



eISSN: 2321-323X
pISSN: 2395-0781

Review article

Pathogenesis and clinical significance of dermatophytes: A comprehensive review

Suganthi. M

Department of Microbiology, Government Kilpauk Medical College, Chennai, Tamilnadu, India

Abstract

Dermatophytes, a group of keratinophilic fungi thriving on the keratin substrate are the etiological agents responsible for causing cutaneous infections. Dermatophytosis currently treated with the commercially available topical and oral antifungal agents in spite of the existing side effects. Treatment of these cutaneous infections with secondary metabolites produced by marine microorganisms considered as a novel approach. For many years, these organisms explored with the view of developing antibacterial, antifungal, antiviral, anticancer and antiparasitic drugs. Exploring the unexplored aspect of actinobacteria for developing anti-dermatophytic drugs is a novel attempt, which needs further investigation. The prevalence of superficial mycotic infection worldwide is 20–25% of which dermatophytes are the most common agents. Recent developments in understanding the path physiology of dermatophytosis have confirmed the central role of cell-mediated immunity in countering these infections. Hence, a lack of delayed hypersensitivity reaction in presence of a positive immediate hypersensitivity (IH) response to trichophytin antigen points toward the chronicity of disease. Diagnosis, though essentially clinical should be confirmed by laboratory-based investigations. Several new techniques such as polymerase chain reaction (PCR) and mass spectroscopy can help to identify the different dermatophyte strains. Management involves the use of topical antifungal in limited disease, and oral therapy is usually reserved for more extensive cases. The last few years have seen a significant rise in the incidence of chronic dermatophyte infections of skin which have proven difficult to treat. However, due to the lack of updated national or international guidelines on the management of *tinea corporis*, *cruris*, and *pedis*, treatment with systemic antifungal is often empirical. The present review aims to revisit this important topic and will detail the pathogenesis and clinical significance of Dermatophytes: *tinea corporis*, *tinea cruris*, and *tinea pedis* while highlighting the lack of clarity of certain management issues.

Keywords: Dermatophytes, Cutaneous infection, Polymerase chain reaction, Mass spectroscopy, Pathogenesis.

*Corresponding author: **Suganthi. M** Department of Microbiology, Government Kilpauk Medical College, Chennai, Tamilnadu, India Email: suganlalith@gmail.com