

Secondary Breast Tuberculosis Mimicking Breast Cancer

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Abstract: Breast tuberculosis is a rare localization of extra-pulmonary tuberculosis. It comes usually in form of a breast nodule, and thus poses the problem of differential diagnosis with breast cancer. Breast involvement may be primary or secondary to other localizations, particularly pulmonary. We report a case of breast tuberculosis secondary to pulmonary involvement, occurring in a 61-year-old patient, whose clinico-radiological presentation was suggestive of breast cancer.

Keywords: Breast tuberculosis, secondary, breast cancer.

INTRODUCTION

Tuberculosis is a public health problem in some countries. Extra-pulmonary tuberculosis accounts for 20 to 30% of all tuberculosis cases [1].The breast is an exceptional localization of extra-pulmonary tuberculosis. Breast tuberculosis can be primary, or more often secondary to another tuberculosis focus, usually pulmonary.

We report in this work a case of breast tuberculosis secondary to pulmonary location occurring in a 61-year-old female patient. In this work, we highlight the particular clinical presentation of breast tuberculosis, often evoking the diagnosis of breast cancer in the first place, as well as the importance of histological examination in the diagnosis of certainty.

CASE PRESENTATION

61-year-old female patient, with no particular pathological history, postmenopausal for ten years, having left mastodynias without general signs and no notion of tuberculosis contagion, evolving for four months. Examination of the breasts revealed a diffuse sensitivity in palpation, without a palpable nodule or inflammatory signs.

Mammography of the left breast showed the presence of opacity, measuring 50 × 55 mm, opposite to

left pectoralis major muscle, with regular contours achieving retraction of the adjacent glandular parenchyma, without underlying calcifications (Figure 1). In the echographic complement, the opacity corresponded to a heterogeneous nodule, containing cystic zones, with irregular posterior contours infiltrating the left pectoralis major muscle. This lesion suspected breast cancer and was classified Birads V (Breast Imaging Reporting and Data System) by the American College of Radiology (ACR).

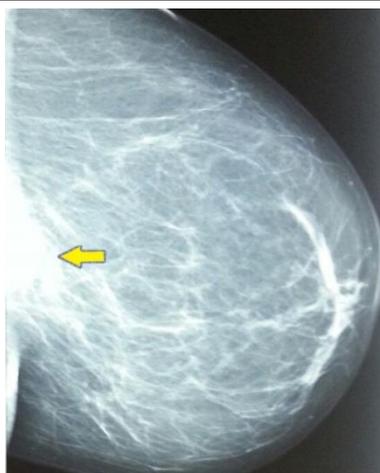


Fig-1: Mammography image of left breast showing a regular opacity next to left pectoral grand muscle (arrow)

Microbiopsy showed epitheliomatous hyperplasia without histological evidence of malignancy. Evolution was marked by accentuation of pain with appearance of inflammatory signs in breast skin and issue of pus through puncture orifice of the microbiopsy. Antibiotic therapy started but without clinical improvement.

Thoracic computed tomography scan (CT-scan) was performed and showed a nodule of cystic appearance, invading the anterior and intercostal parietal muscle planes (Figure 2). The exam also noted a well-defined left subpleural intra-parenchymal pulmonary nodule with the presence of calcified pachypleuritis (Figure 3).

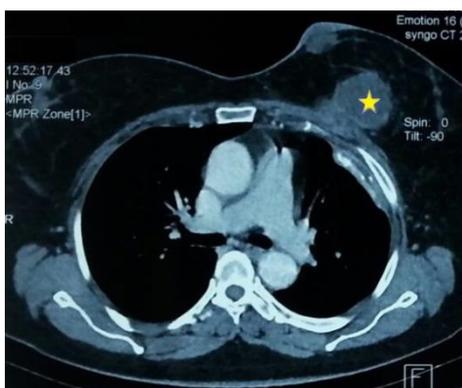


Fig-2: CT scan showing a cystic nodule of left breast, invading anterior wall of the thorax (star)

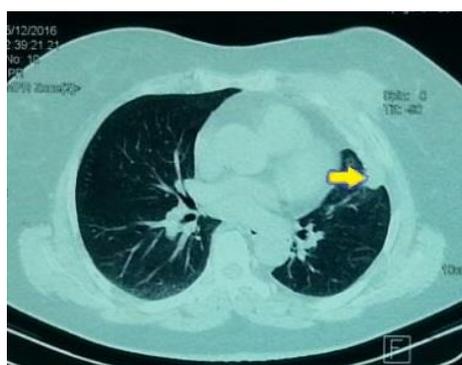


Fig-3: CT scan showing a well-defined left subpleural intra-parenchymal nodule, with presence of a calcified pachypleuritis (star)

Several echo-guided biopsies were performed and showed a polymorphic inflammatory infiltrate with the presence of numerous epithelio-giganto-cellular

granulomas, some of which are bordered by caseous necrosis (Figure 4). The diagnosis of pulmonary and breast tuberculosis was retained.

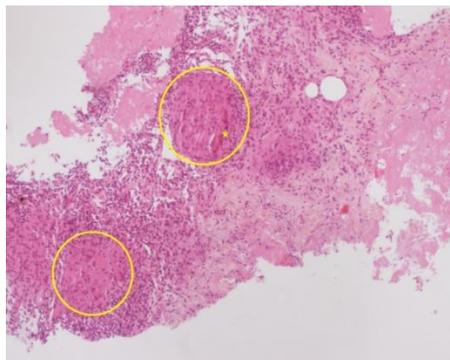


Fig-4: Histological section (Hematoxylin-Eosin-Safran (HES) x 100) showing an inflammatory infiltrate with multiple epithelioid-giantocellular granulomas (circles), some of which are bordered by caseous necrosis (star)

The patient was referred to phtisiology clinic and was put on anti-tuberculosis treatment for 9 months (two months of: Isoniazid, Rifampicin, Pyrazinamide and Ethambutol, Seven months of: Isoniazid and Rifampicin) with a good clinical course.

DISCUSSION

Described for the first time in 1829 by Cooper [2], mammary tuberculosis is a rare entity of extra-pulmonary tuberculosis. It represents less than 0.1% of the different breast lesions examined histologically [3]. In countries endemic for tuberculosis such as Morocco, this rate can reach 3 to 4.5% [4]. Breast tuberculosis occurs mainly in women of childbearing age [5], which is not the case for our patient.

Breast tuberculosis can be either primary when the breast is the first infectious focus, or secondary when the breast is affected secondarily from another infectious focus [6]. In our observation, the secondary character of mammary tuberculosis can be retained since it was revealing, synchronous and contiguous to pulmonary involvement.

Depending on the initial clinical presentation, mammary tuberculosis is classified into five different types: (1) nodular form, (2) abscess form, (3) sclerosing form, (4) obliterative mastitis form, and (5) miliary tuberculous breast. The nodular form being the most frequent [7]. The clinical perception of the nodule in our patient was not possible because of its deep location, mastodynia being the only reason for consultation. In addition, this nodular presentation raises the problem of differential diagnosis with breast cancer.

The identification of the pathogen "Mycobacterium Tuberculosis" on direct examination under the light microscope (Ziehl Nielson stain) or after culture of the aspiration material is the basis of the positive diagnosis of tuberculosis. However, in the majority of mammary locations, the diagnosis is based on histological study by the identification of granulomatous lesions with the presence of caseous

necrosis [8]. In our observation, the biopsy was performed in the presence of suspected breast cancer.

The treatment of mammary tuberculosis is based on the combination of anti-tuberculosis drugs. In the absence of specific recommendations, the duration of treatment can vary between six and nine months, with generally a favorable evolution in 95% [9]. In the absence of a clinical response, a simple mastectomy may be necessary [10, 11].

CONCLUSION

The increasing incidence of breast cancer has meant that breast tuberculosis represents a diagnosis of elimination from any breast nodule, especially in the absence of a general sign or notion of tuberculosis contagion. Histological examination is of important use in the diagnosis of certainty because it allows both to eliminate breast cancer and to confirm the diagnosis of mammary tuberculosis. It is necessary to perform a complete morphological assessment to look for other tuberculosis foci, in particular pulmonary.

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