International Journal of Academic Health and Medical Research (IJAHMR)
ISSN: 2643-9824
Vol. 6 Issue 1, January - 2022, Pages:113-116

Sarcoidosis of the Breast: A Case Report

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Abstract: *Sarcoidosis, also known as Besnier-Boeck-Schaumann disease, is a chronic multisystemic inflammatory disease of unknown etiology whose main localizations are mediastinal and pulmonary. The sarcoid granuloma can be present in almost all organs, thus causing extremely polymorphous clinical pictures of variable severity, sometimes threatening the functional and/or vital prognosis. Its localization in the breast is extremely rare. We report a case of sarcoidosis of the breast in a 26-year-old woman who presented with a breast mass with inflammatory signs opposite. Mammography showed a spiculated mass without any microcalcification. Ultrasound showed a hypoechoic mass. She underwent biopsy and the pathologic findings were consistent with sarcoidosis. The evolution was good under medical treatment.*

Keywords: Breast sarcoidosis - Mammography - Ultrasound - polymorphous clinical picture, pseudotumor

Introduction: Sarcoidosis is a systemic granulomatosis characterized by the formation of epithelioid giant cell granulomas in the affected organs [1]. It predominantly affects women, with two peaks in incidence: 25-29 years and 65-69 years [2]. Breast involvement is very rare in sarcoidosis and is manifested by polymorphic clinical patterns, making the diagnosis sometimes difficult [1,2]. We report a case of sarcoidosis of the breast in a 26-year-old woman who presented to our department with an inflamed breast, on imaging, the breast lesion was suspicious of malignancy. The first biopsy was inconclusive, a second biopsy was done revealing a sarcoidosis of the breast. The evolution was good under medical treatment.

Case Presentation:
Mrs. R.K. is 26 years old, without any pathological history, notably no familial breast/ovarian neoplasia, mother of 02 children. She presented with an inflammatory mass of the right breast. The clinical examination revealed a 6cm*5cm nodule on the right breast, fixed in relation to the superficial plane, fistulated to the skin, bringing pus with inflammatory signs of redness and heat, the examination of the contralateral breast was unremarkable and there were no axillary or supra-clavicular adenopathies. Breast ultrasound and mammography showed signs of right mastitis with individualization of a 33 mm in the upper inner quadrant of the right breast classified as BIRADS category 4 associated with atypical homolateral nodes. An ultrasound-guided biopsy was performed with 05 cores showing: intense lesions of acute granulomatous mastitis, no epithelial tumor lesions. Molecular biology (PCR/GeneXpert) was also performed and did not detect mycobacteria tuberculosis DNA.
The patient reported the appearance of dermatological lesions on both legs at the same time as the breast lesion an examination by the dermatologists was performed: the dermatological lesions on the legs corresponded to erythema nodosum.
the patient was hospitalized in the dermatology department where she underwent a biological assessment with a Hemoglobin was 13 g/dl and erythrocyte sedimentation rate was 16/first hour. A tuberculin test (Tine) was negative. The serum angiotensin-converting enzyme (ACE) was 98 IU/ml (normal 5-55 IU/ml) and serum lysozyme 15 mg/l (normal 0-8 mg/l). The corrected serum calcium concentration was normal. There were no clinical signs of cutaneous, ocular, neurological or myocardial sarcoidosis. A Kveim test was strongly positive with multiple epithelioid granulomas. She then underwent a biopsy of the inflamed skin of the breast under dermoscope with a second biopsy of the breast nodule. the anatomo pathological study of the 02 biopsies revealed non-necrotizing granulomatous inflammation in the breast tissue, which was consistent with sarcoidosis. The lesion was surrounded by normal breast tissue, and the mass lesion was proven to be sarcoidosis. The lesion was surrounded by normal breast tissue, and the mass lesion was proven to be in the breast tissue. Special stains for fungi and acid-fast bacilli were negative. The patient was put on medical treatment with corticoids and non-steroidal anti-inflammatory drugs and the evolution was marked by the disappearance of the inflammatory signs as well as the breast mass.

Discussion:
Sarcoidosis is a systemic disease of unknown etiology that typically involves the lungs, mediastinum, lymph nodes, skin, spleen, and liver. Breast involvement accounts for less than 1% of cases [3]. Sarcoidosis should be suspected in patients with a history of sarcoidosis who present with a breast lesion; however, histopathologic examination is essential to exclude breast cancer. The diagnosis of sarcoidosis was established in our patient by elevated serum ACE and lysozyme concentrations, and by a strongly positive Kveim test and finally by histological study. Estimation of serum ACE and lysozyme concentrations is now an important adjunct in the diagnosis of sarcoidosis [4].
Approximately two-thirds of patients with active sarcoidosis have increased serum ACE [5]. ACE is thought to originate from monocyte-derived epithelioid cells in sarcoid granulomas. Serum lysozyme derived from the same cells is used to assess disease activity and extent [5]. In the differential diagnosis, we had to consider granulomatous mastitis, tuberculosis and fungal infection. The combination of erythema nodosum (EN) and adenopathy in a febrile setting constitutes Löfgren's syndrome, the inaugural condition of sarcoidosis, which generally has a good prognosis [4,5].

Imaging findings in breast sarcoidosis have been reported in a limited number of cases [6,7,8,9,10]. Mammographic findings have been reported in 9 cases [7,8,9]. Three cases had ill-defined margins or spiculations, often seen in malignant lesions. Two mammography reports were completely negative, and the remaining findings were nonspecific (skin thickening, fibrocystic changes, and small, well-defined round lesions). No microcalcification associated with breast sarcoidosis was reported. Ultrasound findings reported in two cases were also not specific [9]. One revealed a hypoechoic oval lesion, and the other was inconclusive. Magnetic resonance imaging findings that were described in one case report included inhomogeneous signal intensity with irregular contours and rapid enhancement with early disappearance [6], findings often seen in carcinomas [5].

Granulomatous mastitis is now a well-established clinical and pathologic entity. It occurs in young women of childbearing age and may mimic a carcinoma [11].

Because breast sarcoidosis can coexist with breast cancer that can be ignored by fine-needle biopsy [12,13] or even core biopsy [14], an excisional biopsy is recommended in such a case. Panlobulitis is an important histologic feature of granulomatous mastitis. Although microabscesses, ductal lesions and ductal inflammation are often present in this lesion [10].

Sarcoidosis is a common disorder with heterogeneous severity. Corticosteroids are the cornerstone of its treatment and allow a disease remission but only with a suspensive effect. Immunosuppressive drugs, hydroxychloroquine and infliximab may be useful in some patients. Half of the patients recover spontaneously without any treatment. In the remaining patients, a treatment is necessary either at presentation or during the follow-up in the presence of a disease flare. Treatment duration should be of at least 12 months [15]. Our patient evolved well after medical treatment with corticoids and non-steroidal anti-inflammatory drugs and did not require surgery

Conclusion:

In conclusion, breast sarcoidosis should be considered in the differential diagnosis of breast mass lesion in patients with a history of sarcoidosis. Imaging coupled with biological workup made of angiotensin-converting enzyme and lysozyme concentration can be helpful in the diagnosis of breast sarcoidosis; however, histological diagnosis by needle biopsy is necessary to rule out malignant sarcoidosis.

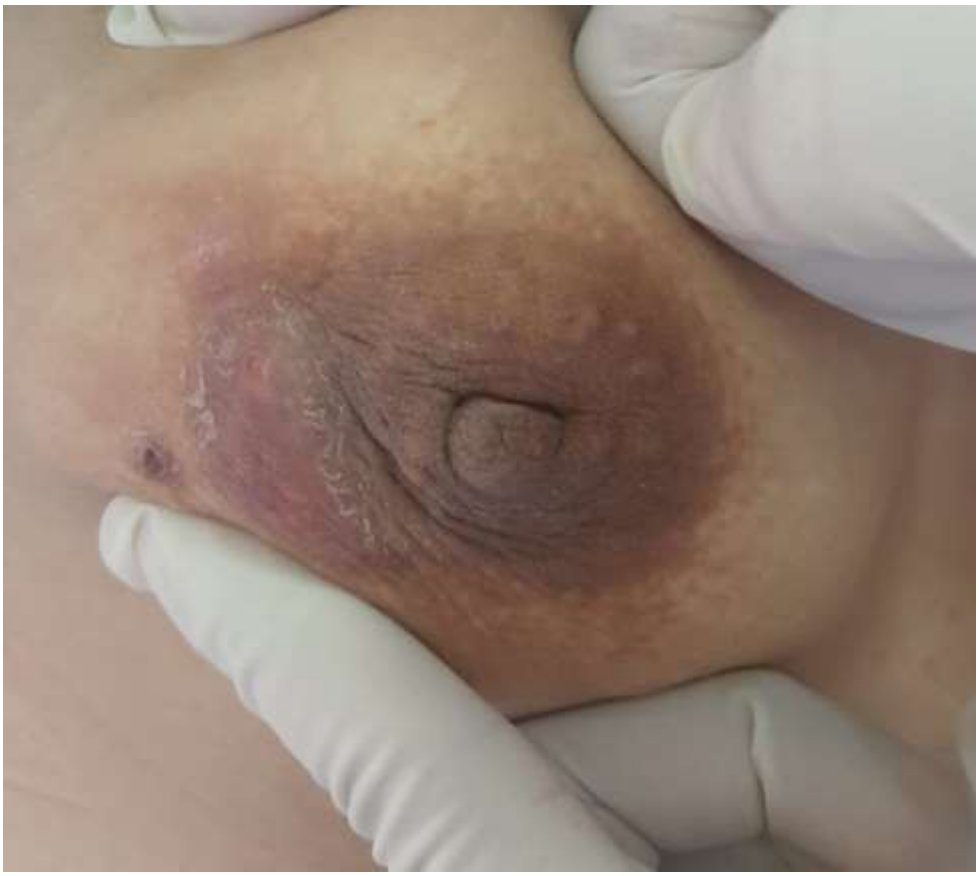

Figure 1: the photo shows the presence of an abscessed collection in the upper inner quadrant of the right breast in peri-areolar

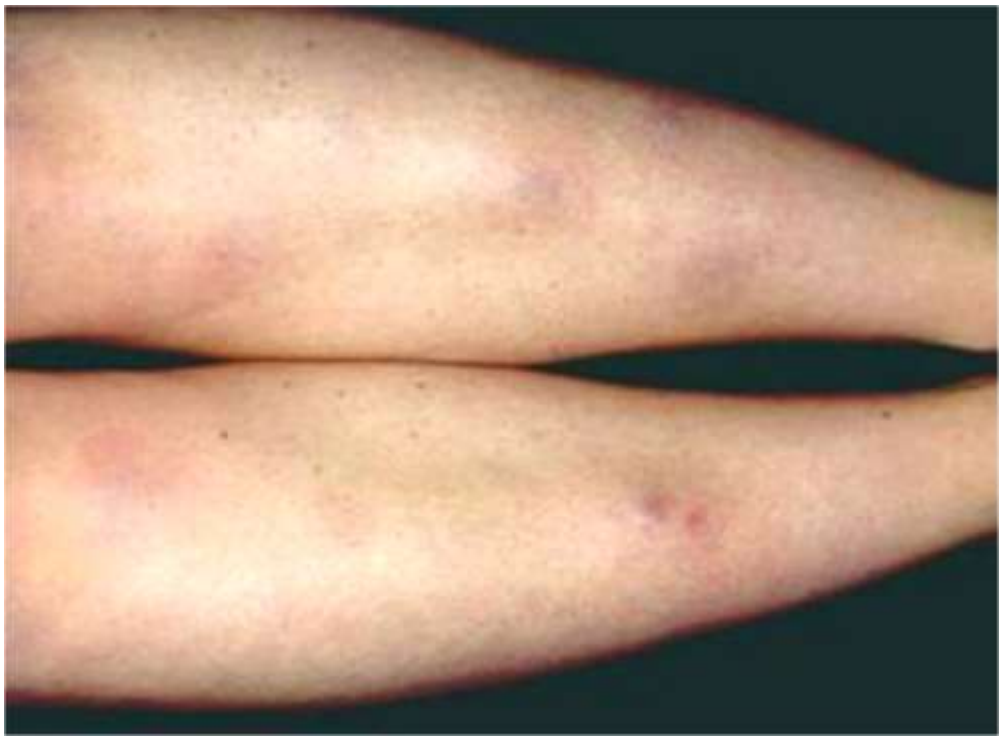

Figure 2: The photo shows raised; purplish bumps (nodules) caused by erythema nodosum. Its presence is indicative of the acute nature of sarcoidosis.

Disclosure of interest
Les The authors declare that they have no competing interest.

Figures :

Figure 1: The photo shows the presence of an abscessed collection in the upper inner quadrant of the right breast in peri-areolar.
Figure 2: The photo shows raised; purplish bumps (nodules) caused by erythema nodosum.

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