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RECURRENT PRIMARY BREAST TUBERCULOSIS: DIAGNOSTIC AND TREATMENT CONUNDRUM - A CASE REPORT

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INTRODUCTION

Tuberculosis (TB) is a communicable disease caused by ***Mycobacterium tuberculosis*** bacillus which primarily affecting the pulmonary system[4] however my impact including breast. In Malaysia, TB incidence is 78 cases per 100,000 population, with 14% of cases represents extra-pulmonary TB[5]. Breast tuberculosis (BrTB) is a rare form of extra-pulmonary TB, making up for less than 0.1% of breast pathologies[1,2,3]. Primary breast BrTB was first reported in 1829 by Sir Astley Cooper, an English surgeon as ***"scrofulous swelling of the bosom"***[1,3,4]. Diagnosing BrTB is challenging as it can mimic other breast pathologies particularly breast malignancy[3,4]. Thorough history taking, physical examination along with microbiological and histopathological examination are essential for the accurate diagnosis[2].

CASE REPORT

A 48-year-old nulliparous woman with no significant medical history presented to our center in 2016 with a solitary right peri-areolar swelling and blood-stained nipple discharge. She denied any TB symptoms or family history of malignancy. Clinically noted a palpable right peri-areolar lump size 3.0cm x 2.0cm. Initial breast sonography suggested a superficial abscess (BIRADS II). Needle cytology indicated a chronic sub-areolar abscess and she was treated with antibiotics for two weeks.

Repeated breast sonography post completion of antibiotic showed a persistent abscess measuring 3.0cm x 0.7cm. Drainage with biopsy performed with acid-fast bacilli (AFB) test positive for TB. Otherwise histopathological examination (HPE) reported as abscess wall either no granuloma formation and other TB workup were all negative. She underwent a six-month course of conventional anti-tubercular treatment consists of rifampicin, pyrazinamide, ethambutol and isoniazid which was completed in early 2017. Follow-up imaging shown unremarkable findings and no recurrence was reported .

In 2023, after 6 years of hiatus, she presented with similar presentation; painful right peri-areolar swelling and blood-stained nipple discharge on the similar area. Clinical examination shown right peri-areolar swelling with inflamed skin. Repeated breast imaging confirmed a recurrent abscess (subcutaneous collection size 1.2cm x 3.8cm x 3.3cm). AFB testing was again positive and she was treated for recurrent breast TB with a 126-day course of anti-tubercular treatment.

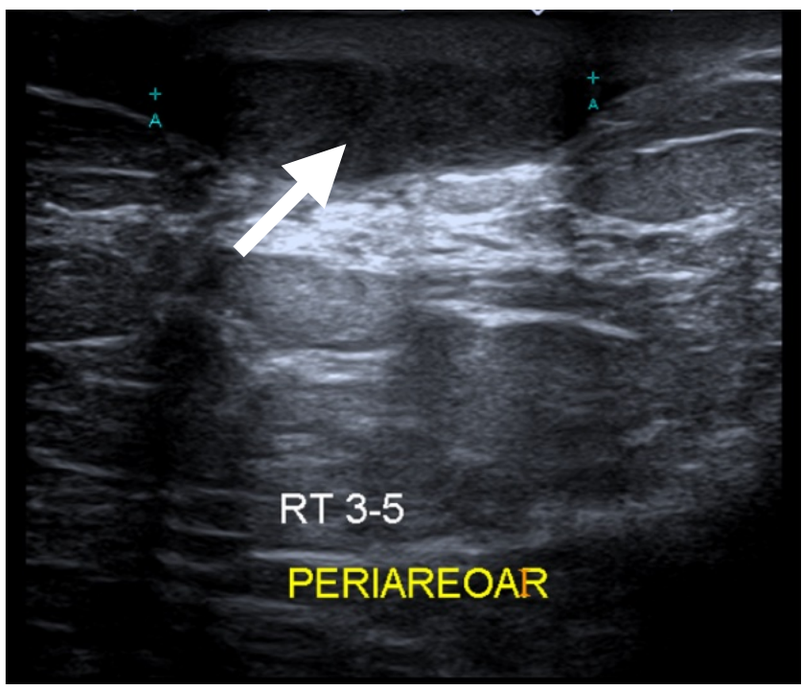

Figure 1. Repeated US breast post completion of anti-tubercular shows subcutaneous hypoechoic lesion (arrow) with moving echogenic debris suggestive of right peri-areolar collection.

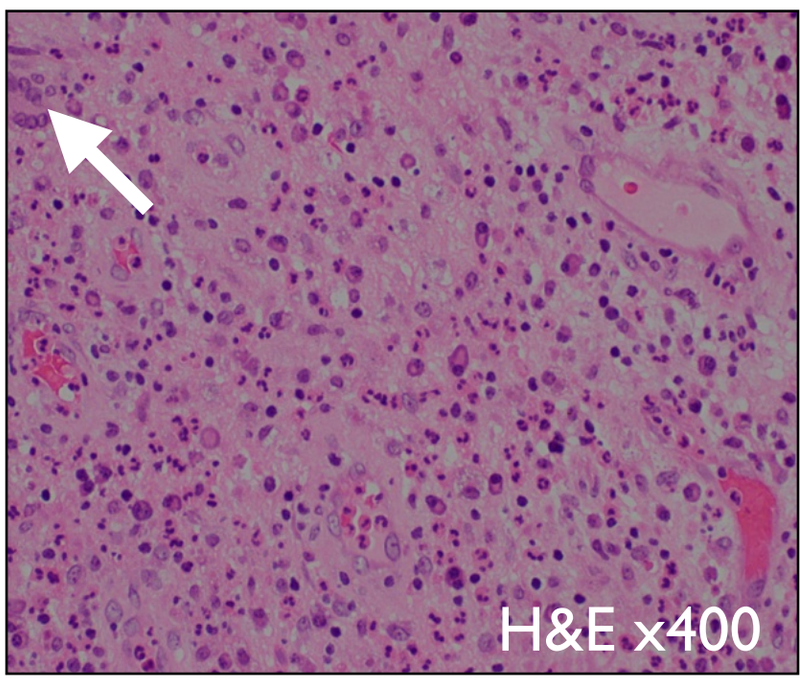

Figure 2. Inflamed tissue with dense infiltration by neutrophils, lymphocytes and plasma cells. Scattered multinucleated giant cells are also seen (arrow). No granuloma identified.

DISCUSSION

BrTB is an extremely rare disease due to breast parenchyma inherent resistance to Mycobacterium tuberculosis[2,3]. It primarily affects young women aged 20 to 40 years[1,2] and can be presented as either primary BrTB; from direct invasion of the pathogen via abrasion or wound, or secondary BrTB; from retrograde spread of infection from nearby tissue or organs[4]. Diagnosing BrTB is daunting as it may resemble other breast pathologies such as abscesses, granulomatous inflammation or breast malignancy[3,4]. Mammography and ultrasonography are not specific to diagnose BrTB[1] thus microbiological for bacilli or HPE is required[4]. Up-to-date, there is no specific medical treatment to treat BrTB thus anti-tubercular is the mainstay treatment[1,3]. Surgical intervention is necessary in 3–4.5% of cases[3,4] if there is no response to medical therapy. BrTB should be suspected in breast abscesses that respond poorly to antibiotic therapies[2].

CONCLUSION

Even after completing anti-tubercular treatment, recurrence of BrTB is possible. The real factors for recurrence is remain ambiguous and most literature citing that multi-drug resistant TB might be the potential cause. To date, there are no specific guidelines for treatment of BrTB[2,4], determining the anti-tubercular treatment duration or the frequency of follow-ups. High vigilance is essential to diagnose this rare yet treatable disease effectively.

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