



## Dematiaceous Fungal Keratitis with *Phoma* species; A Rare Presentation

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### Abstract

*Phoma* species is a phytopathogen which has the ability to cause keratitis. This case report presents as a fungal keratitis with no pigmentation raising least suspicion of dematiaceous fungal keratitis. Microbiological reports suggested infection with *Phoma* species. Though the patient response to topical antifungals was poor, a significant response was noted with intrastromal voriconazole.

**Keywords:** *Phoma*; Keratitis; DNA

### Introduction

When compared to bacterial keratitis, fungal keratitis is more virulent and damaging [1]. Approximately 34% to 44% [2,3] of all keratitis in India were caused by fungi out of which 8% to 17% [4] accounted for dematiaceous fungal corneal ulcer.

Though dematiaceous fungi are uncommon, they are an important cause of human disease. The *Phoma* genus had included over 200 species, but has recently been reorganized into 17 genera according to molecular classification [5]. Infections caused by *Phoma* species is very rare accounting to only 3 cases of keratitis till date [6-8].

Our case report is a rare presentation of *Phoma* species keratitis without the typical pigmentation associated with dematiaceous

fungi and etiology apparently due to removal of foreign body by a quack.

### Case Report

A 30 year old male presented with complaints of redness, watering and discharge since 5 days following foreign body removal by quack. Patient had used ofloxacin eye drops for 2 days. His visual acuity was hand movements positive. Patient had lid edema. Bulbar, palpebral and forniceal conjunctival congestion and ciliary congestion was present. 6 X 4 mm dense corneal infiltration with feathery margins, with satellite lesions, without pigmentation thereby reducing suspicion of dematiaceous fungal etiology.

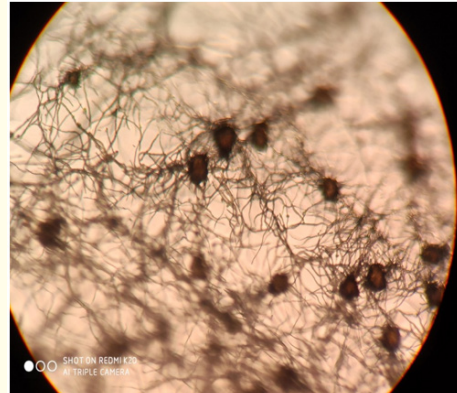
The lacrimal syringing was patent and the random blood sugar was under normal limits. The corneal scrapping was sent for the



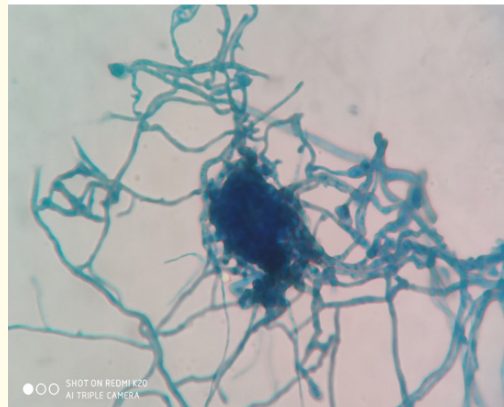
**Figure 1:** Patient with dematiaceous fungal corneal ulcer.



**Figure 2:** Dense corneal infiltrate.



**Figure 3:** KOH mount of corneal scraping.



**Figure 4:** Lactophenol cotton blue mount of corneal scraping.

KOH mount and gram stain, bacterial (Nutrient agar and Blood agar) and fungal culture and sensitivity (Sabourads Dextrose Agar). To our surprise the KOH mount was suggestive of *Phoma* species.

The KOH mount showed dematiaceous mycelia and pycnidia when colony is focused under microscope (40X). Lactophenol cotton blue wet mount(400X) showed dematiaceous septate hyphae and pycnidia. The organism grows slowly on Sabouraud dextrose agar at 25°C. Colony is blackish brown, cottony with granular surface. Reverse is black.

The patient was put on topical natamycin and voriconazole but failed to show significant improvement. Two weeks later the patient was subjected to intrastromal voriconazole following which the patient started showing improvement.



**Figure 5:** Back view of culture in SDA.

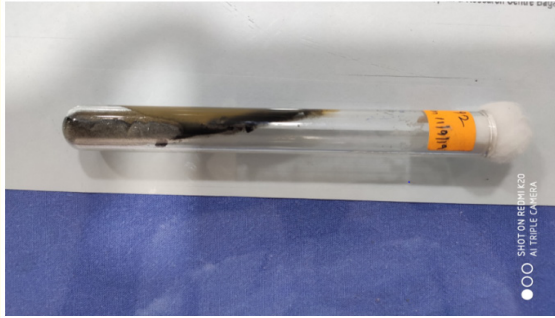


Figure 6: Front view of culture in SDA.



Figure 7: Intrastromal voriconazole injection.

### Discussion and Conclusion

The *Phoma* species are phytopathogens generally found in soil, plants and water sources [8]. The *Phoma* species belong to the group of dematiaceous fungi which usually cause pigmentation. As this case did not have any pigmentation it was considered a rare presentation. Till date *Phoma* species have been reported in contact lens wearers and those on prolonged topical immunosuppressants. In this case the patient gives history of removal of foreign body by a quack which is a routine practice among the rural population of this area.

The visual acuity of the patient was grossly diminished. *Phoma* species shows rapid growth and in this case a delay of five days since the onset of symptoms led to the flaring up of signs. *Phoma*

species has shown a poor response to topical antifungals in the previous reports. However a significant improvement was seen with intrastromal Voriconazole in our case.

The identification of subspecies required DNA and RNA extraction followed by Polymerase Chain Reaction studies which was beyond the scope of this study. In general, this case highlights the fact that though *Phoma* species is rare it should be considered while approaching a case of fungal keratitis. A timely identification and intervention in these lines could benefit patients of fungal keratitis.

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