The etiology and clinic of cutaneous mycosis

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ABSTRACT. Human mycoses represent infections with an increasing incidence and location due to the increasing number of favourable factors of occurrence such as prolonged and intensive antibiotic therapy, cytostatic therapy, corticosteroid therapy and suppressed immunity. Our study led to important conclusions regarding the incidence of different mycoses among different groups of age and between the two sexes, their location and their etiology. Candidiases and dermatophytic etiology of different cutaneous and mucosal infections was established using the characteristic laboratory diagnosis for fungal infections in patients hospitalized in Dermatology and Pediatrics Clinic I. Cutaneous mycosis represents the majority of infections and is represented mainly by dermatophytic diseases. The main manifestation within cutaneous mycosis is tinea pedis.

Material and method

Patients admitted in a two years period in The Clinic of Dermatology and Pediatrics Clinic I Cluj-Napoca for cutaneous and mucosal infections were evaluated in order to establish the incidence of fungal etiology, especially candidiasis and dermatophytosis.

The diagnosis was based on symptoms and mycological examination of patient samples: skin scrapings, skin swabs, nail scrapings, exfoliated skin.

The laboratory diagnosis used microscopic examination of wet preparations, gram and Giemsa stained smears, culture on specific media. Identification of Candida albicans and dermatophytes was based on the macroscopic characteristics of the culture; microscopic morphology; biochemical reactions (the auxonographic method for carbohydrates assimilation and fermentation of carbohydrates); germ tube test.

Results and discussions

Using the tests above, 209 patients were diagnosed with fungal infections. The fungal infections have the following distribution: 132 patients (63.2%) had cutaneous mycosis and 77 patients (36.8%) had mucosal mycosis. Only 84 patients (40.2%) had candidiasis, 7 of them (5.3%) with cutaneous location whereas 125 patients (59.8%) had cutaneous mycosis with other etiology: 122 patients (58.4%) had dermatophytosis and 3 patients (1.4%) had pityriasis versicolor (graphic 1).

The incidence and prevalence of the dermatophytosis is increasing, especially that of tinea pedis, responsible for 63.9% of dermatophytoes. Other dermatophytoes have low incidence: tinea unguium (15.6%), tinea cruris (7.4%), kerion celsi (4.9%), tinea barbae (3.3%); tinea corporis (1.6%), tinea manus (1.6%) and favus (1.67%) (graphic 2).
The incidence of cutaneous mycosis (132 cases) is slightly higher in women (52.2%) than in men (47.7%). The greatest difference is for cutaneous candidiasis where the incidence in women is 4.5% as compared to 0.8% in men. Pityriasis versicolor is also more frequent in women (1.5%) than in men (0.8%), but dermatophytoses are equally distributed between the two sexes (46.2%). The dermatophytoses in men are: tinea pedis (31.1%), tinea unguium (5.7%), tinea cruris (4.1%), kerion celsi (3.3%), tinea barbae (2.5%), tinea manus (1.6%). The frequency of dermatophytosis in women is higher than in men for tinea pedis (32.8%) and tinea unguium (9.8%) and almost the same as in men for tinea cruris (3.3%), kerion celsi (1.6%), tinea barbae (2.5%), tinea manus (1.6%), tinea corporis (0.8%) and favus (0.8%).

Cutaneous candidiasis occurs in adults (2.4%) and small children (1%) while dermatophytosis occurs in adults (52.7%), teenagers (1.4%), school-age children (3.3%), small children (1%).

The incidence of dermatophytosis starts increasing, from 1.6% in neonates and small children to 5.7% in school-age children, it declines in teenagers to 2.5% and reaches a peak in adults (90.2%), especially after forty years of age (70.5%). Tinea pedis is responsible for 61.5% cases in adults, 1.6% cases in teenagers and 0.8% cases in school-age children. Tinea unguium and tinea cruris occur only in adults
(15.6% and 7.4%). Kerion celsi occurs in small children (1.6%) and school-age children (3.3%). Tinea barbae occurs both in school-age children (0.8%) and in adults (2.5%). Tinea corporis has the same incidence in teenagers and adults (0.8%); tinea manus is common only in adults (1.6%) and favus occurs both in school-age children (0.8%) and in adults (0.8%).

The 3 patients with pityriasis versicolor indicate that there is a low incidence of this disease both among mycotic diseases (1.4%) and cutaneous mycosis (2.3%). It occurs only in adults, it is more frequent in women (66.7%) than in men (33.3%) and it has a constant distribution among different stages of age.

**Conclusions**

1. Our study indicates a high incidence for cutaneous mycosis.

2. The most common among cutaneous mycoses are dermatophytosis, less common candidiasis and pityriasis versicolor, which occurs occasionally.

3. Dermatophytosis occurs in different clinical forms, it is more frequent in adults and equally distributed between sexes.

4. Cutaneous candidiasis and pityriasis versicolor are more frequent in adult women and have a variable distribution among different stages of age.

5. The knowledge of different clinical forms of mycosis and of the favourable factors is useful in order to relate them with the condition of occurrence, age and sex, for a better therapy and prophylaxis.