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*Case Report*

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# *Isolated Breast Sarcoidosis*

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**Abstract**

**Background:** Sarcoidosis is a rare non-caseating granulomatous disease of unknown origin that affects multiple systems in the body occurring more frequently in young women age 17-24 years. Cases with manifestations that doesn't affect the common organs can be difficult to identify and delay the patient's diagnosis, meaning that the finding of an isolated breast mass should include sarcoidosis as one of its differentials, to ensure early detection and a better prognosis.

**Case presentation:** We present the case report of a 21-year-old female patient, who had noticed a palpable breast nodule associated with local pain and fever for 2 months. Physical examination detected palpable bilateral axillary lymph nodes, a nodule occupying the lateral quadrants of the left breast and bullous lesions, along with phlogistic signs in the same topography. The imaging exams of the chest, showed a solid-cystic complex in the lateral quadrants of the left breast, in addition to bilateral axillary lymph node enlargement. Laboratory tests was unremarkable. The histopathological tests detected fibroadipose tissue with noncaseating granulomas, neutrophilic microabscesses and Langerhans-type giant cells, causing chronic granulomatous mastitis, which may represent sarcoidosis. The lesions regresed after the use of corticosteroids.

**Conclusion:** Despite its rarity, the clinical and imaging findings such as those of this patient, should warrant the consideration of breast sarcoidosis as a possible diagnosis given the importance of excluding similar conditions, such as neoplasms, early on.

***Keywords:*** Primary breast sarcoidosis; Mastitis; Breast cancer.

## Background

Sarcoidosis is a chronic systemic granulomatous disease of unknown etiology. Breast involvement may occur in less than 1% of cases, often mimicking carcinomas at clinical examination, making the differential diagnosis very challenging [1-3]. Only a few cases with a primary presentation of this disease in the breast tissue have been reported [3].

## Case presentation

Female patient, 21 years old and with no comorbidities, reports a palpable nodule associated with local pain and fever that was noticed 2 months ago. Physical examination revealed palpable bilateral axillary lymph nodes, a palpable nodule occupying the lateral quadrants of the left breast and bullous skin lesions, in addition to phlogistic signs in the same topography (Figure 1). Computed Tomography (CT) of the chest without contrast was performed (Figures 2a and 2b), which only showed

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bilateral axillary lymph nodes enlargement. Ultrasonography of the breasts (Figure 2c) and Magnetic Resonance Imaging (MRI) of the breasts with contrast revealed a solid-cystic complex in the lateral quadrants of the left breast, in addition to bilateral axillary lymph node enlargement, more evident on the left, which may correspond to reactional process (Figures 3a-3d). Laboratory tests showed urinary calcium at the upper normal limit. Percutaneous biopsy with histopathological result of breast fibroadipose tissue showing numerous non-caseating granulomas with neutrophilic microabscesses and Langerhans-type giant cells, suggesting chronic granulomatous mastitis, which may correspond to sarcoidosis (Figure 4). After treatment with corticosteroid therapy, the lesions regressed.

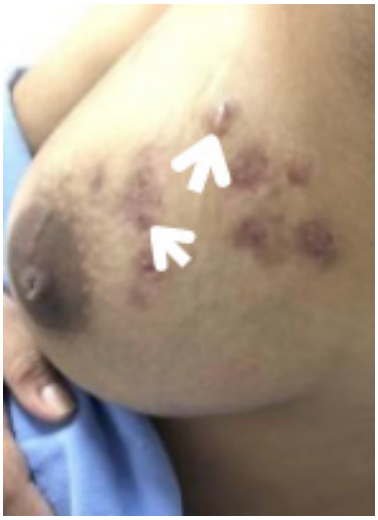

**Figure 1:** Bullous lesions in the upper lateral quadrant of the left breast.

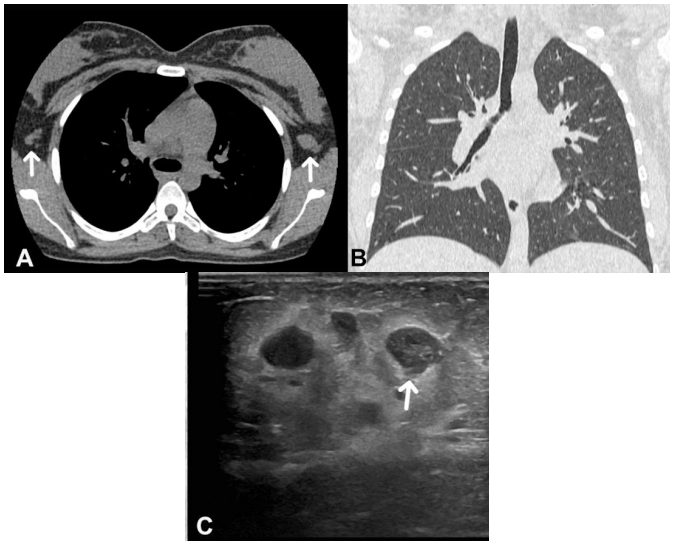


**Figure 2:** Computed tomography in the axial plane **(A)** shows bilateral axillary lymph node enlargement and in the coronal plane **(B)**, which shows lung parenchyma without significant changes. **(C)** Ultrasonography (US). Solid-cystic lesion in the left breast.

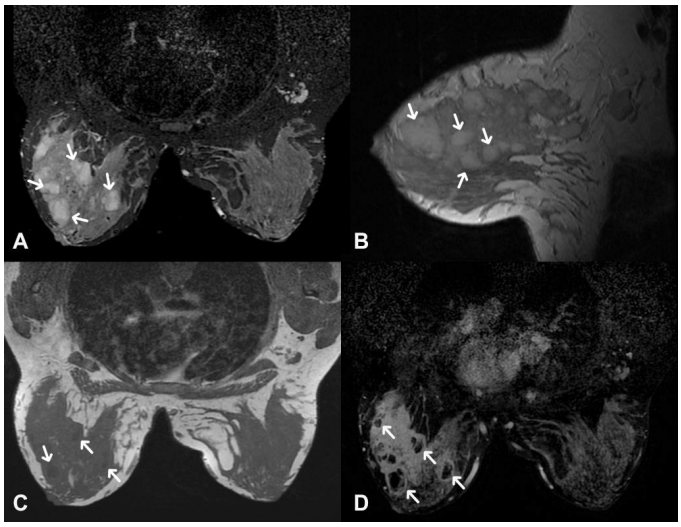


**Figure 3:** Breast Magnetic Resonance Imaging (MRI) shows a solid-cystic complex in the left breast. Bilateral axillary lymph node enlargement, more evident on the left, which may correspond to a reactional process.

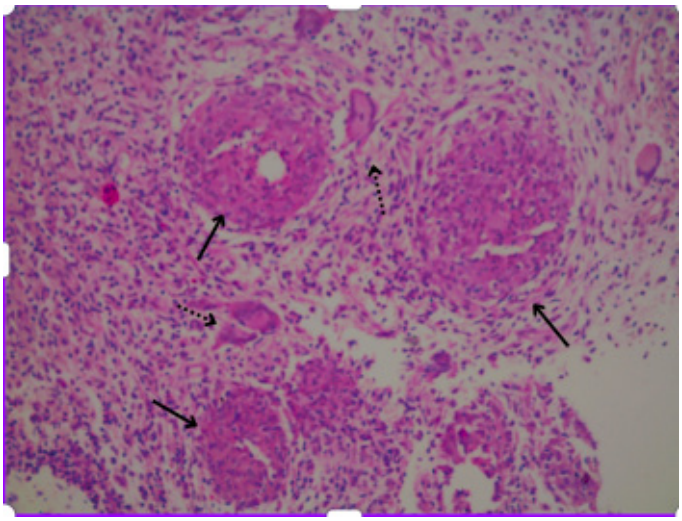

**Figure 4:** Percutaneous biopsy with histopathological result of breast fibroadipose tissue showing numerous non-caseating granulomas with neutrophilic microabscesses (arrow continues) and Langerhans-type giant cells (arrow dotted), suggesting chronic granulomatous mastitis, which may correspond to sarcoidosis.

## Discussion

Sarcoidosis is a non-caseating granulomatous disease of unknown etiology, predominantly in young to middle-age adults (17-24 years old), which affects multiple tissues and organs, including the lungs in most cases [1-3]. According to Ojeda et al., there were only 35 cases of breast sarcoidosis between 1921 and 1997, in seven cases, a breast mass was the initial manifestation of the disease [1]. In cases with breast tissue involvement, there is usually a primary mediastinal focus, which was not evident in this case. As no other primary focus is identified, the infection is clinically called primary sarcoidosis of the breast. On mammography, the mass can display well defined contours or spicules, appearing as either a single mass or multiple lesions. On ultrasound, a hypoechoic mass may show indistinct borders that cannot be differentiated from malignancy. MRI

findings may be similar of those seen in carcinoma of the breast, including inhomogeneous signal intensity, irregular contours, rapid enhancement and an early "washout" [1,3]. Diagnosis is difficult due to multiple possible differential diagnoses, such as inflammatory breast neoplasm, foreign body mastitis, diabetic mastitis, tuberculous mastitis and other infectious diseases [1,2]. In view of such clinical findings as those found on this patient, associated with these radiological images, despite its rarity, primary breast sarcoidosis should be considered as a possible diagnosis [4-6].

## Conclusion

This case illustrates an unusual presentation of sarcoidosis with breast involvement, which presents why primary sarcoidosis should always be considered in case of isolated granulomatous lesions despite its rarity. since malignancy must be excluded as a primary differential diagnosis.

## Declarations

**Conflict of interest:** The authors declare that they have no conflict of interest.

**Declarations:** Consent for publication we obtained written informed consent from the patient for publication. Disclosures None.

## References


1. Carvalho JF, Ramos CL, Ramos PM, de Sá Oliveira VF, de Araujo DB. Sarcoidosis of the breast: an unusual clinical presentation. Revista de Ciências Médicas e Biológicas. 2018; 17(3): 403-405. https://doi.org/10.9771/cmbio.v17i3.23493

2. Dutra AGA, Ferreira ACSDM, Araújo LDVCP, Tolentino FD, Bezerra WF, et al. Sarcoidosis mimicking metastatic breast cancer-a case report and literature review. Brazilian Journal of Oncology. 2023; 19: 1-7. https://doi.org/10.5935/2526-8732.20230354

3. Endlich JL, Souza JA, Osório CABDT, Pinto CAL, Faria EP, Bitencourt AGV. Breast sarcoidosis as the first manifestation of the disease. The Breast Journal. 2019; 26(3): 543-544. https://doi.org/10.1111/tbj.13560

4. Rhazari M, Ramdani A, Gartini S, Bouali S, Aharmim M, et al. Mammary sarcoidosis: A rare case report. Annals of Medicine and Surgery. 2022; 78: 103892. https://doi.org/10.1016/j.amsu.2022.103892

5. Papanikolaou IC, Shigemitsu H. Sarcoidosis and breast cancer: A retrospective case series. Respiratory Medicine Case Reports. 2020; 31: 101190.https://doi.org/10.1016/j.rmcr.2020.101190

6. Reis J, Boavida J, Bahrami N, Lyngra M, Geitung JT. Breast sarcoidosis: Clinical features, imaging, and histological findings. The breast journal. 2021; 27(1): 44-47. https://doi.org/10.1111/tbj.14075