

TITLE: MOLECULAR IDENTIFICATION OF *SPOROTHRIX* ISOLATES AND CLINICAL ANALYSIS OF HUMAN PATIENTS WITH SPOROTRICHOSIS AND CUTANEOUS MANIFESTATIONS OF HYPERSENSITIVITY OF THE EVANDRO CHAGAS NATIONAL INSTITUTE OF INFECTIOUS DISEASES

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ABSTRACT

Sporotrichosis is a worldwide subcutaneous mycosis caused, in most cases, by the following species of human interest: *Sporothrix schenckii*, *Sporothrix brasiliensis*, and *Sporothrix globosa*. The metropolitan region of Rio de Janeiro, Brazil is hyperendemic for zoonotic sporotrichosis. Several clinical forms are observed (lymphocutaneous, fixed cutaneous, disseminated cutaneous and extracutaneous). Some patients, however, present unusual clinical forms and hypersensitivity manifestations, like erythema nodosum, erythema multiforme, reactive arthritis, and Sweet's syndrome, reported only in this region, what compromise the appropriate diagnosis and treatment. The Evandro Chagas National Institute of Infectious Diseases (INI), Oswaldo Cruz Foundation (FIOCRUZ), Rio de Janeiro, Brazil, is the main regional reference unit for sporotrichosis. A previous study indicated *S. brasiliensis* as the only species associated to these manifestations, in approximately 10% of patients, with an apparent favorable evolution. This study aims to evaluate epidemiological, clinical, and therapeutic aspects of human sporotrichosis cases with cutaneous hypersensitivity manifestations, followed up at INI, between 2005 and 2013, with molecular identification of the *Sporothrix* species. Medical records were revised and the isolates obtained from sporotrichosis lesions of these patients were recovered for species identification through polymerase chain reactions using specific primers for the three major species involved in human sporotrichosis. Fifty-three patients were included, 32 (60.4%) residents in the municipality of Rio de Janeiro, mainly in the north zone (22; 68.8%). Women were the majority (43; 81%), mainly with household activities (17; 32%) and in the 5th and 6th decade of life. The contact with infected cats was reported in 50 (94%) cases. Lymphocutaneous form was the most frequent (31; 59%), mainly in the upper limbs (40; 75.5%), and erythema nodosum predominated (28; 52.8%). Itraconazole 100mg/day was the main used drug (35; 70%), with a mean treatment time of 12.3 weeks. All the 53 patients cured. All 52 recovered fungal isolates were identified as *S. brasiliensis*. The clinical and epidemiological aspects of patients with hypersensitivity manifestations follow the aspects described in several case series from the hyperendemic sporotrichosis region of Rio de Janeiro. *Sporothrix brasiliensis* is the species associated with the observed hypersensitivity manifestations.

Keywords: 1. Sporotrichosis; 2. *Sporothrix brasiliensis*; 3. Hypersensitivity; 4. Erythema Multiforme; 5. Erythema Nodosum; 6. Sweet's syndrome.

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