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Jorge lobo's disease in brazil: a new recognized reservoir?

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Lobomycosis (lacaziosis) is a chronic subcutaneous disease caused by the uncultivated fungus *Lacazia loboi*. The disease was first described in 1931 by Jorge Lobo in Brazil and has been reported in South and Central America. Lobomycosis is a rare disease that affects certain geographic regions, mainly in countries of low socioeconomic status, but its prevalence among indigenous people in Brazil is exceptionally high. The state of Maranhão is located in the northeast region of the country and there are rare clinical reports of imported cases of the disease in our region. This is the first published series of autochthonous cases of lacaziosis in Maranhão.

Objective: To describe seven cases of *Lacazia loboi* infections in immunocompetent patients in an endemic area for other subcutaneous mycoses.

Methods: We retrospectively reviewed the medical records of all patients who developed Jorge Lobo's diseases in a new area recognized as a potential environment reservoir. An incident case was defined as a patient who developed proven lacaziosis based on the presence of topical fungal elements in the tissue on histopathology or mycologic direct exam. Epidemiological and clinical data of all cases of lacaziosis were collected using a standard clinical form.

Results: In the period from 2000 to 2021, seven patients were identified. All cases were diagnosed by histopathology and direct mycological examination of the lesions. A total of 6 out of 7 (85.7%) patients were men and the mean age was 57 years (52-70 years). The median time between onset of infection symptoms and diagnosis was >2 years in 6 patients, with 15 years of symptoms duration in patient 7. All patients reported having worked with agricultural activities before. A total of 50% of patients were diagnosed with localized lesions and the other half with disseminated lesions. Subcutaneous lesions involved the upper limbs (4/6; 66.6%), ears (2/6; 33.3%), lower limbs (1/6; 16.6%), and trunk (1/6; 16.6%). All patients exhibited nodules as a dominant pattern of skin lesion, sometimes coalescing with the tumor's appearance. Regarding treatment, a combination of itraconazole and clofazimine therapy was added to all patients. Surgical excision was possible only in 2 episodes due to the limited availability of this procedure at the site. Cure was documented in 2 cases, with no recurrence to date.

Conclusion: The present series represents the first and largest collection of case studies of lacaziosis in Maranhão state, with all cases classified as autochthonous. Lacaziosis involves mainly adult males with different occupational risks such as agricultural labor, and other workers exposed to contaminated soil and plant materials. Few data are available to support suggested therapy with itraconazole and clofazimine. Excision surgery is important for treatment due to the absence of clinical trials in the medical literature. Epidemiological surveillance studies of new cases of lacaziosis in Maranhão are important for mapping this new reservoir and developing public policies for diagnosis and treatment.

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Clonal outbreak of *Trichophyton tonsurans* causing tinea capitis among wrestlers in Beijing, China

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Objectives: *Trichophyton tonsurans*, an anthropophilic dermatophyte, mostly causes tinea capitis and tinea corporis and is often associated with outbreaks among athletes involved in combat sports, such as wrestlers and judo athletes. Here, we report an outbreak of tinea capitis caused by *Trichophyton tonsurans* among five juvenile athletes aged ten to fourteen in a wrestling team in Beijing, China.

Methods: A total of 5 wrestlers aged 10-14 years presented with alopecia, erythema, scales, and pustule on the scalp (Fig. 1a). Scrapings from the lesions were performed by direct microscopic examination using 10% potassium hydroxide (KOH) with calcofluor white and fungal culture. The fungal pathogens were identified by morphology and sequencing of the internal transcribed spacer (ITS) regions. Multilocus genotyping analysis was performed by sequencing of the five gene loci including the ITS and non-transcribed spacer (NTS) of the ribosomal RNA (rRNA) locus, alkalinephosphatase-1 (ALP1), metalloprotease-5 (MEP5), carboxypeptidases Y (CarbY), which show intraspecies diversity and can be applied to epidemiological investigations and determining the route of infection transmission. Antifungal susceptibility of terbinafine (TBF), itraconazole (ITC), fluconazole (FLC), ketoconazole (KTC), and amphotericin B (AMB) against the causative fungal isolates was determined by broth microdilution method according to the Clinical and Laboratory Standards Institute (CLSI) M38-A3 document.

Results: The five patients were diagnosed with tinea capitis because of the scalp lesions, spores, and hyphae observed by direct microscopic examination (Fig. 1b), and positive fungal culture. The causative isolates were all identified as *T. tonsurans* by macroscopic and microscopic characteristics (Fig. 2) and sequencing of ITS regions. The sequences of ITS, NTS, ALP1, MEP5, and CarbY were identical among the five isolates, revealing a single genotype. The abovementioned sequences have been deposited to Genbank. The minimum inhibitory concentrations (MICs) of TBF, ITC, FLC, KTC, and AMB against five *T. tonsurans* isolates were 0.015 µg/ml, 0.015 µg/ml, 8 µg/ml, 0.06 µg/ml, and 0.5 µg/ml, respectively.

Conclusion: We report an outbreak of tinea capitis caused by *T. tonsurans* among wrestlers in Beijing, China. Multilocus genotyping analysis revealed that all isolates consisted of a single genotype, suggesting the outbreak may be caused by a single strain of *T. tonsurans*. The isolates were all susceptible to the common antifungal drugs treating tinea capitis.

