



ORIGINAL PAPER

Morphological and genetic identification of yeasts from skin and oral infection in children in the Basrah province

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ABSTRACT

Introduction and aim. Human fungus infections are widespread and can lead to a variety of diseases in children. The purpose of this study was to isolate and identify yeasts from various places in children, including skin (diaper area) and oral cavity, utilizing morphological and molecular approaches for precise categorization.

Material and methods. One hundred swabs were collected from children clinically diagnosed with fungal skin infections. The isolated yeast species were examined, purified, and morphologically. The sequences have been deposited in GenBank of Japan as new strains under accession numbers LC790886 to LC79098. including *Candida albicans*, *Pichia kudriavzevii*, *Magnusiomyces capitatus*, *Nakaseomyces glabratus*, *Kluyveromyces marxianus*, *Candida tropicalis*, *Meyerozyma guilliermonii*, *clavispora lusitaniae*, *Candida parapsilosis*, *Trichosporon ashii*. The isolates were cultured on Sabouraud Dextrose Agar with chloramphenicol, and species identification was carried out using CHROMagar Candida medium and lactophenol cotton blue staining. Molecular identification was performed using PCR amplification of the ITS1-5.8S-ITS2 rDNA region, followed by DNA sequencing.

Results. The presence of 10 yeast species, with *C. albicans* 56% representing the highest percentage of these, while the percentage of other yeasts was 44%. The *Candida* species was found to have the highest percentage of occurrence, 58% followed by the *C. tropicalis* species, 19%, which had a lower percentage of occurrence.

Conclusion. The phenotypical and genetic characteristics of yeast have been identified by the use of clinically isolated samples of children.

Keywords. *Candida*, newborns, oral candidiasis, skin infection

Introduction

Cutaneous candidiasis is a widespread fungal infection that affects people of all ages, while oral candidiasis is a common infection that affects primarily people with weakened immune systems, such as newborns, infants, those taking antibiotics or corticosteroids, *Candida* can be the main cause of skin disease or develop as a result of other skin conditions such as atopic dermatitis, psoriasis, or diaper rash.^{1,2} It can affect any area of the body, and frequent symptoms include interdigital candidiasis, cheilitis, diaper dermatitis, and intertrigo.^{3,4}

The genus *Candida* contains many species, but *Candida albicans* is the most common cause of candidiasis in humans, accounting for more than 80% of cases. Other less common species include *Candida tropicalis*, *Candida parapsilosis*, and *Candida glabrata*.⁵ The genus *Candida* has over 200 species, although only a tiny percentage of these are human opportunistic pathogens that infect people with compromised immune systems. Topical antifungal medications are an effective way to treat superficial *Candida* infections, which usually affect the skin or mucous membranes. Invasive fungal in-

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