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Case Report

Reactivation tuberculosis presenting with unilateral axillary lymphadenopathy

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ABSTRACT

Unilateral axillary lymphadenopathy has various benign and malignant etiologies. Although benign causes are more common, it is important to exclude malignant causes, including metastasis from primary breast carcinoma. Benign etiologies include reactive adenopathy, granulomatous disease, and collagen vascular disease. We present a case of unilateral right axillary lymphadenopathy in a patient with rheumatoid arthritis. The pathologic diagnosis of granulomatous lymphadenitis and interval discovery of patient's history of latent tuberculosis led to a second biopsy for special mycobacterial staining and cultures with a final diagnosis of reactivation tuberculosis. The extrapulmonary manifestation of reactivation tuberculosis with tuberculous lymphadenitis is uncommon and particularly rare in the axillary lymph nodes.

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Case report

A 60-year-old female with a 35-year history of seropositive erosive rheumatoid arthritis presented with a 2-day history of painful swelling of the right axilla without related trauma or fever, for which antibiotics had been prescribed. She was referred for further evaluation with mammography and breast ultrasound, which demonstrated bulky, enlarged unilateral right axillary lymph nodes with diffuse cortical thickening, the largest measuring $4.8 \times 4.9 \times 1.4$ cm (Figs. 1–4). No left axillary adenopathy was demonstrated (Fig. 5). No underlying breast disease or mass was identified in either breast. Although the unilateral adenopathy was stable since the prior year's mammogram, biopsy was recommended. Ultrasound-guided right axillary lymph node core biopsy was performed with an 18-G

needle (Fig. 6). Pathology yielded granulomatous lymphadenitis. Flow cytometry was negative for lymphoma.

Further exploration of the patient's medical history revealed history of latent tuberculosis (previously treated with isoniazid therapy at an outside institution). At this time, the patient's immunosuppressant therapy Enbrel, taken for arthritis for 6 years, was presumed to have lowered the threshold for reactivation tuberculosis and was discontinued. Right axillary lymph node re-biopsy for further staining was negative for acid-fast bacilli, and the Grocott–Gomori methenamine silver stain (GMS) was also negative. Despite the initial negative stains, correlation with cultures was recommended by the pathologist. In the meantime, the patient complained of severe joint pain, which was managed with anti-inflammatory agents that do not compromise the immune system. Thirty-six days after the second sample

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Fig. 1 – Right mediolateral oblique (MLO) view mammogram. There are multiple, large axillary lymph nodes. There is no suspicious mass, architectural distortion, or grouped calcification in the breast.

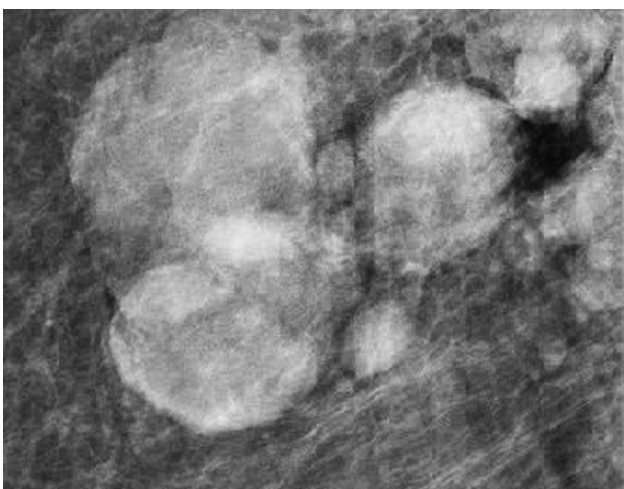


Fig. 2 – Cropped view of axillary lymph nodes from Fig. 1. The largest lymph node measures 3.4 cm in short axis and correlated with the area of pain.

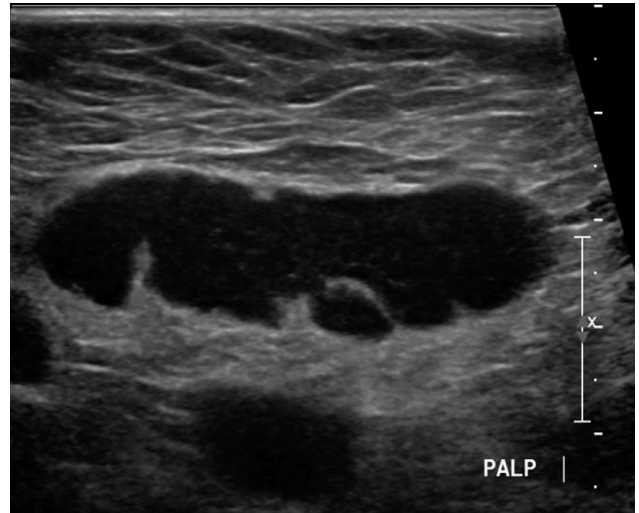


Fig. 3 – Ultrasound exam of right axilla. There is diffuse cortical thickening in an enlarged lymph node measuring 4.9 x 4.9 x 1.4 cm, correlating with the mammographic finding.

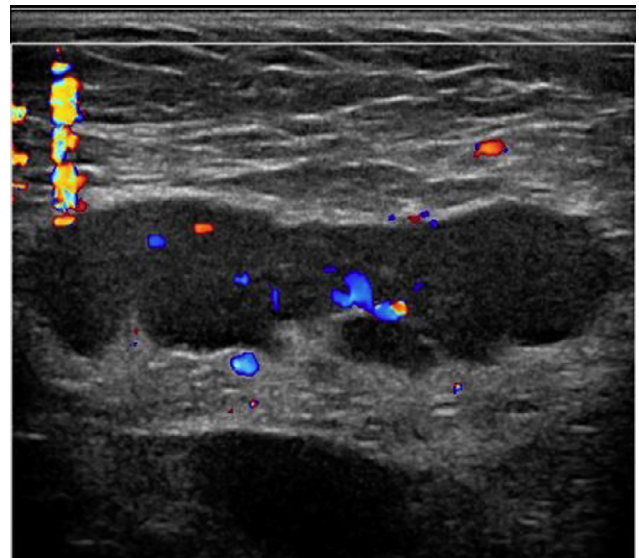


Fig. 4 – Ultrasound exam of right axilla with color Doppler. Increased color flow within the enlarged lymph node represents increased vascularity.

collection, the cultures grew acid-fast bacilli. The diagnosis of reactivation tuberculosis was confirmed and the patient was started on antimycobacterial “RIPE” therapy (rifamycin, isoniazid, pyrazinamide, and ethambutol). The patient’s right axillary pain resolved.

Discussion

Unilateral axillary lymphadenopathy may have a wide range of benign or malignant etiologies. Peripheral lymphadenopathy is most commonly due to local or systemic benign,



Fig. 5 – Left mediolateral oblique (MLO) view mammogram. There is no suspicious mass, architectural distortion, or grouped calcification in the breast. There is no left axillary lymphadenopathy.

self-limiting disease such as infection, inflammation, trauma, or nonspecific reactive changes [1]. However, malignant causes must be also considered and excluded, although the prevalence of malignancy in the setting of isolated, unexplained lymphadenopathy has been estimated to be as low as 1.1% [2]. Axillary lymph node metastasis most commonly originates from primary breast carcinoma [3]. Lymphoma is another malignant etiology, but rarely presents as isolated axillary lymphadenopathy [4]. Extramammary malignancies that may present with axillary lymphadenopathy include thyroid, lung, gastrointestinal, and pancreatic cancers, although often not discovered [5].

With the presentation of unilateral axillary lymphadenopathy, a thorough diagnostic evaluation of the breasts is necessary, starting with a physical exam, mammography, and sonography. Biopsy is often pursued even in the absence of an identified breast mass to exclude occult breast carcinoma or an extramammary primary cancer.

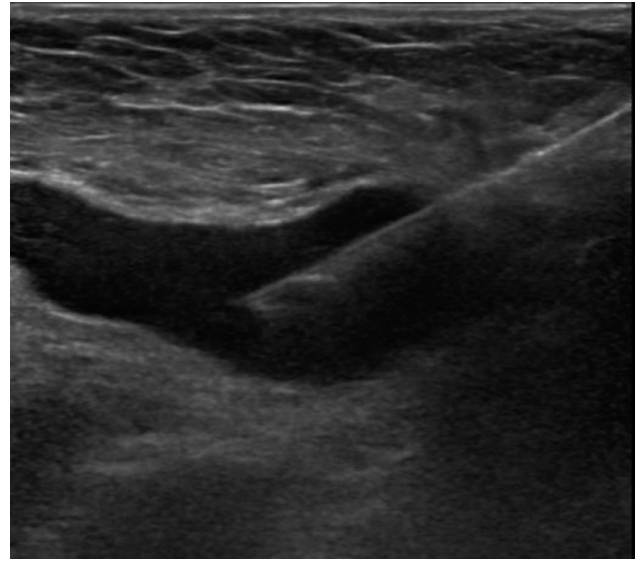


Fig. 6 – Ultrasound guided core biopsy of the largest right axillary lymph.

Given the patient's symptom of axillary tenderness and the abrupt nature of its onset, it was initially presumed to be caused by the patient's rheumatoid arthritis. Enlarged lymph nodes associated with rheumatoid arthritis are mostly located in the axillary region [6]. Although rheumatoid arthritis is a systemic disease, unilateral axillary lymphadenopathy is not an uncommon manifestation [7]. Therefore, the patient's isolated, unilateral presentation of right axillary lymphadenopathy did not exclude a systemic autoimmune disease as the cause.

The first biopsy's pathology result of granulomatous lymphadenitis has a differential diagnosis often categorized into infectious and noninfectious causes, with infectious causes further subdivided into suppurative and nonsuppurative disorders [8]. Noninfectious causes include sarcoidosis and sarcoid-like lymphadenitis as well as berylliosis. Suppurative infectious causes are Tularemia, Cat scratch disease, Yersinia, lymphogranuloma venereum, and fungal infections. Nonsuppurative infectious causes include tuberculosis, atypical mycobacteria, Toxoplasma, lepra, syphilis, brucellosis, and a few fungal infections [8].

The patient's ultimate diagnosis from the second biopsy was reactivation tuberculosis. Tuberculous lymphadenitis may account for up to 40% of extrapulmonary tuberculosis [9]. The cervical lymph nodes are most frequently involved followed by the mediastinal lymph nodes. The axillary lymph nodes are least commonly involved with a frequency of 8%, contributing overall to only 3.2% of all cases of reactivation tuberculosis [10-12]. This case, therefore, represents a rare presentation of reactivation tuberculosis with unilateral axillary lymphadenopathy. This case also highlights the importance of obtaining a complete history in patients with unilateral axillary adenopathy and facilitating coordination with different specialties when necessary, which may have prevented subjecting our patient to a second biopsy.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.radcr.2018.07.014.

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