

Fungal Agents Associated with Toe Web Infections in Patients with Diabetes Mellitus: A Single-Centre Study in Sri Lanka

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Infected toe webs are more common among diabetes cases but less studied condition. Therefore early identification is crucial for preventing complications and improving outcomes. This study aims to investigate the prevalence and the microbial pattern of the fungal infections in the toe webs with diabetes mellitus, documenting specific fungal agents and identifiable risk factors. For this purpose, a descriptive cross-sectional study was conducted between 20th October 2024 and 20th November 2024 at the Teaching Hospital Peradeniya and total of 50 samples were collected. Sterile swabs with 70% alcohol cleansing were used to collect samples. Each sample were cultured on Sabouraud dextrose agar (SDA) containing gentamicin, at room temperature and at 35°C. Identification of fungal species was based on microscopic and macroscopic features. The obtained data were analyzed by applying an independent samples t-test and chi-square test to assess correlations among variables, using Jamovi 2.3.28. Out of the total samples, 30% showed as clinically significant microbial growth. Among the identified fungal species, *Candida albicans* was the most prevalent (27.3%), followed by *Candida auris* (22.7%), *Candida tropicalis* (22.7%), *Candida glabrata* (9.1%), *Candida famata* (9.1%), *Trichophyton rubrum* (4.5%), and *Microsporum* species (4.5%). A statistically significant association was observed between the presence of respiratory symptoms (such as cough and cold) and positive fungal culture results ($p = 0.023$). Therefore, further investigation into the association between fungal positivity and respiratory symptoms is necessary. Additionally, the use of less sensitive sample collection method, such as swabbing, may influence results and should be considered when comparing finding with previous literature.

Keywords: Fungal infections, diabetes mellitus, toe webs, candida, respiratory disease