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CASE REPORT: DISSEMINATED DERMATOPHYTOSIS BY *MICROSPORUM GYPSEUM* IN A SYSTEMIC LUPUS ERYTHEMATOSUS PATIENT

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ABSTRACT

Mycosis is a major contributor to morbidity and mortality in patients with systemic lupus erythematosus and frequent exposition to an infectious source could enhance the development of dermatophytic infections. A case of disseminated dermatophytosis by *Microsporum gypseum* is reported in a systemic lupus erythematosus (SLE) patient.

Key words: Dermatophytosis, *Microsporum gypseum*, systemic lupus erythematosus

The incidence of dermatophytosis has increased over recent years particularly in immunocompromised patients, and dermatophyte species are the aethiological agents. They normally inhabit the stratum corneum and may also cause deep lesions or abscesses depending on the immune status of the patient (13,15).

Systemic lupus erythematosus (SLE) is an autoimmune disease characterized by B-cell hyperactivity, autoantibody production, and immune complex deposition in vital organs. Complex interactions between environmental agents and disease susceptibility genes have been suggested as triggering factors (4,11,12).

Despite improvement in the long-term survival of patients with SLE, fungal infection remains a major cause of morbidity and mortality. There is an intricate interplay among the myriad of immunological perturbations due to lupus and its therapy. Factors related to the virulence and epidemiological profiles of the infective agents also play an important role (2,10,14,15).

We reported a case of disseminated dermatophytosis caused by *Microsporum gypseum* in an immunocompromised patient with SLE.

A 14-year-old patient with SLE, treated with prednisolone (>1mg/kg/day) presented a disseminated dermatophytosis and was examined for causative fungal agents.

At Medical Mycology Laboratory (Department of Mycology, Federal University of Pernambuco), samples were collected and processed. The skin was initially cleaned with 70% alcohol, and samples were collected with a sterilized scalpel. The layer skin of lesion was scraped and stained with 20% potassium hydroxide (KOH) to help to dissolve the keratin and debris, facilitating observation through direct microscopy of fungal elements. For culture, specimens were inoculated on Sabouraud Dextrose Agar (SDA) (Difco) with chloranphenicol (50 mg/L) contained in Petri dishes, incubated at 28ºC for 15 days and identification was conducted according to De Hoog *et al.* (4).

Clinically, numerous lesions were located on the borders of the wound and had an eczematous appearance, circinated with active borders and multiple lesions on different areas of the body such as trunk, face and arms (Fig. 1A).

Direct microscopic examination with KOH mount of skin specimens showed hyaline, septate, branching hyphae, some of them forming arthroconidia (Fig. 1B). The culture produced powdery colonies, cinnamon-tan, and reverse yellowish-buff. Macroconidia were large clusters, rather thin-walled, regularly verrucose and fusiform, microconidia were sessile, clavate hyphae typical of *Microsporum gypseum* as described by De Hoog *et al.* (4) (Fig. 1C).

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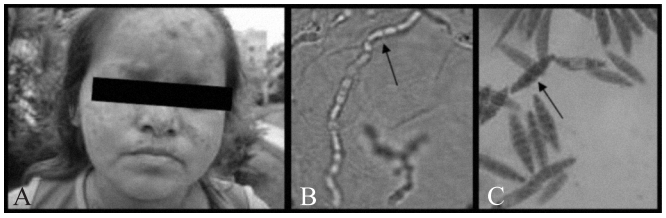

Figure 1. Clinical aspects of dermatophytic lesions (A), direct examination presenting hyaline and septated hyphae forming arthroconidia (B) and macroconidia typical of *Microsporum gypseum* (C).

This organism invades and is nourished by the keratin layer of the skin and the hair follicles (5). The most common clinical presentation due to this fungal infection is *tinea corporis* mainly affecting children (9,13).

Although opportunistic organisms account for a considerable number of infections, cases of SLE with fungaemia or invasive fungal infection have seldom been described. Such infections can also occur in patients with renal failure, fulminant liver disease, alcoholism, diabetes mellitus, acquired immunodeficiency syndrome, chronic granulomatous disease and otherwise healthy individuals. During the past 35 years, only three case reports have described fungal infections in SLE patients (1,3,6,12).

Patients with SLE appear to be predisposed to an increased risk for fungal infections due to immunosuppressive therapies as well as the intrinsic immunological defects associated with the disease. High prednisolone doses may be the underlying condition that predisposes an individual to deep opportunistic mycosis producing chronic inflammation that damages many tissues, particularly the kidney parenchyma, and that may lead to end-stage renal disease (7). Therefore, some authors suggest that different prednisolone doses prescribed at various times impact the incidence of mycosis and its associated mortality (3).

Furthermore, some authors suggest that high-dose corticosteroid use following fungal infection probably predisposes SLE patients toward death; however, additional case experience is required to confirm this point (3).

Involution of the lesions was observed in our patient after use of fluconazole (200 mg/day). However, two months after suspension of this antifungal, the dermatologic manifestations reappeared, and resistance was speculated.

This case highlights the importance of the intrinsic immunological defects of SLE predisposing patients to opportunistic dermatophytic infections potentially invasive (8). A high index of suspicion and dedicated work-up to identify the causative pathogens such as dermatophytes are pivotal to the early diagnosis and effective management of infective complications in patients with SLE (15).

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RESUMO

Estudo de caso: dermatofitose disseminada por *microsporum gypseum* em paciente com lúpus eritematoso sistêmico

Micoses contribuem para a morbidade e mortalidade em pacientes com lúpus eritematoso sistêmico e exposição freqüente a fontes infecciosas pode aumentar o desenvolvimento de infecções dermatofíticas. Um caso de dermatofitose disseminada por *Microsporum gypseum* é reportado em paciente com lúpus eritematoso sistêmico (LES).

Palavras-chave: Dermatofitose, *Microsporum gypseum*, lúpus eritematoso sistêmico.

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