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(CASE REPORT)

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Tuberculous mastitis: Between infection and cancer

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Abstract

Mammary tuberculosis remains a rare pathology, creating challenges in its differential diagnosis with breast cancer due to the lack of specificity of symptoms and imaging findings. It is crucial to consider breast tuberculosis, particularly in endemic regions or in immunocompromised individuals. We present a case of breast tuberculosis in a 44-year-old woman to highlight the diagnostic difficulties associated with this disease.

Keywords: Tuberculosis; Breast; Biopsy; Histology

1. Introduction

Mammary tuberculosis, even in endemic regions, remains a rare form of extra-pulmonary tuberculosis, accounting for only 0.06-0.1% of all cases of localized tuberculosis [1,2]. Symptoms and imaging findings are non-specific, making it crucial to distinguish this condition from other breast pathologies, particularly breast cancer, in order to avoid invasive procedures and potentially devastating treatments. We present a case of breast tuberculosis to illustrate the challenges associated with differential diagnosis between breast tuberculosis and breast cancer.

2. Case report

Mrs. A.C., a 44-year-old married mother of three, with no previous medical history of note, recently consulted us with persistent pain in the upper inner quadrant of the right breast, with no associated breast discharge, accompanied by asthenia, anorexia and weight loss of 6 kilograms in two months. Moreover, the patient showed no associated symptoms, in particular no respiratory, neurological, gynaecological, digestive or urinary signs.

On examination, inflammation is noted in the right breast, while the left breast, lymph nodes and the rest of the physical examination appear normal.

Mammography findings (Figure 1, 2) show uneven breast density (BI-RADS type C), with notable thickening of the retro and superoareolar region, as well as of the skin, although no obvious signs of cancer such as microcalcifications or nodules are observed. Breast ultrasound (Figures 3a, b, c) revealed fatty infiltration and edema of the fibro-glandular tissue of the right breast, accompanied by skin thickening and dilatation of the right retroareolar duct.

A biopsy performed during surgery under the supervision of a gynecologist confirms the presence of tubercular inflammation. Subsequent surgical excision revealed a non-proliferative fibrocystic mastopathy with signs of tubercular inflammation, with no obvious malignancy (Figure 4a, b), and the XPERT gene on the breast biopsy fragment was

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negative. The diagnosis of tuberculous mastitis was then made, and the patient was referred to a specialized center for anti-tuberculosis treatment.

Anti-tuberculosis treatment was started, including 5 tablets of ERIPK4 per day, based on an initial weight of 67 kilograms, combined with analgesics for pain. Progress was favourable, with a reduction in inflammation of the right breast and disappearance of breast pain. One week after the start of treatment, the patient regained her appetite and regained 3 kilograms in just 20 days.

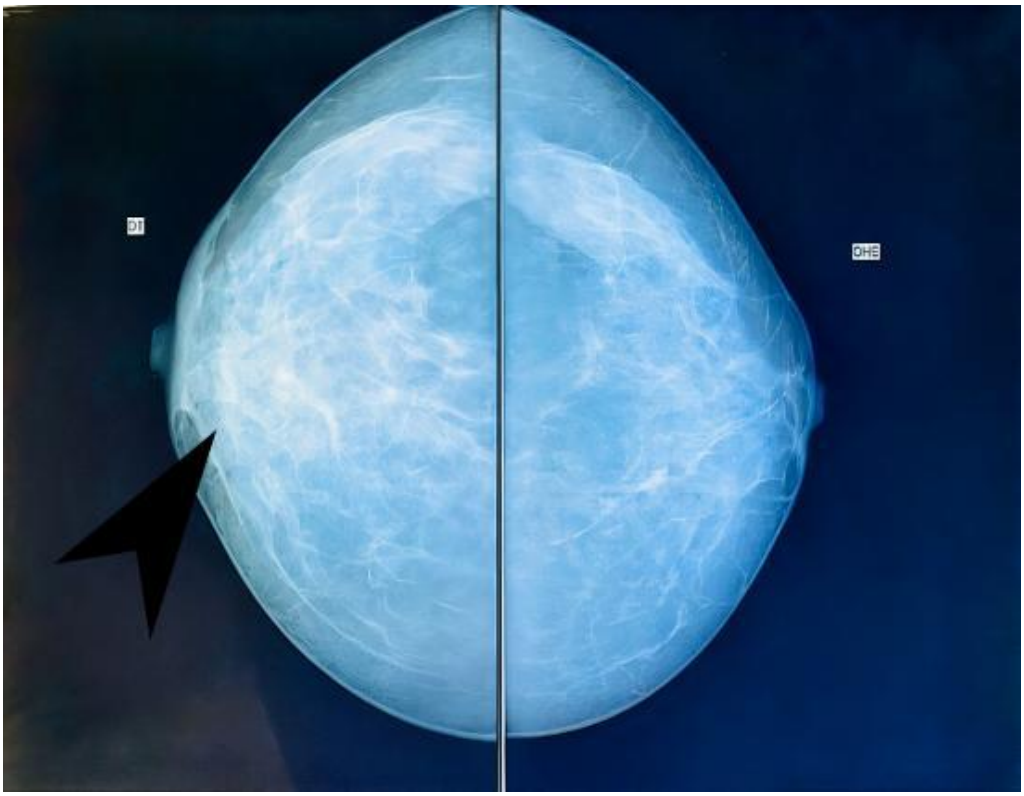


Figure 1 Mammography of the 2 breasts: Facing view

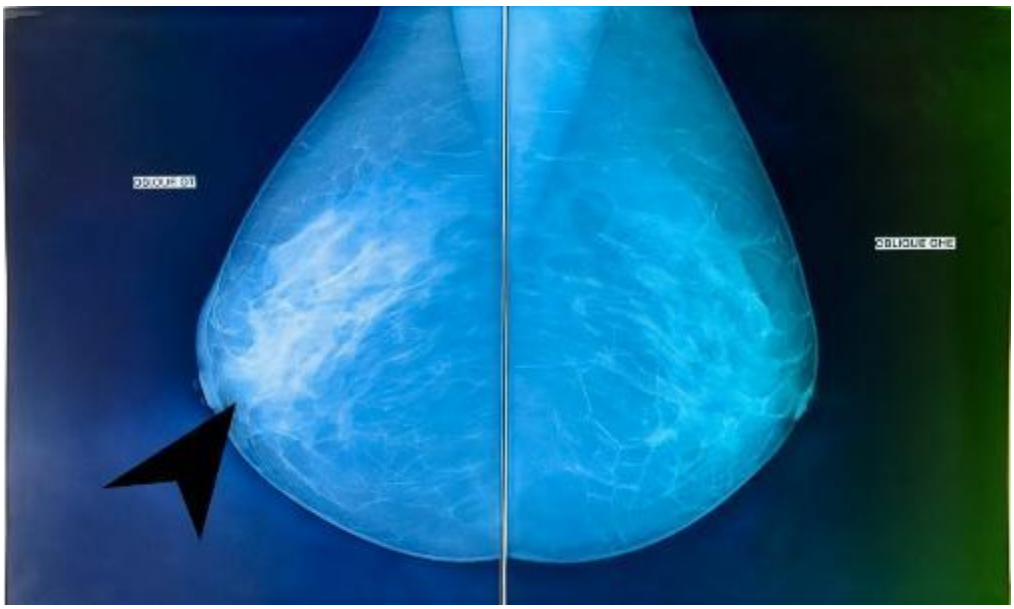
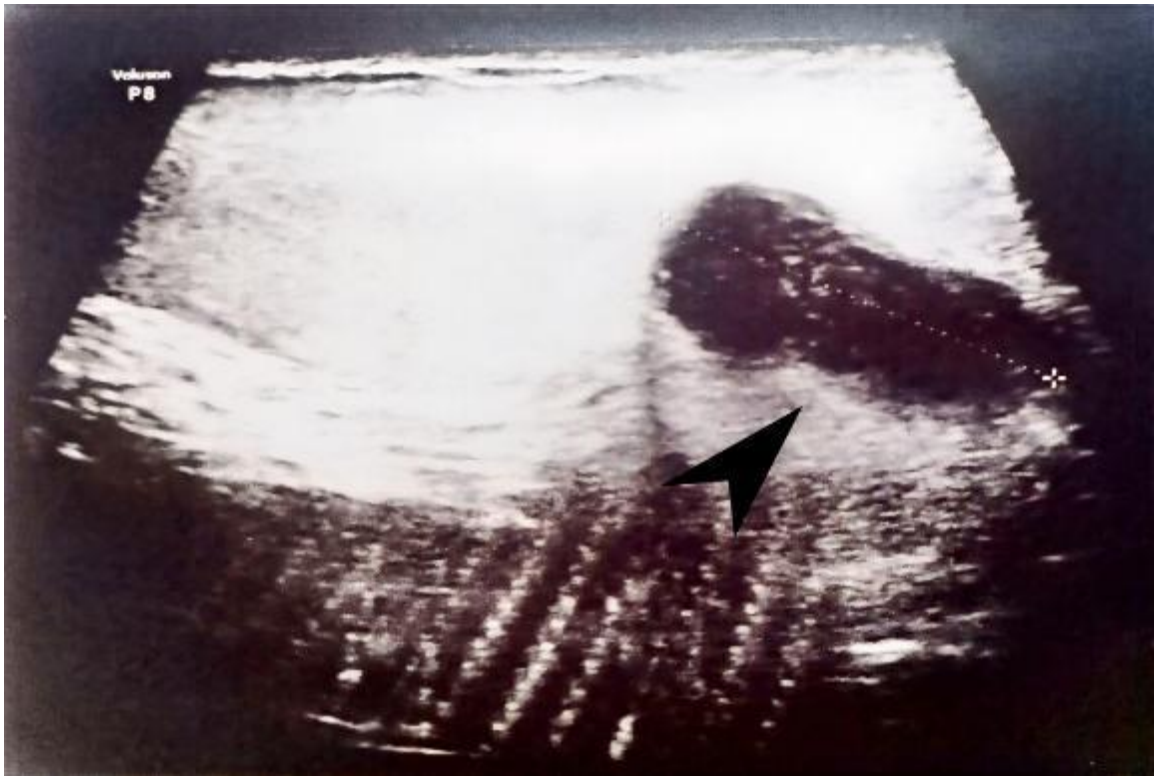


Figure 2 Mammography of the breasts: Oblique view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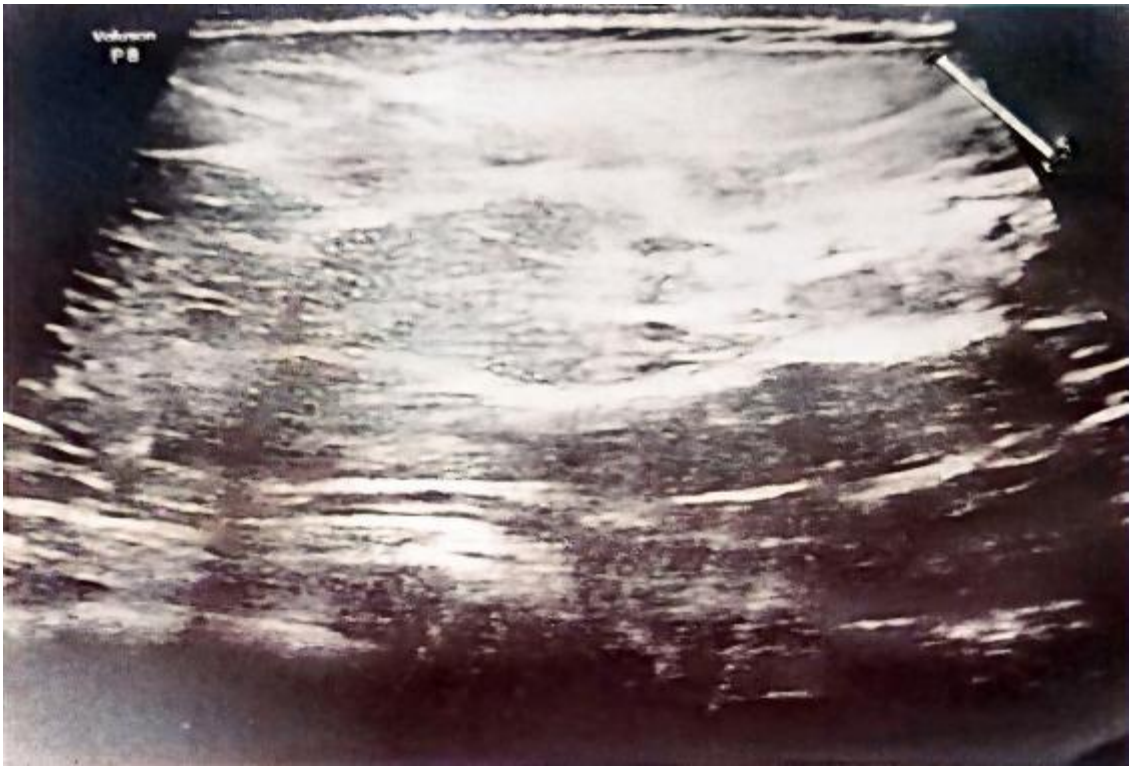
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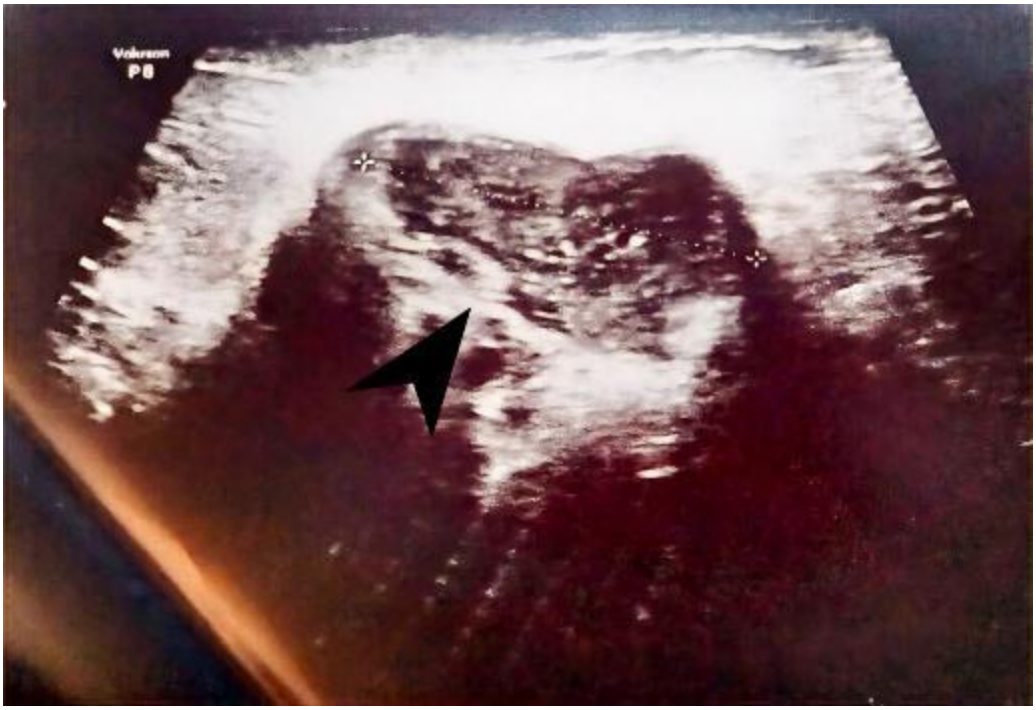
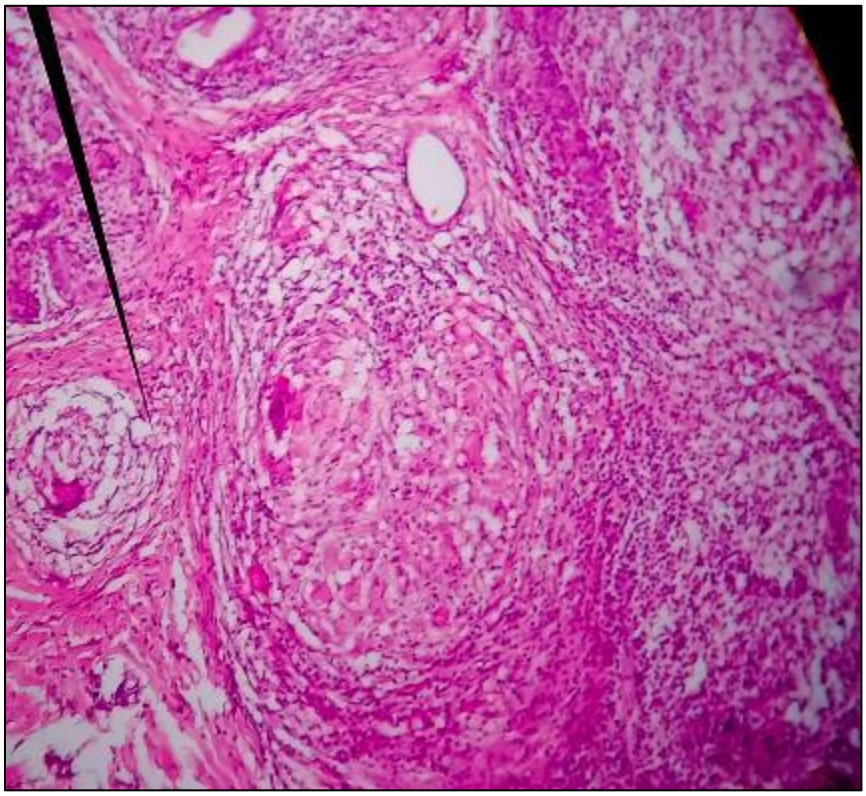


Figure 3a, b, c Mammary ultrasound of the right breast, showing fatty infiltration and edema of the fibro-glandular tissue of the right breast, with thickening of the skin, as well as dilatation of the right retroareolar duct.



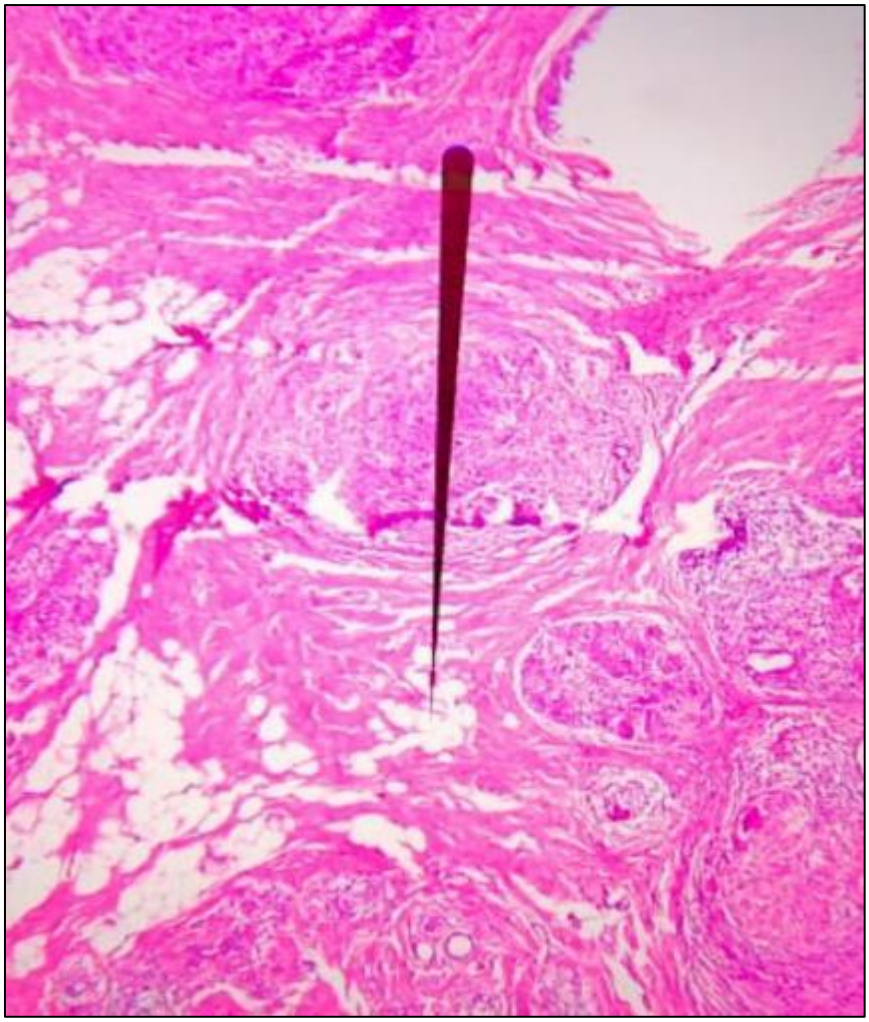


Figure 4a, b Mammary tuberculoid granuloma

3. Discussion

Mammary tuberculosis, a very rare form of tuberculosis, accounts for around 0.06% to 0.1% of all tuberculosis cases [1,2]. This rarity may be explained by the unfavourable nature of breast tissue for the survival and spread of the bacterium responsible [3], affecting mainly young women, with pregnancy, lactation and multiparity remaining the main risk factors due to the associated galactophoric ectasia [5]. The routes of infection are varied, ranging from the lymphatic to the hematogenous, via the ductal and direct routes, although the latter is rare [2]. Mammary tuberculosis is classically divided into two types: secondary, with concomitant involvement of other organs, and primary, where the involvement is localized to the breast, the latter being the more frequent [3,6]. In our patient, the disease was primitive. Clinically, breast tuberculosis often presents with non-specific symptoms, usually manifesting as breast pain, a nodular mass or inflammation similar to breast cancer. However, clinical signs such as recurrent abscesses, fistulized axillary adenopathy and breast fistulae with discharge may guide the diagnosis [2].

Radiological findings are not specific, with mammography sometimes showing irregular opacities pointing towards a malignant etiology, while ultrasound often reveals a poorly delineated hypoechoic image [7,8]. Definitive diagnosis is based on histological examination, revealing epithelioid and gigantocellular granulomas with caseous necrosis [9]. The main differential diagnosis to consider is breast cancer, although other pathologies such as breast abscess, fibroadenoma, sarcoidosis and granulomatous mastitis should also be considered. In our case, the diagnosis of breast tuberculosis was only confirmed by histological examination, despite the initial suspicion of breast cancer due to the patient's age and menopausal status. Treatment of breast tuberculosis is based on antibiotics, possibly with percutaneous drainage of abscesses, although surgery, such as mastectomy, may be considered in cases of resistance to medical treatment [5].

4. Conclusion

Mammary tuberculosis remains an extremely rare localization, even in regions where it is endemic. Clinical manifestations and radiological findings can be misleading, posing a diagnostic challenge, particularly in distinguishing it from breast cancer. Pathological examination remains the cornerstone of definitive diagnosis.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflicts of interest.

Statement of informed consent

All participants included in the study provided informed consent.

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