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REVIEW ARTICLE

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Candida albicans skin infection in diabetic patients: An updated review of pathogenesis and management

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Abstract

Candida species, commensal residents of human skin, are recognized as the cause of cutaneous candidiasis across various body surfaces. Individuals with weakened immune systems, particularly those with immunosuppressive conditions, are significantly more susceptible to this infection. Diabetes mellitus, a major metabolic disorder, has emerged as a critical factor inducing immunosuppression, thereby facilitating *Candida* colonization and subsequent skin infections. This comprehensive review examines the prevalence of different types of *Candida albicans*-induced cutaneous candidiasis in diabetic patients. It explores the underlying mechanisms of pathogenicity and offers insights into recommended preventive measures and treatment strategies. Diabetes notably increases vulnerability to oral and oesophageal candidiasis. Additionally, it can precipitate vulvovaginal candidiasis in females, *Candida* balanitis in males, and diaper candidiasis in young children with diabetes. Diabetic individuals may also experience candidal infections on their nails, hands and feet. Notably, diabetes appears to be a risk factor for intertrigo syndrome in obese individuals and periodontal disorders in denture wearers. In conclusion, the intricate relationship between diabetes and cutaneous candidiasis necessitates a comprehensive understanding to strategize effective management planning. Further investigation and interdisciplinary collaborative efforts are crucial to address this multifaceted challenge and uncover novel approaches for the treatment, management and prevention of both health conditions, including the development of safer and more effective antifungal agents.

KEYWORDS
antifungal treatment, *Candida albicans*, cutaneous candidiasis, diabetes mellitus, pathogenicity, prevention

1 | INTRODUCTION

Diabetes mellitus is a chronic metabolic disorder caused by insulin deficiency in the human body, which leads to high blood sugar levels (hyperglycaemia). Diabetes can be classified as type 1 (insulin-dependent diabetes mellitus), type 2 (non-insulin-dependent diabetes mellitus) or other types of diabetes caused by genetic abnormalities or viral infections.[1] Type 1 diabetes mellitus (T1DM) is caused by the autoimmune death of pancreatic β-cells, which leads to total insulin deficiency in the body.[2] Meanwhile, genetics and lifestyle factors contribute to the development of type 2 diabetes mellitus (T2DM), which is characterized by insulin resistance and