Paracoccidioidomycosis manifested by sarcoidosis-like cutaneous lesions and caused by *Paracoccidioides brasiliensis sensu stricto* (S1a)*

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Abstract: Molecular studies have shown more than one species of the genus *Paracoccidioides* to be the causal agent of paracoccidioidomycosis. Efforts have been made to correlate the identified species with epidemiological and clinical data of patients, aiming to determine the real meaning and impact of new species. Bearing this objective in mind, the authors report a clinical case of paracoccidioidomycosis, from São Paulo state, Brazil, that manifested as uncommon sarcoid-like cutaneous lesions and was caused by *Paracoccidioides brasiliensis sensu stricto* (S1a). The patient was treated with itraconazole 200mg/day for 12 months, with complete clinical remission.

Keywords: Paracoccidioidomycosis; Sarcoidosis; Skin diseases; Skin manifestations

Paracoccidioidomycosis (PCM) is a systemic mycosis caused by thermally dimorphic fungi of the genus *Paracoccidioides*. Recently, molecular studies have shown that *P. brasiliensis* (S1a, S1b) and related species *P. americana* (S2), *P. restrepiensis* (S3), *P. venezuelensis* (S4) and *P. lutzii* are possible etiological agents.[1] Airborne infections occur mainly in rural areas, and the primary complex develops in the lungs.[2] Clinical manifestation in adult patients typically includes oral, cutaneous and pulmonary involvement. Cutaneous lesions are reported to occur in 30% to 61.2% of studied patients.[3] Most frequently, skin lesions result from hematogenous spread of fungi. The most common forms of lesion are ulcerative and ulcerous-vegetative, reported in up to 42.8% of cases in one series.[3] Conversely, an infiltrative pattern similar to the plaque-type lesion of cutaneous sarcoidosis is very uncommon.[4] The authors report a male patient with an unusual and extensive cutaneous involvement of a sarcoid-like skin lesion caused by *P. brasiliensis sensu stricto* (S1a).[5]

A 53-year-old male patient, from a rural area in the municipality of São Manuel (SP), was referred for evaluation of a facial skin lesion that had evolved over one year. Fever, weight loss, pulmonary complaints and comorbidities were denied, as was alcohol and tobacco use. On examination, we observed an infiltrative sarcoid-like skin lesion on the face (Figures 1 and 2). With the hy-

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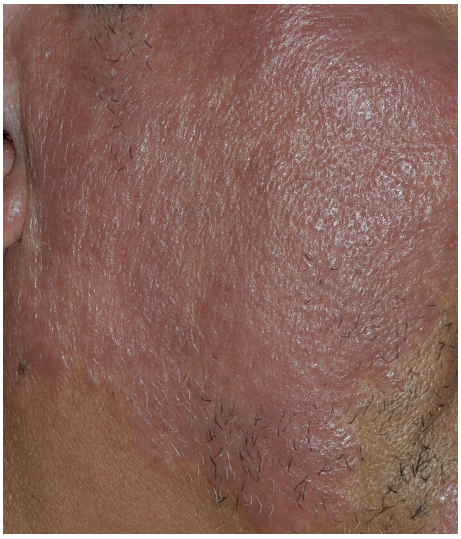

Figure 1: Paracoccidioidomycosis: erythematoviolaceous, infiltrated, sarcoidosis-like lesions on the face

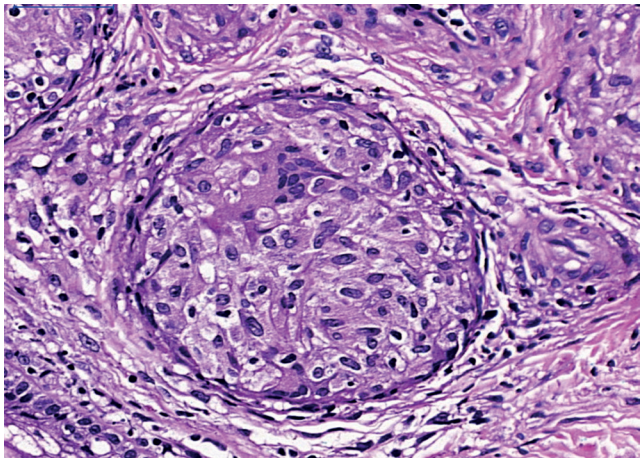

Figure 3: Paracoccidioidomycosis: well-formed epithelioid granuloma with giant cell and no visible fungus. Hematoxylin & eosin, x100

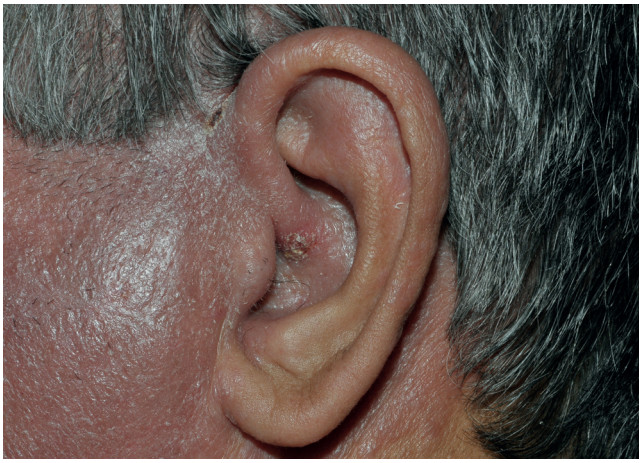

Figure 2: Paracoccidioidomycosis: detail of infiltrated lesion and shallow ulcer

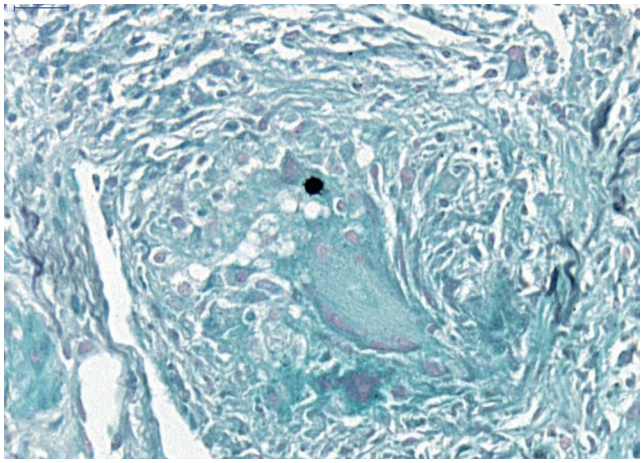

Figure 4: Paracoccidioidomycosis: isolated fungus cell with discrete multiple sporulation amid epithelioid granuloma. Grocott-Gomori, x100

pothesis of B-cell lymphoma or PCM, the lesion was submitted to a punch biopsy. The histopathology revealed a dense, granulomatous inflammatory dermal infiltrate of histiocytes and multinucleated giant cells with rare fungal cells, viewed in greater specificity with silver staining (Figures 3 and 4). Culture from a biopsy fragment incubated on Mycosel® at 35°C showed yeast cells diagnostic of *Paracoccidioides* genus. The isolate was molecularly characterized as *P. brasiliensis sensu stricto* (S1a) by sequencing ITS rDNA and gp43 exon 2 loci.[5] PCR-RFLP (Restriction Fragment Length Polymorphism) of *tub1* gene was also carried out to enable differentiation among *Paracoccidioides* spp.[5,6] A thin-slice computed tomography of the thorax and abdomen showed no abnormalities. Laboratory data were within normal limits, with exception of ESR of 20 mm/h. Antibody screens for HIV, HBV, HCV and *Paracoccidioides* spp. (IDD) tested negative. Itraconazole 200 mg/day was used for 12 months, with complete clinical remission.

In PCM, sarcoid-like lesion is an expression of equilibrium between infectious agent and host defense. The histological presentation comprises a well-developed epithelioid granuloma and multinucleated giant cells with scarce fungal elements, posing a diagnostic challenge even when using specific stain.[7] In such circumstances, cases can be clinically and histologically misinterpreted as leprosy or another infectious disease, or even as non-infectious granulomatous dermatosis.[7] Another unusual aspect of this case was the apparent absence of pulmonary involvement, which is the rule in adult male individuals. Itraconazole has been effective in PCM, as observed in this patient.[8] Efforts have been made in every case, using molecular tools, to identify the correct species of genus *Paracoccidioides* and to correlate it with geographical origin, clinical aspects and response to treatment, to determine the real meaning and impact of the new species.[9] ❑

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