

## Oral and cutaneous sarcoidosis: report on an exuberant case

### *Sarcoidose oral e cutânea: relato de caso exuberante*

Priscila Pinto Barroso<sup>2</sup>, Camila Pedruzze Machado<sup>2</sup>, Ademar Schultz Junior<sup>2</sup>, Maria Clara de Angeli<sup>1</sup>, Marisa Simon Brezinski<sup>3</sup>, Paulo Bittencourt de Miranda<sup>3</sup>

#### ABSTRACT

Sarcoidosis is a chronic granulomatous disease, of unknown etiology, affecting multiple organs and tissues. The respiratory system is the most commonly affected, followed by skin manifestations. However, oral cavity presentation is rare, with approximately 70 cases reported in the literature. An oral presentation can range from asymptomatic conditions to ulcerations with a risk of secondary infection, which compromise the patient's quality of life. Although rare, cases of sarcoidosis with impairment of the oral cavity may present an unfavorable clinical evolution, or even present as an initial clinical manifestation from a systemic condition. Therefore, it is important to assist in the recognition, diagnosis, and appropriate treatment of this disease.

**Keywords:** Sarcoidosis; Oral Sarcoidosis; Cutaneous Sarcoidosis.

#### RESUMO

A sarcoidose é uma doença granulomatosa crônica, de etiologia ainda desconhecida, que afeta múltiplos órgãos e tecidos. O sistema respiratório é o mais comumente afetado, seguido das manifestações cutâneas. Todavia, manifestações da cavidade oral são raras, tendo sido descritos em literatura aproximadamente 70 casos. A apresentação oral pode variar de quadros assintomáticos até ulcerações com risco de infecção secundária, que comprometem a qualidade de vida do paciente. Apesar de raros, casos de sarcoidose com comprometimento da cavidade oral podem apresentar evolução clínica desfavorável ou, ainda, se apresentarem como manifestação clínica inicial de um quadro sistêmico. Portanto, é importante auxiliarmos no reconhecimento, diagnóstico e tratamento adequados desta doença.

**Palavras-chave:** Sarcoidose; Sarcoidose Oral; Sarcoidose Cutânea.

<sup>1</sup> Medical student at the Santa Casa de Misericórdia School of Science in Vitória, Vitória, Brazil.

<sup>2</sup> Dermatologist at the Santa Casa de Misericórdia Hospital in Vitória, Vitória, Brazil.

<sup>3</sup> Adjunct Professor, Department of Dermatology, Hospital Santa Casa de Misericórdia, Vitória, Vitória, Brazil.

#### Associate Editor Responsible:

Enio Roberto Pietra Pedroso

#### Corresponding author:

Priscila Pinto Barroso.

E-mail: priscilapbarroso@gmail.com

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## INTRODUCTION

Sarcoidosis is a non-infectious granulomatous disease, featured by uncertain etiology that can affect multiple organs and tissues, as well as the skin in 25% of cases.<sup>1</sup> The term sarcoidosis was initially described in 1899 in a report by Boeck about the clinical similarity of skin lesions to sarcomas, but with benign nature.<sup>2</sup>

Sarcoidosis commonly affects young adults, and women are the most frequently affected ones.<sup>3</sup>

Sarcoidosis can simulate other diseases due to the polymorphism of lesions caused by it, a fact that poses important diagnostic challenge. The clinical presentations of the disease vary, they range from nonspecific lesions, (erythema nodosum) to characteristic lesions, such as macules/papules, plaques, nodules, infiltrated scars, ulcerations, and violet-colored tumors<sup>4</sup>

The oral cavity is rarely affected by the disease, but it can be the initial clinical manifestation of multisystemic sarcoidosis; therefore, it is of great importance. Approximately 70 cases of oral mucosa sarcoidosis are currently described in the literature.<sup>1</sup>

The initial clinical hypothesis of cutaneous sarcoidosis needs to be confirmed by anatomopathology, after excluding other causes. Differential diagnoses such as infectious diseases, foreign body granulomas, neoplasms, immunodeficiencies, drug eruptions, and other granulomatous processes should be investigated through histopathological examination.<sup>3</sup>

The diagnosis of sarcoidosis lesions must be based on clinical, radiographic, laboratory, epidemiological, and histopathological criteria due to the polymorphism of the disease. Recognizing skin lesions is important for its diagnosis; therefore, they are easily accessible sources for anatomopathological examination.<sup>3</sup>

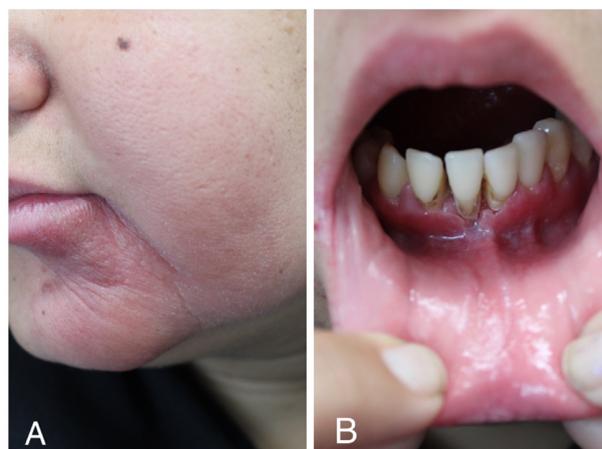
Overall, corticosteroid therapy is the first treatment of choice for patients who require systemic treatment. In most cases, it is possible achieving satisfactory disease control, but the treatment requires long-term maintenance. Still, recurrent episodes are not uncommon. An alternative for patients who present unfavorable response to corticosteroids using would be the administration of antimalarials or immunosuppressants.<sup>5</sup>

The current study presents a case of sarcoidosis with cutaneous and mucosal involvement that started during pregnancy and was treated with systemic corticosteroid therapy.

## CASE REPORT

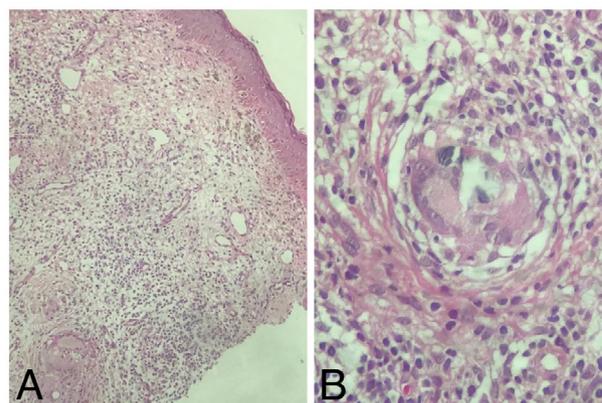
Women, aged 31 years, without any comorbidity, reported having erythematous plaque on the sides of the lips with progressive growth during a previous pregnancy 2 years ago. The patient was referred to follow-up with diagnosis of rosacea, partial improvement of lesions by using systemic corticosteroid therapy and topical imidazole, and anxiety as precipitating factor of the lesions, with non-reactive serology and without any other noteworthy changes in laboratory exams.

Examinations showed that the patient presented infiltrated erythematous plaque associated with local edema extending from the middle of the lower lip to the ipsilateral malar region (Fig. 1A). There was also infiltrated enanthematous plaque and erosion areas in the lower gingiva (Fig. 1 B).



**Figure 1** (A). infiltrated erythematous plaque and edema from the middle of the lower-left lip to the ipsilateral malar region. (B): Infiltrated enanthematous plaque with erosion areas in the lower gingiva.

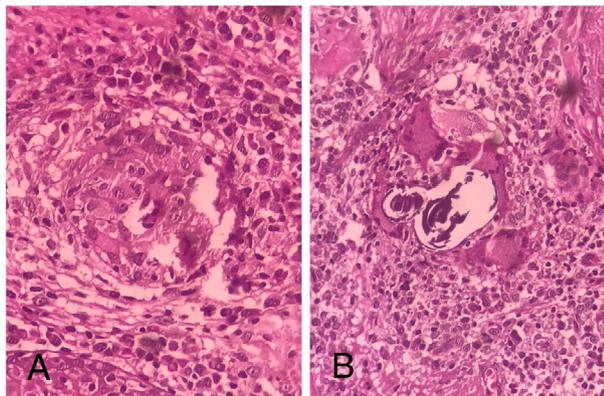
The hypotheses of cutaneous sarcoidosis, rosacea, and facial granuloma were taken into account. An incisional biopsy and histopathological examination of the skin at the left infralabial region were performed, and it corroborated the hypothesis of cutaneous sarcoidosis, with mixed granulomatous dermatitis, giant cell reaction, frequent plasma cells, edema, and ectatic blood vessels (Fig. 2 A), in addition to Schaumann corpuscles in giant Langhans cells (Fig. 2 B).



**Figure 2.** Histopathological examination of the left infralabial region with mixed granulomatous dermatitis with giantocellular reaction, frequent plasma cells, edema, and ectatic vessels (magnified 10x). (B): Schaumann corpuscles inside giant Langhans cells (magnified 40x).

The patient returned for follow-up, she was using oral corticosteroids irregularly and presented worsening skin condition, as well as progression in skin and mucosal lesions.

Incisional biopsy and histopathological examination of the lower gingival mucosa were performed due to the exuberant condition and the rare occurrence of sarcoidosis in the oral mucosa. Exams showed chronic granulomatous mucositis with Schaumann corpuscles inside Langhans giant cells, interstitial lymphoplasmocyte infiltration, foci of vascular ectasia and pronounced reactive hyperplasia of the squamous epithelium, which confirmed the sarcoidosis condition in the oral mucosa (Fig. 3).

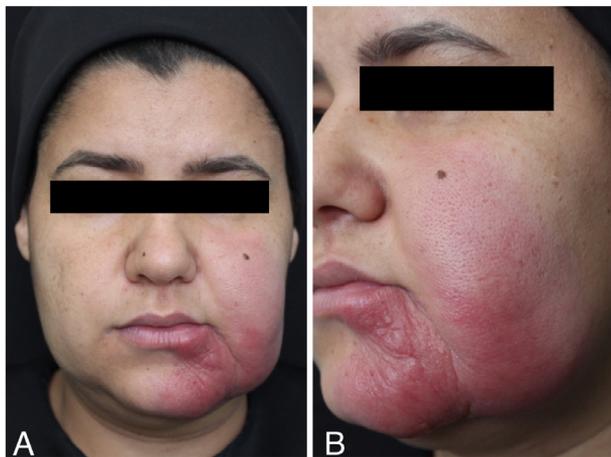


**Figure 3 (A e B).** Histopathological examination of the lower gingival mucosa with Schaumann corpuscles inside Langhans giant cells (magnified 40x).

Complementary exams were performed to refute the possibility that the oral mucosa involvement was an initial manifestation of systemic sarcoidosis.

The patient returned 10 months later, without oral corticosteroid therapy for 8 months and pregnant for approximately 6 weeks, complaining of significant worsening of her condition.

Physical examination showed cutaneous lesion progression with erythema, infiltration, and significant local edema, which extended from the middle of the left lower lip to the ipsilateral zygomatic and infrapalpebral region (Fig. 4). The infiltrated enanthematous plaque in the lower gingiva was also worse, with loss of the 1st right lower incisor (Fig. 5).



**Figure 4 (A).** Anterior view of the infiltrated erythematous plaque and edema from the middle of the lower-left lip to the ipsilateral zygomatic and infrapalpebral region. (B): Lateral view of the infiltrated erythematous plaque and edema from the middle of the left lower lip to the ipsilateral zygomatic and infrapalpebral region.

Assistant evaluation by the obstetrician for return to systemic corticosteroid therapy was requested, and it resulted in the contraindication of the treatment. Currently, the patient has been followed-up and is using topical corticosteroid therapy, but her condition remains the same.



**Figure 5.** Infiltrated enanthematous plaque with erosion areas in the lower gingiva, showing loss of the 1st right lower incisor.

## DISCUSSION

Sarcoidosis is a multisystemic inflammatory disease of undefined etiology. It is featured by the accumulation of mononuclear phagocytes and the formation of non-caseating granulomas. Several organs can be affected by it, a fact that accounts for a wide spectrum of clinical manifestations. Skin involvement is common, it is observed in  $20\% \pm 25\%$  of cases, usually at the initial phase of the disease.<sup>6</sup> Oral involvement is relatively rare, and the mandible is the most affected site - it presents severe alveolar bone loss and loose teeth.<sup>7</sup>

Cutaneous sarcoidosis can be challenging to diagnose due to the polymorphism of its lesions; therefore, it is often underdiagnosed.<sup>8</sup> Erythema nodosum is the most common skin lesion, which indicates better prognosis. However, macules, papules, plaques, nodules, erythroderma, alopecia, lupus pernio, and infiltrations in tattoos or scars can also be cutaneous manifestations of sarcoidosis.<sup>9</sup>

The assessed patient had an infiltrated erythematous plaque lesion that extended from the lower left lip to the ipsilateral malar region. It was associated with erosion areas in the lower gingiva and evolved to alveolar loss. Cutaneous and oral mucosa biopsies provided histopathological confirmation of the disease. The patient reported condition onset during her previous pregnancy, with clinical worsening during the second pregnancy. COZIER YC et al (2012) assessed publications that described the effects of pregnancy on sarcoidosis development. He highlighted that most patients do not notice any clinical change in the severity of the disease or experienced changes in symptoms. The minority of his patients experienced worsening or progression of the disease during the prenatal period, as in the herein reported case.<sup>10</sup> KOCHER et al (2020) reported high risk for pre-eclampsia/eclampsia, cesarean delivery, preterm birth, and congenital malformations in pregnant women with sarcoidosis. These are uncommon changes and most patients have had uncomplicated pregnancies, but known the aforementioned conditions can prevent possible complications in patients and newborns.<sup>11</sup>

It is important highlighting that systemic treatment of cutaneous sarcoidosis is not always necessary. High-potency intralesional and topical corticosteroids can be effective in treating pure cutaneous sarcoidosis.<sup>12</sup> Prednisone (oral intake), hydroxychloroquine, and methotrexate can be used when there is disfiguring, symptomatic, ulcerative, or

aggravating skin disease.<sup>13</sup> Systemic corticosteroid therapy was used in the current case; however, the patient used it irregularly and faced the progression of her condition. Oral corticosteroid therapy was discontinued during her pregnancy; the patient continues to be followed up and there is idea to introduce immunosuppressive medication.

## CONCLUSION

Sarcoidosis cases that involve the oral cavity are rare, but they can have unfavorable clinical evolution, or represent the first or only sign of sarcoidosis in a healthy patient. Therefore, it is important to assist the proper recognition, diagnosis, and treatment of this disease, with periodic monitoring of patients through follow-ups and disease progression control.

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## REFERENCES

- Motswaledi M, Khammissa R, Jadwat Y, Lemmer J, Feller L. Oral sarcoidosis: a case report and review of the literature. *Aust Dent J*. 2014;(59):389-394. doi: 10.4103/jisp.jisp\_378\_16
- Kolokotronis AE, Belazi MA, Haidemenos G, Zaraboukas TK, Antoniadis DZ. Sarcoidosis: oral and perioral manifestations. *Hippokratia*. 2009;13(2):119-121.
- Mantese SA, Berbert AL, Cesário TS, Silva HB. Sarcoidose cutânea sobre cicatrizes - Relato de caso. *An Bras Dermatol*. 2010; 85 (6): 903-5. doi: 10.1590/S0365-05962010000600021
- Elmahi H, Mernissi FZ. Sarcoidosis with oral involvement. *Pan Afr Med J*. 2018;30:241. doi:10.11604/pamj.2018.30.241.12010
- Bagchi S, Shah N, Sheikh MA, Chatterjee RP. Oral sarcoidosis aiding in diagnosis of underlying systemic disease. *BMJ Case Rep*. 2019;12(11):e232093. doi:10.1136/bcr-2019-232093
- Daldon PE, Arruda LH. Granulomas não-infecciosos: sarcoidose. *An. Bras. Dermatol*. 2007; 82(6): 559-571. doi: 10.1590/S0365-05962007000600010
- Gupta S, Tripathi AK, Kumar V, Saimbi CS. Sarcoidosis: Oral and extra-oral manifestation. *J Indian Soc Periodontol* 2015;(19):582-5. doi:10.4103/0972-124X.167167
- Castelo SB, Luz K, Fernandes C, Cardoso J. Sarcoidose. *Rev Soc Port Dermatol Venereol*. 2016;(74):25-31. doi: 10.29021/spdv.74.1.512
- Young RJ, Gilson RT, Yanase D, Elston DM. Cutaneous sarcoidosis. *Int J Dermatol*. 2001;(40):249-53. doi: 10.1111/j.1365-4362.1992.tb02664.x
- Cozier YC, Berman JS, Palmer JR, Boggs DA, Wise LA, Rosenberg L. Reproductive and hormonal factors in relation to incidence of sarcoidosis in US Black women: The Black Women's Health Study. *Am J Epidemiol*. 2012;176(7):635-641. doi:10.1093/aje/kws145
- Köcher L, Rossides M, Remaeus K, et al. Maternal and infant outcomes in sarcoidosis pregnancy: a Swedish population-based cohort study of first births. *Respir Res*. 2020; (21): 225
- Badgwell C, Rosen T. Cutaneous Sarcoidosis Therapy Updated. *J Am Acad Dermatol*. 2007;(56):69-83. doi: 10.1016/j.jaad.2006.06.019
- Doherty CB, Rosen T. Evidence-based therapy for cutaneous sarcoidosis. *Drugs*. 2008;68(10):1361-1383. doi:10.2165/00003495-200868100-00003

