

Aspergillus species: An emerging pathogen in onychomycosis among diabetics

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ABSTRACT

Introduction: Approximately, 33% patients with diabetes are afflicted with onychomycosis. In the past, nondermatophyte molds have been regarded as opportunistic pathogens; recently, *Aspergillus* species are considered as emerging pathogens of toenail infections. In Sri Lanka, the prevalence of *Aspergillus* species in onychomycosis among diabetics is not well documented. **Objective:** To determine the proportion of *Aspergillus* onychomycosis, risk factors and knowledge among diabetics. **Materials and Methods:** This was descriptive cross-sectional study. Three hundred diabetic patients were included. Clinical examinations of patients' toenails were performed by a clinical microbiologist. Laboratory identification was done, and pathogens were identified to the species level by morpho-physiological methods. All inferential statistics were tested at $P < 0.05$. **Results:** Among clinically suspected patients, 85% (255/300) were mycologically confirmed to have onychomycosis. *Aspergillus* species were most commonly isolated $n = 180$ (71%) followed by dermatophytes, yeasts, and other molds $n = 75$ (29%). Of the patients having *Aspergillus* onychomycosis, 149 (83%) were in the >50 age group. In men, *Aspergillus* onychomycosis was seen in 82%. Among patients who had *Aspergillus* nail infection, 114 (63%) had diabetes for a period of >15 years. Among patients who were engaged in agricultural activities, 77% were confirmed to have infected nails due to *Aspergillus* species. **Conclusion:** *Aspergillus niger* was the most common pathogen isolated from toenail infection. *Aspergillus* species should be considered as an important pathogen in toenail onychomycosis in diabetic patients. Risk factors associated with *Aspergillus* onychomycosis were age, gender, duration of diabetes, length of exposure to fungi, and occupation.

Key words: *Aspergillus* species, diabetics, onychomycosis, Sri Lanka

INTRODUCTION

Onychomycosis accounts for about a half of all nail abnormalities.^[1] Approximately, 33% patients with diabetes are afflicted with onychomycosis.^[2] The predisposing factors are age, gender, duration of diabetes, time of exposure,

and altered host immune response.^[3-6] Recently, *Aspergillus* species were considered as emerging pathogens of toenail infections.^[7-10] The proportion of *Aspergillus* infection in onychomycosis has been reported as 50–60%.^[11,12] In Sri Lanka, the prevalence of *Aspergillus* species in onychomycosis among diabetics is not well documented; therefore, we investigated the proportion of *Aspergillus* onychomycosis, risk factors and knowledge among diabetic patients presenting to a tertiary care hospital.

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Access this article online

Quick Response Code:



Website:
www.ijem.in

DOI:
10.4103/2230-8210.167565

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Cite this article as: Wijesuriya TM, Kottahachchi J, Gunasekara T, Bulugahapitiya U, Ranasinghe K, Neluka Fernando SS et al. *Aspergillus* species: An emerging pathogen in onychomycosis among diabetics. Indian J Endocr Metab 2015;19:811-6.