Refractory Trichophyton rubrum infections in Turin (Italy): a problem still present

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Objectives. Chronic dermatophytosis is a refractory condition, in which the clinical symptoms persist for more than a year with episodes of exacerbation and remission. The main etiologic agent associated with this infection is Trichophyton rubrum responsible for the 90% of chronic infections. This fungus can colonize the plantar foot from childhood and remain active for years. The infection propagates from this primary location through autoinoculation and secondary lesions can subsequently appear anywhere on the body. Recurrence, and a lack of treatment response are common in this dermatophytosis. Chronicity is probably related to fungal cell wall components, such as mannan, that seems play an important role in the process of down-modulation of cell-mediated immune response of the host. In patients with cutaneous and concurrent toenail lesions, may occur an inappropriate treatment due to misdiagnosis. Hence some authors suggested a definition of chronic dermatophytosis with three essential criteria: 1) lesions in the feet, hands and nails and at least one lesion in another part of the body (except the groin); 2) positive potassium hydroxide (KOH) in samples from the four distinct locations; 3) identification of T.rubrum by culture from at least three of the four locations.

The aim of this study was to re-evaluated five previous misdiagnosed cases of T.rubrum chronic dermatophytosis in patients admitted to the Medical Sciences Department, University of Turin (Italy), to describe the clinical and mycological infection aspects.

Methods. Clinical and mycological examination of the all lesions was performed. Skin and nail samples were collected, examined under a light microscope (10% KOH preparation) to detect fungal elements and inoculated into Mycobiotic agar to detect dermatophytes. Identification of moulds was based on macroscopic and microscopic characters of the colonies. Definitive laboratory criteria included positive microscopic evidence of hyaline septate hyphae, and positive fungal culture for dermatophytes.

Results. All the patients had dermatophytosis and concurrent lesions caused by the same fungus at sites distant from the primary lesion: in all lesions the only identified species was T.rubrum. All five patients didn't have risk factors predisposing them to fungal spread. They showed positive results both in direct KOH test and cultures from all the samples. All patients fulfilled all the diagnostic criteria of T.rubrum chronic dermatophytosis and were successfully treated by associate systemic and topical therapy.

Conclusions. Localization of all the lesions, as well as isolation and identification of the causative fungus, are essential to establish the prognosis and choose the most appropriate antifungal agent, route of administration, and duration of treatment to ascertain the resolution of chronic dermatophytosis, thus avoiding recurrences and the development of new lesions.