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Case Report

Cutaneous phaeohyphomycosis of foot web by *Curvularia lunata*

Abstract

A case of cutaneous phaeohyphomycosis of the foot affecting interdigital spaces between toes in a 31 year old immunocompetent male with no history of diabetes is illustrated. Fungal elements were found in direct microscopic examination of skin scrapping. The etiologic agent was identified as *Curvularia lunata* based on macromorphology and microscopic examination of pure culture growth. The patient was prescribed with a topical cream containing sertaconazole nitrate and oral itraconazole by the treating dermatologist. Nondermatophyte infections clinically mimic dermatophytosis, and microscopically resemble dermatophytes. Therefore, a correct identification of etiologic agent is important for appropriate treatment.

Case Report

Dematiaceous fungi are frequently considered as ubiquitous saprobes inhabiting plants and residing in the soil. However, these generalized assumptions are now incorrect as several etiologic agents occupy specific ecological niches that contribute to our understanding of their opportunistic/pathogenic potential. *Curvularia* is one of the important members of these melanized fungi and [1], is a causative agent of phaeohyphomycosis which is an emerging mycotic infection of humans where the tissue morphology of the causative organism is mycelial. This separates it from other clinical types of disease involving brown-pigmented fungi where the tissue morphology of the organism is a grain (mycotic mycetoma) or sclerotic body (chromoblastomycosis) [2].

A case of cutaneous phaeohyphomycosis of the foot affecting interdigital spaces between toes in a 31 year old immunocompetent male with no history of diabetes is illustrated. Cutaneous scaling lesions were prominent between webs of foot. Lesions were irregularly marginated, pruritic and darker than the surrounding skin. It was clinically suspected as intertriginous tinea pedis by a referring dermatologist.

Direct examination of skin scrapping in 10% potassium hydroxide mount revealed branching septate hyaline hyphae with some circular to oval structures of distorted morphology. Dermatophyte test medium (DTM) (HiMedia, India) without dermatology supplement, and, with and without actidione used for culture. Inoculated slopes of DTM incubated aerobically in biological oxygen demand (BOD) incubator at 25°C ± 1°C.

On DTM, dermatophytes produce alkaline metabolites, which causes the phenol red pH indicator to change the color of the medium from yellow to pink-red, whereas in case of Non-Dermatophytes media remains yellow in color [3].

Macromorphology: Fast growing colony, fully matured within 5 days, suede-like, greenish grey at the centre, effuse and grayish white towards the periphery, with a fimbriate margin (Figure 1), reverse brownish black (Figure 2). The color of the medium remains yellow. No growth observed on media containing cycloheximide till 30 days.

Micromorphology: Branched septate, hyaline (stained blue with lactophenol cotton blue) to brown hyphae, large pale brown macroconidia with no more than four transverse septa, the subterminal cell curved, swollen, larger and darker than the remaining, characteristic of *Curvularia lunata* were seen (Figure 3) in a stand-alone laboratory. The patient was prescribed



Figure 1: Colony Morphology of *Curvularia lunata*.

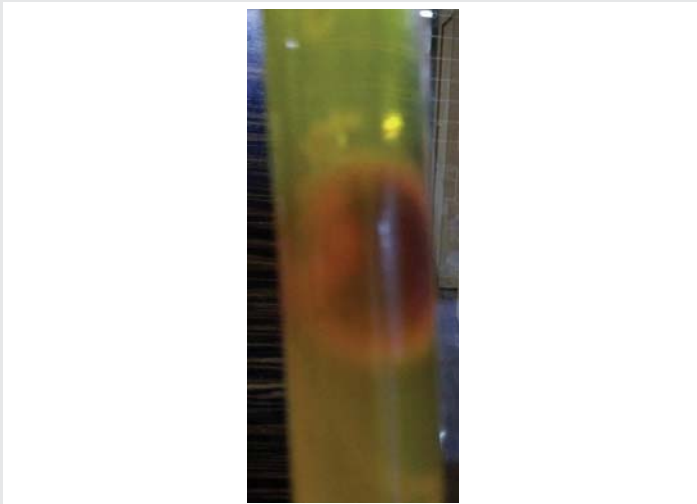


Figure 2: Reverse side of colony of *Curvularia lunata*.

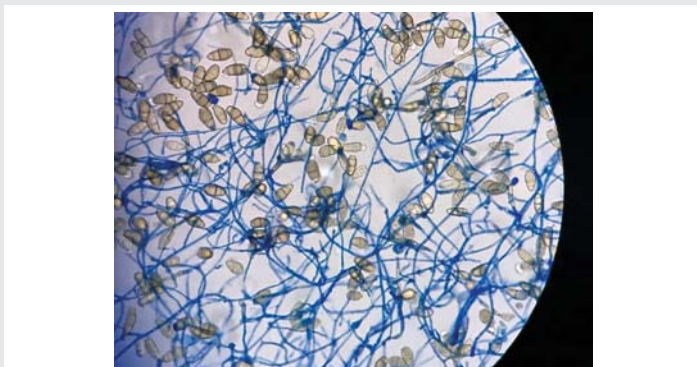


Figure 3: Micromorphology of *Curvularia lunata*.

with a topical cream containing sertaconazole nitrate and oral itraconazole by the treating dermatologist.

Although rarely pathogenic, *Curvularia* species have been reported to cause a variety of human systemic, subcutaneous, and cutaneous mycoses [4]. It is interesting to note that *Curvularia* species form dark pigmented colonies on the culture media whereas in tissues the fungal elements are hyaline to brown, with varying morphologic features [5]. Nondermatophyte infections clinically mimic dermatophytosis, and microscopically resemble the dermatophytes [4]. Therefore, a correct identification of etiologic agent is important for appropriate treatment.

References

1. Sanjay GR, Deanna AS (2010) Melanized Fungi in Human Disease. *Clin Micro Rev* 23: 884–928. [Link: https://goo.gl/LCvgBQ](https://goo.gl/LCvgBQ)
2. David E, Stephen D, Helen A, Rosemary H, Robyn B (2007) *Curvularia* Boedijn. In *Descriptions of Medical Fungi*, 2nd ed, Mycology Unit, Women's and Children's Hospital, School of Molecular & Biomedical Science, University of Adelaide, Adelaide, Australia. 57.
3. D.T.M. Agar Base (Dermatophyte Test Agar Base) M188, HiMedia Technical Data Sheet. [Link: https://goo.gl/ngKXgs](https://goo.gl/ngKXgs)
4. Jorge OL, Neicy MJ (1998) Dermatomycosis of the toe web caused by *Curvularia lunata*. *Rev Inst Med Trop S.Paulo* 40: 327-328. [Link: https://goo.gl/3m1FNB](https://goo.gl/3m1FNB)
5. Kwon-Chung KJ, Bennett JE (1992) Phaeohyphomycosis (Chromomycosis, phaeosporotrichosis, cerebral chromomycosis). In: Kwon-Chung KJ, Bennett JE. *Medical Mycology*. Philadelphia, Lea & Febiger. 620-677.