CHAPTER 4

SUPERFICIAL MYCOSES

Esra ADIŞEN[1]
Özge KESEROĞLU[2]

Superficial fungal infections of the skin are a common presentation in clinical practice. They can affect any skin surface including the mucous membranes, hair follicles, nail plates, and nail beds. In this section common manifestations of *Malassezia* and *Candida* species are summarized.

4.1. *Malassezia*

Malassezia species are members of the normal commensal skin microflora of human body and many warm-blooded vertebrates. They are lipophilic and are associated with some skin diseases. They are found in the form of budding yeast in the stratum corneum of patients with various skin diseases (1). They may cause systemic disease in children and adults and sepsis in newborns and may play a role in certain dermatological diseases as well, due to differentiation of the skin structure, mostly in immunosuppressed patients (2).

4.1.1. Taxonomy and History

Malassezia is found in the *Cryptococcaceae* family of the Blastomycetes class. *Malassezia* species are dimorphic, which means that they can be found both in yeast and in mycelial form, and both forms have been regarded as separate breeds for many years. In order to emphasize these differentiations, *Pityrosporum* was used for yeast-shaped form and *Malassezia* for mycelial-shaped form. Since the yeast cells have different forms, they are separated into two different yeast-shaped species; *Pityrosporum orbicularula* with round cell and *Pityrosporum ovale* with oval cell (2-5).

Malassezia species were first described by Eichstedt in 1846. In 1873, Rivolta observed a psoriatic, double-walled, bud-like cell. In 1874, Malassez reported that

[1] Prof. Dr., Gazi University School of Medicine, Department of Dermatology, eozsoy@gazi.edu.tr
[2] Dr., Ankara Özel Drderm Polikliniği, ozgederm@yahoo.com

candidiasis is a condition that may be inherited autosomal recessively, autosomal dominantly or may occurs sporadically. It presents with different clinical manifestations. Deep hyperkeratotic granulomatous lesions, diffuse grayish white plaques in the oral and genital mucosa, thickening and dystrophy in the nails occur during the course of the disease (50, 51, 54, 60, 61).

Chronic mucocutaneous candidiasis (CMC) is clinically classified in four groups (50, 51, 54, 60, 61):

4.2.1.3.1. Early-onset CMC is the most severe and typical form of chronic mucocutaneous candidiasis. This type often begins in the mouth with moniliasis, then they spread to the face, head and nails. Candidal granulomas form thick crusts that bleed when removed. In half of the cases endocrinological disorders can be seen. Candidal granuloma is unique to patients with CMC. In this severe form of onychomycosis, Candida invades the full thickness of the nail. Advanced cases with the swelling of lateral and proximal nail folds may cause digit deformity called pseudoclubbing or ''chicken drumstick'' appearance.

4.2.1.3.2. Late-onset CMC is the mildest type of disease and is associated with nail disease and oral lesions. There are also publications showing that this disease, usually seen in the fourth decade of life or later, and is accompanied by underlying neoplasms such as timoma.

4.2.1.3.3. Familial CMC is usually transmitted autosomal recessively, and accompanying endocrinologic disorders are rare. It is characterized by recurrent paronychia and oral moniliasis that usually occur in the first year of the life. The disease usually runs a benign course. In some family members, only mild form of the disease is detected and immunological tests of the patients are found normal.

4.2.1.3.4. Juvenile familial polyendocrinopathy and candidiasis syndrome usually shows autosomal recessive transmission. Endocrinological disorders usually occur before the apperance of the candidiasis infections; parathyroid, adrenal, thyroid, pituitary gland or ovarian dysfunction may be found in these patients.

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