during outdoor activities or agricultural activities. An individual injured during harvesting may be particularly vulnerable.[3]

Keratomycosis is an invasive infection of the corneal stroma caused by opportunistic pathogenic fungi. Fungal keratosis is caused by filamentous fungi (Fusarium or *Aspergillus species*) attacking the eye and causing trauma. Agricultural workers are most likely to develop fungal keratitis in developing countries after suffering an eye injury. The nonfilamentous yeasts (*Candida species*) can cause keratitis in the eyes of patients with the preexisting ocular surface disease; the incidence of fungal keratitis can also be triggered by a fungus called *Lecythophora spp*, although the incidence is very rare.[4]

Lecythophora species can cause emerging fungal infections. The fungal species is an ascomycete fungus, a plant pathogen commonly in soil and sometimes has been colonized on the surface of the wood.[5]

In this report, we want to explain a rare case of *Lecythophora spp.* fungal keratitis on women with ocular trauma caused by the rope's end.

CASE REPORT

A 62-year-old woman presented to the hospital with complaints of watery eyes, redness, corneal ulcer, and a sensation of something in the eye in her left eye for 12 days with progressive vision loss. The visual acuity was 6/24 for the left eyes and 6/9 for the right eyes for counting fingers, respectively. Intraocular pressure was Normally for both eyes. The Right eye was normal, but in the Anterior lens, the surface pigment was observed on the left eye along with corneal endothelial dusting, moderate flare, and corneal endothelial dusting (**Figure 1**). There was a history of left ocular trauma hit by the end of the rope; the patient had visited a local clinic for therapy at the time, but there was no improvement, and the patient did not understand the type of drug given. There were no features suggestive of any systemic illness. An evaluation of complete blood counts, liver function, and renal function was within normal limits.

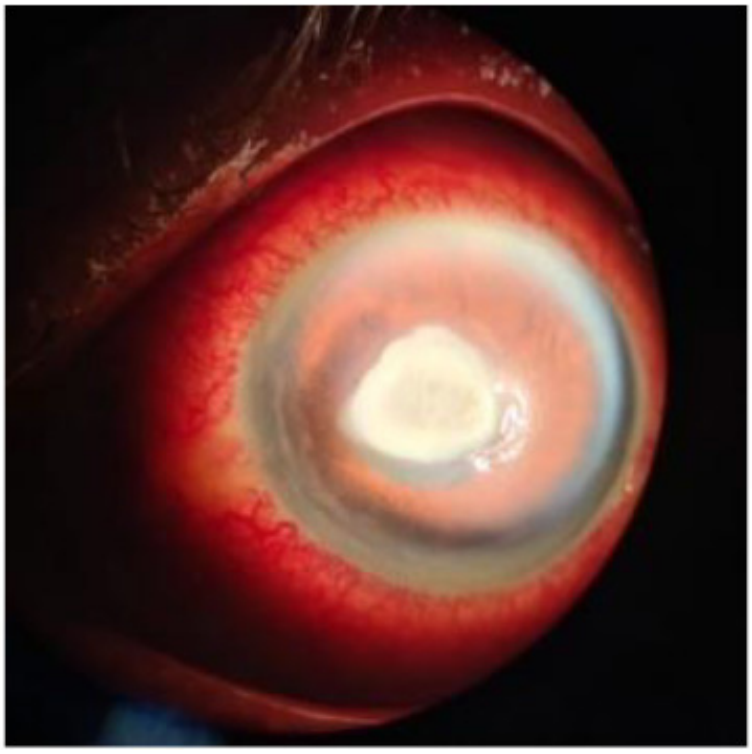

Figure 1. left eyes corneal ulcers, white pigment on the anterior left lens surface.

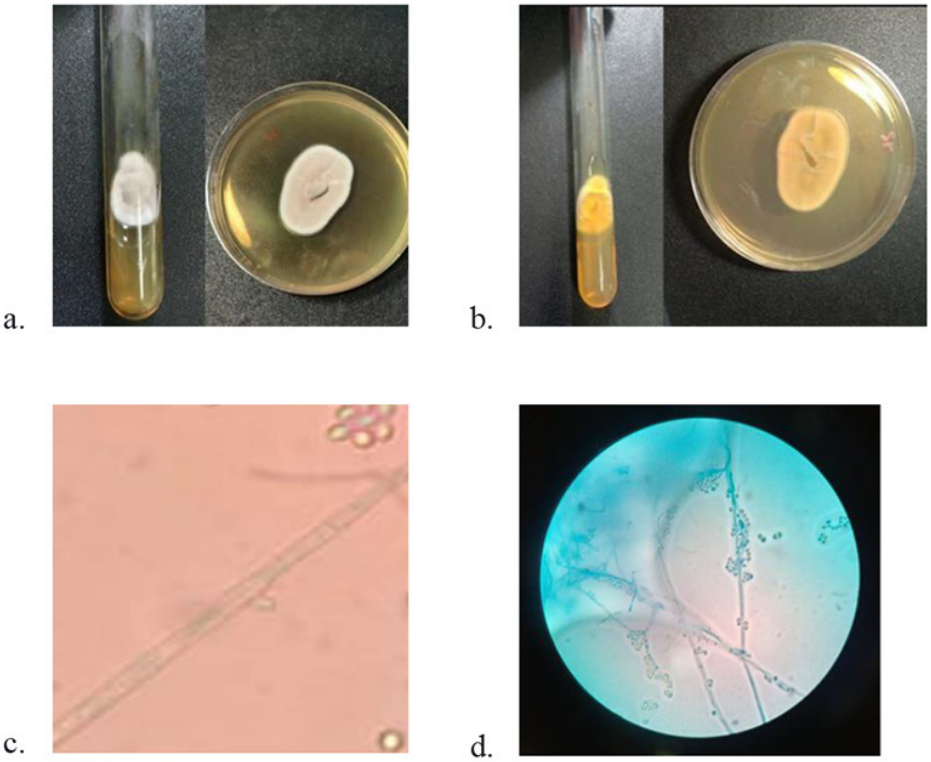

Figure 2. Morphology of *Lecythophora spp*. (a) surface *Lecythophora spp* colony on SDA. (b) Reverse *Lecythophora spp* colony on SDA. (c). Volcano shape structure of *Lecythophora spp*. (d) Microscopic morphology of *Lecythophora spp*.

Corneal scrapings were taken immediately for microbiological culture. After seven days of incubation, a fungus culture on Saboround Dextrose agar was identified as *Lecythophora spp.* The colony morphology at first flat, smooth, moist to slimy, pink to violet (**Figure 2.a**), and the reverse is tan (**Figure 2.b**)

Lactophenol Cotton Blue Mont revealed hyaline septa hyphae. Phialid usually does not have septum at the base, and most are extremely short, volcano-shaped structures alongside the hyphae (**Figure 2.c**), but they can be larger and flask-shaped or nearly cylindrical shaped. Conidia are hyaline or almost so, single-celled, oval to cylindrical, and sometimes slightly curved (**Figure 2.d**).

The Antifungal susceptibility test for our patient is still sensitive to Terbinafine and Resistance for Ketoconazole, Itraconazole, and Fluconazole. Our antifungal susceptibility test provides an invitro measure of susceptibility and resistance by determining the concentration of drug required to inhibit an organism to a specified degree, termed the MIC. Due to the unavailability of Terbinafine, the patient was still receiving ketoconazole, fluconazole, and natamycin therapy, so there was no significant improvement; once every four days, the patient is checked in to the hospital, but there is no significant improvement. Initially, the visual acuity of the sick eye was 6/24 after a few days, it changed to 2/60, then it got worse to 1/60, and the pain increased, so it was decided the patient had to get hospitalized for further improvement still with corneal ulcer debridement, which was performed twice a day.

DISCUSSION

Keratomycosis is one of the most important causes of infectious inflammation that incorporates a worldwide distribution and causes progressive vision loss.[6] Some common risk factors of keratomycosis embrace trauma with contaminated organic material, history of eye surgery, and former ocular surface pathology. Prolonged treatment with topical steroids and the use of contaminated contact optical devices also play a role as a risk factor of keratomycosis. A history of trauma by plant leaves occurs in most cases

mycosis, though some have not according to a history of tissue layer trauma in their cases.[2]

If the diagnosis of fungal keratitis may be created quickly, the possibilities of a full recovery improve. The overall symptom is pain, tearing, photophobia, decreasing visual modality, and hydrops of the tissue layer.[6] Our patient presented watery eyes/ tearing, feeling of something in the eye, redness, and a white patch on the surface of the left cornea.

Microbiological diagnosis is crucial to get the right treatment of *Lecythophora spp* keratomycosis. Direct Microscopic examination of the corneal membrane scarping provides data for diagnosing. In our case, we found hyaline septa hyphae. Phialid usually does not have septum at the base, and most are extremely short, volcano-shaped structures along the side of the hyphae, but they may be larger and flask-shaped or nearly cylindrical. Conidia are hyaline or almost so, single-celled, oval to cylindrical, and sometimes slightly curved. At four days in SDA, the colony was pink to violet, flat, smooth, moist to slimy in this case.

The treatment of *Lecythophora spp* corneal infection is difficult due to the restricted and variable antimycotic agent's susceptibility.

Our present report has several limitations for finding supporting clinical data so that follow-up cannot be too deep to examine existing problems.

CONCLUSION

Lecythophora spp Keratomycosis is a rare case of ocular infection and negatively impacts visual quality. It has a clinical challenge because of its slow biological process and similar characteristics with alternative microbic inflammation and potential complication. Direct microscopic examination associated culture area unit essential for an early specific diagnosing, that the patient will get the proper treatment and avoid irreversible complications.

DISCLOSURE

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Patient's Consent
The patient has permitted the publication of the data in the case report.

Conflict of Interest
There is no conflict of interest in this study

Author Contribution
Conceptualization: Pradipta L, Suhardjo; Methodology and Writing Original Draft Preparation: Pradipta L; Formal analysis: Irfani Q; Data curation: Irfani Q, Validation: Pradipta L, review and editing: Irfani Q, Pradipta L; Approval of Final manuscript: all authors

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