

Paracoccidioidomycosis

Intralesional therapy

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Paracoccidioidomycosis (PCM) has been described in Europe, North, Central and South America^{1,2}. *Paracoccidioides brasiliensis* is a saprophyte in soil and plants and reaches the host usually through the naso-oral route^{1,2}. The pathological manifestations is associated with its clinical presentation¹⁻³. Usually causes lesions in oral mucosa, lung, liver, spleen, lymph nodes, adrenal gland, bones and kidneys^{4,5}. Localized or diffuse lesions in the central nervous system (CNS) can occur in more than 10% of cases⁶⁻⁸ and may present as meningoencephalitis, multiple granulomatous reactions, or isolated masses causing focal neurological signs, increased intracranial pressure and evidences of meningeal involvement^{1,2,4,5}. The treatment of CNS PCM follows the general lines for the treatment of the lesion in other regions of the body². Sulphonamides and amphotericin-B are the drugs of choice. Sulphonamides associated or not with pholates are preferred because they are easier to be administrated and causes low rate of side effects⁹. Amphotericin-B is very toxic but is necessary when the infection becomes resistant to sulphonamides⁹. As the systemic administration does not provide enough concentration of amphotericin-B in the cerebrospinal fluid, the intrathecal injection may be necessary in some cases. Treatment with azole derivatives are also been used¹⁰. Itraconazole has been successfully used for CNS PCM and fluconazole could be an alternative for treatment because of its good penetration in CNS. Voriconazol is a new

antifungal agent that could have a role in treatment of CNS PCM due its good penetration in CNS too¹¹. When intracranial expanding lesions are present, surgical removal of the granulomas and the abscess may be necessary^{1,2}.

We describe the treatment of a patient with *Paracoccidioides brasiliensis* thalamic brain abscess who did not improve with systemic treatment with sulphonamides and amphotericin-B but was cured with repeated stereotatic intralesional instillation of amphotericin-B.

CASE

A 32 year-old man was admitted with 2 months history of headache and progressive blurring of the vision in both eyes, weakness of right limbs and somnolence. His general physical examination was normal. However, he was disoriented and presented right grade III complete spastic hemiparesis, bilateral papilledema and right homonymous hemianopsia. The white blood cell count, the erythrocyte sedimentation rate and the chest and skull X-rays were normal. The CT-scan of the brain revealed a cystic mass with a narrow wall in the left thalamus (Fig 1A). The CSF contained 3 leucocytes/mm³, 30 mg% of total protein, 50 mg/dL% of glucose with bacterioscopic, mycologic, examination and cultures negative.

Under local anesthesia, the Teixeira-Micromar stereotactic frame (Micromar, Diadema, SP, Brazil) was firmly fixed to the head of the patient allowing the stereotomographic delineation of the left thalam-

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PARACOCCIDIOIDOMICOSE: TERAPIA INTRALESIONAL

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ic mass. Having the geographic center of the mass as the target point (Fig 1B), through a left frontal burr-hole 10 ml of yellowish material was collected from the lesion with a 1.2 mm cannula. Intra-operative smear preparation showed the presence of yeast of *Paracoccidioides brasiliensis* (Fig 2). Culture of this material confirmed the diagnosis. The patient was then treated with a course of sulphonamide during 12 weeks. However, the clinical condition deteriorated and the volume of the lesion increased. Therefore the patient was treated with a course of IV amphotericin-B. Despite this treatment, the CT findings and the clinical conditions did not improved but continued to deteriorate. The patient became torporous and the right hemiparesis became more severe. A 2.5 mm sylastic catheter was then inserted into the abscess and a Rickam reservoir was fixed to the burr hole. Daily injections of 2 mL of amphotericin-B (diluted 50 mg in 10 mL) into the cyst were then performed during four weeks, resulting in neurological improvement of the patient and in disappearance of the abscess (Fig 1C). The patient was then treated with sulphonamides during 6 months. After this period, the treatment was discontinued and he presented complete recovery of this normal neurological status. The follow-up period lasted 10 years.

DISCUSSION

The CNS involvement in PCM is secondary to a primary focus and it is not necessarily accompanied by dissemination of the disease, and in some cases it is the preferential location^{6,7}. CNS paracoccidioidomycosis is a very rare event and the most common presentation is the granulomatous form^{6,7}. Association with meningitis can occur in 17% of cases⁶. The diagnosis of brain abscess must be suspected when patients with systemic blastomycosis infection suddenly present acute or progressive neurological deficit. The CT-scan or magnetic resonance with intravenous contrast infusion usually reveal the lesion and its consequences. Differential diagnosis includes: neoplasms, other infections such as bacterial or parasitic abscess^{3,12}. Stereotaxic biopsy should be considered to confirm the diagnosis, as occurred in the present case.

This is the first reported case of CNS paracoccidioidomycosis abscess treated with intralesional instilla-

tion of amphotericin-B. The method was safe and simple and should be considered when there is no improvement with the traditional therapeutics measures (sulfonamides or antimycotic)^{1,9,13-15}. Further studies are needed to establish the ideal dose of amphotericin-B for intralesional use and the duration treatment. The goal of this case report was the introduction of a new and minimally invasive surgical intervention to treat patients with refractory disease.

In conclusion, intralesional repeated instillation of amphotericin-B must be considered whenever systemic treatment of intracerebral *Paracoccidioides brasiliensis* abscess fail. Further investigation of this subject still is needed.

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