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ORAL MANIFESTATIONS OF PARACOCCIDIOIDOMYCOSIS: a report of two cases

Manifestações bucais da paracoccidiomicose: relato de dois casos

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Abstract

Paracoccidioidomycosis (PCM), also known as South American blastomycosis, is a deep mycosis caused by the dimorphic fungus *Paracoccidioides brasiliensis.* It has an endemic distribution ranging from Mexico to Argentina. The oral manifestations of the PCM are usually the first perceptible sign of the disease. The aim of this report is to alert the oral professionals about the clinical features of the disease and to present two cases where oral lesions were the major complaint.

Keywords: Paracoccidioidomycosis; *Paracoccidioides brasiliensis*; South American blastomycosis; Oral diseases.

Resumo

A paracoccidiomicose, também conhecida como Blastomicose Sul Americana, é uma micose profunda causada pelo fungo dimórfico Paracoccidioides brasiliensis. Tem distribuição endêmica do México até a Argentina. As manifestações bucais da PCM são geralmente os primeiros sinais perceptíveis da doença. O objetivo do presente relato é alertar os profissionais da Odontologia para os aspectos clínicos da doença e apresentar dois casos nos quais as lesões bucais foram as queixas principais.

Palavras-chave: *Paracoccidiomicose; Paracoccidioides brasiliensis; Blastomicose Sul Americana; Doenças bucais.*

INTRODUCTION

Paracoccidioidomycosis (PCM), also known as South American blastomycosis, is a deep mycosis caused by the dimorphic fungus *Paracoccidioides brasiliensis* (Pb). This disease is of great interest to Latin Americans because it has an endemic distribution ranging from Mexico to Argentina. The disease affects mainly farmers and is a chronic granulomatous condition that predominantly produces a primary pulmonary infection and then disseminates to the skin, bone and joints, central nervous system, digestive tract, liver, kidney, spleen and linfoid tissue. Delay in making the diagnosis allows the disease to achieve a more disseminated form and even can lead to death. (1-4).

Recently, the disease has also been diagnosed in the United Kingdom and France, indicating the possibility that it is widespread throughout the World mainly due to human migration and people traveling to the endemic area (5, 6).

Usually, the oral manifestations of PCM are the first perceptible sign of the disease. This report aims to alert oral health professionals about its clinical features and present two cases where oral lesions were the major complaint of the patients, thus allowing the dentist to make the final diagnosis.

CASE REPORTS

Case 1: The patient was a 52-year-old male agricultural worker who sought treatment for a large ulcer over his left mandibular alveolar ridge. He was a heavy drinker and tobacco consumer with a history of previous teeth extraction over the affected site four months before. His major complaint was that the performed surgery never healed.

Clinically, the patient showed a painful and extensive irregular ulceration covered by some scattered red petechias, necrotic tissue and exudate. The ulceration was spread over the alveolar ridge with some extending to the lingual and buccal aspect resembling oral cancer (Figure 1).

FIGURE 1 - Intraoral aspect of PMC that mimics oral carcinoma

The patent also had submandibular lymph node enlargement. The teeth presented at the site were mobile. The patient also reported weight loss, fever and cough. Since the oral lesion resembled oral carcinoma, a biopsy was done under the criteria of urgency without any blood tests, and the diagnosis of PCM was made through a routine H&E stain. The patient was referred to the Brazilian public health system to seek treatment for his general condition and did not return for treatment to control his oral lesion.

Case 2: The patient was a 57-year-old male agricultural worker who had already gone to the Brazilian public health system for diagnosis and treatment with no success during the previous six months. Fungous culture from sputum was negative on previous test. The signs and symptoms were similar to the previous patient including bilateral submandibular lymphadenopathy. He showed multiple painful ulcers on mandibular anterior gingiva, lower lip and in the soft palate (Figures 2, 3 and 4).

FIGURE 2 - Gingival aspect of PMC. Notice the red petechias distributed over the ulcer ("mulberry-like appearance")

FIGURE 3 - PMC ulcer on the lower lip

FIGURE 4 - Soft palate aspects of PMC

FIGURE 5 - White proliferative lesion of PMC on tongue

Biopsy was conducted on the oral ulcers under local anesthesia and the diagnosis of PCM was made promptly through routine hematoxilin-eosin (H&E) stains. The prescribed treatment was daily 200 mg doses of itraconazole and the patient was referred to the Brazilian public health system. Only 2 weeks after the beginning of the treatment, the patient's oral ulcers were significantly improved (Figure 6).

FIGURE 6 - Clinical appearance of the lower lip ulcer after 2 weeks treatment with itraconazole

Six months later, the patient was reevaluated and the oral lesions were healed but still showing a small ulcer on the lower lip (Figure 7).

FIGURE 7 - Clinical appearance of the lower lip ulcer after 6 months treatment with itraconazole

Also, white scars could be seen at the original sites of the ulcers, with exception of the tongue, which healed without any scaring. The lymphadenopathy showed gradual reduction over the course of the treatment.

DISCUSSION

Paracoccidioidomycosis is considered to be the most frequently diagnosed systemic mycosis in Latin America and to have a higher prevalence in Brazil, Venezuela and Colombia (1, 3). Opportunistic forms of PCM have also been reported in immunocompromised patients, including patients with AIDS (7). Both patients presented here are from the South Brazilian state of Santa Catarina, which is situated in an area with a high prevalence of the disease.

A study developed by an oral disease center in South Brazilian Hospital (Verli et al. (8), interestingly described that, of its 61 cases reported, 35 were referred to the center by physicians due to the oral mouth lesions, 18 were referred by dentists, and 8 had come without any professional indication. These facts imply that, at least in Brazil, dentists play a key role in the diagnosis of PMC. The description of the signs and symptoms of the disease reported in that study were similar to the oral lesions shown here. The most frequently affected areas previous described (8) were gingival, followed by the soft and hard palate, though all mouth sites could be involved. The oral lesions were also been described as painful, chronic, proliferative, or ulcerative lesions with a characteristic mulberry-like appearance (8, 9).

The first case described here also showed some characteristics that mimic oral carcinoma. In fact, some lesions could resemble or might be associated with carcinoma, mainly for those patients with a history of tobacco and alcohol abuse (10, 11). The first patient also showed some amount of teeth mobility, and some authors state that the gingival involvement may lead to teeth loss (2). However, up to now, it was not clear whether PMC could produce alveolar bone destruction or the patient may have a classical periodontal disease in conjunction with the mycosis.

As a general rule, any delay of the diagnosis prevents the onset of the treatment, exposing the patient to further suffering and increasing the damage to the affected tissues as well as the to the risk of death. Sputum fungous culture from the second case presented here failed to diagnose the disease, indicating that this method can give a false negative test result. A biopsy is the gold standard for the diagnosis of PMC, although exfoliative cytology of the cutaneous or oral lesions and a culture test have also been advocated (1, 2, 10). The clinical examination and the use of x-rays to detect the pulmonary lesions are also important tools for diagnosis. Blood tests are performed to check the kidney and liver function. When suspected, a careful additional examination is performed to look for any other body organ involvement.

The histological examination of the cases presented here showed areas of pseudoepitheliomatous hyperplasia, necrosis, and intra-epithelial microabcesses. A dense inflammatory infiltrate composed mainly of macrophages organized into granulomas was present on the submucosa, and the giant multinucleated cells sometimes engulfing the Pb cells, which appear as globulous and birefringent walls (Figure 8), were pathognomonic. The authors agree that the H&E stain is adequate for diagnosis of PMC and that a special staining with Grocott-Gomori methenamine silver should be performed when necessary.

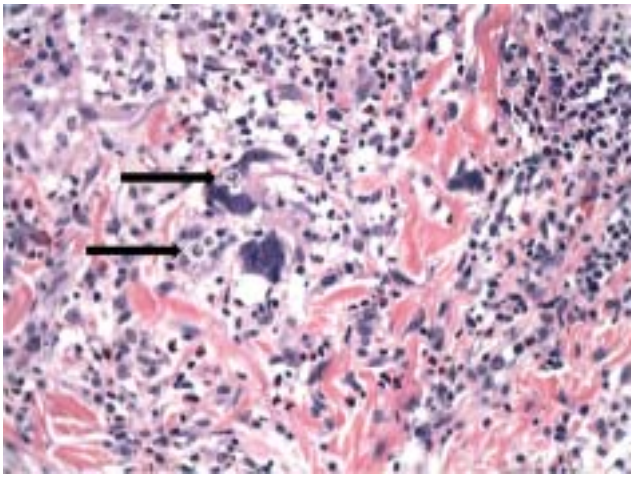

FIGURE 8 - Histological aspect of PMC. Phagocytosis of *Pb* levedures by giant cells (arrows). Note the budding yeasts resembling a "Mickey Mouse head" *Pb* levedures (H&E X 400)

Although the cure of the PMC can never be attributed, the terms apparent or clinical cure has been used. The reported criteria for the apparent cure of the disease are based on clinical, radiological, and immunological evaluation. The main clinical criteria for apparent cure are the healing of the lesions, the disappearance of the lymphadenopathy and weight gain. The radiological criteria are based on the stabilization of the scar pulmonary images for at least 3 months. The immunological criterion for clinical cure are a low level (1:2) of the *Paracoccidioides brasiliensis* antigens by the immunodiffusion test (1).

For developing countries, this disease assumes an important factor for the public health due to the long term treatment (six to 24 months) and the associated costs. To date, oral azole drugs, mainly the itraconazole, seem to be the treatment of choice for this systemic mycoses due to their good efficacy, safety and ease of administration (1). Dentists have their role in the diagnosis and treatment of this condition, and this report could help to recognize the oral clinical features of PMC.

REFERENCES

1. Shikanai-Yasuda MA, Telles Filho FQ, Mendes RP, Colombo AL, Moretti ML. Guideliness in paracoccidioidomycosis. Rev Soc Bras Med Trop. 2006 May-Jun;39(3):297-310.
2. Lupi O, Tyring SK, McGinnis MR. Tropical dermatology: fungal tropical diseases. J Am Acad Dermatol. 2005 Dec;53(6):931-51, quiz 952-4.
3. Trad HS, Trad CS, Elias Junior J, Muglia VF. Radiological review of 173 consecutive cases of paracoccidioidomycosis. Radiol Bras. 2006;39(3):175-9.
4. Paniago AM, Oliveira PA de, Aguiar ES, Aguiar JI, da Cunha RV, Leme LM, et al. Neuroparacoccidioidomycosis: analysis of 13 cases observed in an endemic area in Brazil. Trans R Soc Trop Med Hyg. 2007 Apr;101(4):414-20. Epub 2006 Oct 2.
5. Walker SL, Pembroke AC, Lucas SB, Vega-Lopez F. Paracoccidioidomycosis presenting in the U.K. Br J Dermatol. 2008 Mar;158(3):624-6. Epub 2007 Dec 7.
6. Bousquet A, Dussart C, Drouillard I, Charbel EC, Boiron P. Imported mycosis: a review of paracoccidioidomycosis. Med Mal Infect. 2007 Dec;37 Suppl 3:S210-4. Epub 2007 Nov 7.
7. Paniago AM, Freitas AC de, Aguiar ES, Aguiar JI, da Cunha RV, Castro AR et al. Paracoccidioidomycosis in patients with human immunodeficiency virus: review of 12 cases observed in an endemic region in Brazil. J Infect. 2005 Oct;51(3):248-52.
8. Verli FD, Marinho SA, Souza SC, Figueiredo MA, Yurgel LS. Clinical-epidemiologic profile of paracoccidioidomycosis at the Stomatology Department of São Lucas Hospital, Pontificia Universidade Católica of Rio Grande do Sul. Rev Soc Bras Med Trop. 2005 May-Jun;38(3):234-7. Epub 2005 May 4.

9. Sposto MR, Scully C, Almeida OP de, Jorge J, Graner E, Bozzo L. Oral paracoccidioidomycosis. A study of 36 South American patients. Oral Surg Oral Med Oral Pathol. 1993 Apr;75(4):461-5.

10. Meneses-García A, Mosqueda-Taylor A, Morales-de la Luz R, Rivera LM. Paracoccidioidomycosis: report of 2 cases mimicking squamous cell carcinoma. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2002 Nov;94(5):609-13.

11. Kaminagakura E, Graner E, de Almeida OP, Di Hipolito Júnior O, Lopes MA. Oral paracoccidioidomycosis or squamous cell carcinoma? Gen Dent. 2004 Jan-Feb; 52(1):48-50.

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