

An Adult Female Presenting With "Scrofula-Tubercular Lymphadenitis" a Rare Encounter: A Case Report

Received 12/12/2021
Review began 03/31/2022
Review ended 05/08/2022
Published 06/04/2022

© Copyright 2022

Sakhuja et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 4.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Anuradha Sakhuja¹, Dhan B. Shrestha¹, Ayusha Poudel², Wasey Ali Yadullahi Mir¹, Tilak Joshi¹

1. Department of Internal Medicine, Mount Sinai Hospital, Chicago, USA 2. Intensive Care Unit, Nepal Korea Friendship Municipality Hospital, Kathmandu, NPL

Corresponding author: Dhan B. Shrestha, medhan75@gmail.com

Abstract

Cervical lymphadenitis is the most common extra-pulmonary manifestation of tuberculosis (TB). Usually, presenting with a neck mass with minimal systemic symptoms is a diagnostic challenge for physicians. Diagnosis is made by combining clinical features, microscopic and radiological imaging, and fine-needle aspiration biopsy. A biopsy is the simplest and most cost-effective means of diagnosis. We are reporting a case of a female presenting with a neck mass without systemic symptoms who were found to have lymph node TB along with active lung disease. She was treated with a nine-month course of the direct observation treatment regimen.

Categories: Internal Medicine, Infectious Disease, Pulmonology

Keywords: developed countries, tuberculosis, lymphadenitis, lymph nodes, fine-needle biopsy

Introduction

Although rare in developed nations, tuberculosis (TB) is a significant cause of morbidity and mortality in developing countries, with almost 90% of cervical lymphadenitis caused by *Mycobacterium tuberculosis* [1]. Tubercular lymphadenitis is the most common extra-pulmonary manifestation of TB [2]. Patients with cervical TB usually present with a neck swelling and minimal systemic symptoms like fever, night sweats, weight loss, and fatigue [3]. Since it is uncommon in developed nations, it may present as a diagnostic challenge leading to delay in diagnosis and treatment [2]. Fine Needle Aspiration Biopsy (FNAB) is the simplest and the most cost-effective modality for diagnosing this condition [3]. Even after diagnosis, the response to treatment may vary with slow or paradoxical responses in HIV-negative patients for which steroids have been recommended [4].

Case Presentation

A 32-year-old African-American female with a past medical history of gestational hypertension presented with a small right side neck mass associated with neck and throat pain for two months. She had a tender, nonmobile neck swelling. A computed tomogram (CT) scan of the neck with contrast was performed, which showed lymphadenopathy in the neck with cystic versus necrotic components (Figure 1), left apical lung nodule, and right upper lobe opacity (Figure 2).

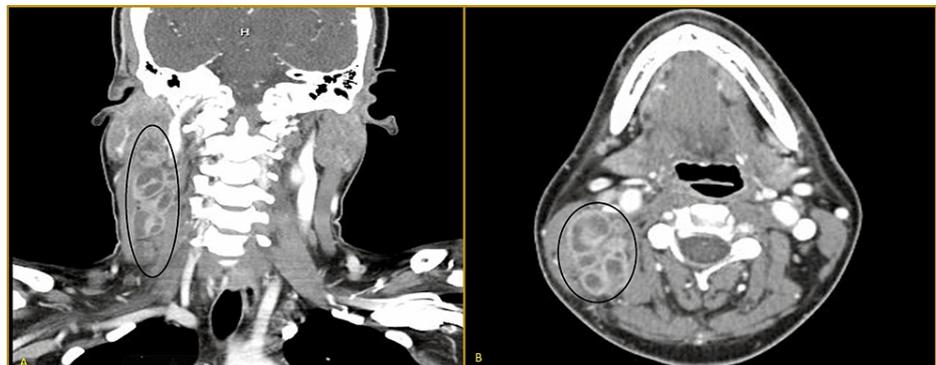


FIGURE 1: CT scan of the neck showing hypoattenuating/centrally necrotic glomerate lymph node mass (4.2 x 7.4 cm); Black circle in coronal section (A), and transverse section (B)

How to cite this article

Sakhuja A, Shrestha D B, Poudel A, et al. (June 04, 2022) An Adult Female Presenting With "Scrofula-Tubercular Lymphadenitis" a Rare Encounter: A Case Report. *Cureus* 14(6): e25650. DOI 10.7759/cureus.25650

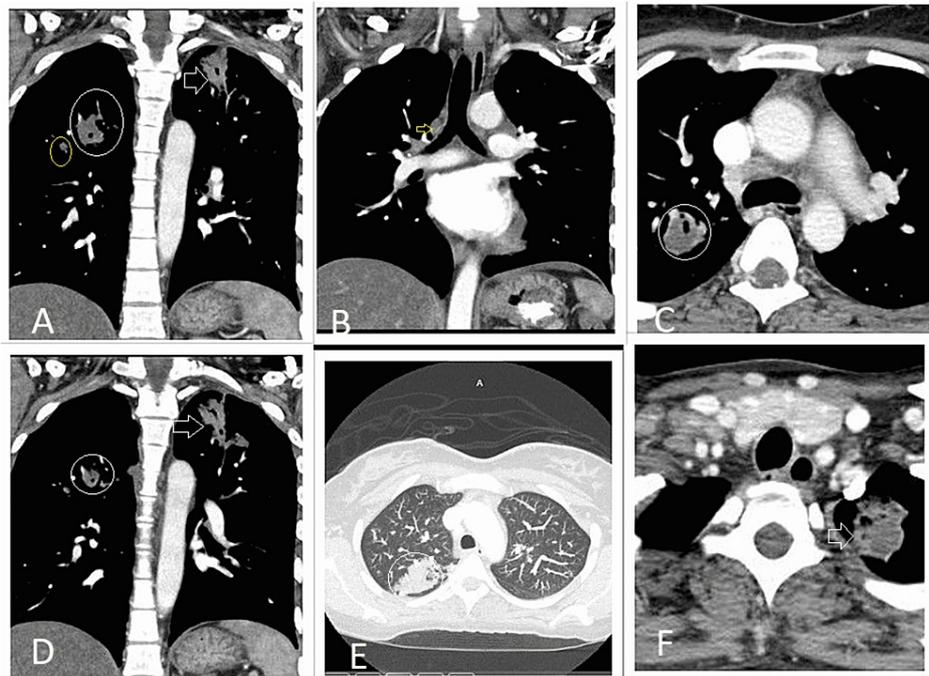


FIGURE 2: CT scan of thorax showing 22 mm focus of mass-like consolidation in the apex of the right upper lobe (white circle in A, C, D, E) with satellite lesion immediately adjacent to mass (yellow circle in A), 27 mm left apical mass like infiltrating (white arrow in A, D, F) with associated 16 mm satellite lesion and 12 mm left upper lobe lingular segmental infiltrate with pretracheal adenopathy (yellow arrow in B)

On further questioning, the patient denied any incarcerations or international travel; however, she reported a remote history of TB exposure in childhood which was treated for only one week, never completing the therapy. Her QuantiFERON test was positive. Histoplasmosis and blastomycosis tests were negative. Acid-fast bacillus (AFB) sputum cultures were ordered; however, the patient left against medical advice, denying further care. She presented a few months later again with increasing size of right neck mass and severe pain. The patient mentioned that the pain got worse with neck movement and pressure when lying down. Right neck mass was almost 5 cm, nonmobile, tender, rubber-like consistency. She was afebrile and denied night sweats, weight loss, chills, anorexia, dysphagia, odynophagia, or hoarseness. Contrast-enhanced computerized tomography (CECT) neck was repeated, and it demonstrated enlarging neck mass with necrotizing lymphadenitis. In addition, the patient had developed multiple hypoattenuating cervical lymph nodes. It also showed the presence of cavitary lesions in the left upper lobe and cavitary nodular infiltrates in the right upper lobe region. AFB sputum cultures were positive for *Mycobacterium Tuberculosis* complex (MTB) in two out of three samples (rifampin resistance was not detected). She underwent a fine-needle aspiration biopsy of the right neck mass which was negative for malignancy; however, it was positive for granulomatous inflammation, not enough sample for MTB. The patient was started on anti-TB therapy for an entire course of nine months under a directly observed treatment short-course regimen for active lung and lymph node TB. The patient completed nine months, and at the most recent outpatient clinic follow-up, her right neck mass has resolved.

Discussion

The most common cause of peripheral lymphadenitis due to tuberculosis is the reactivation of latent infection [5]. Scrofula may develop due to draining into the cervical lymph nodes from the primary site of infection. In children, the infection can directly spread from the oropharyngeal mucosa to the cervical lymph nodes [6].

The most common presenting symptom in adults is chronic lymphadenopathy without systemic symptoms [7]. On inspection, it appears like a swollen lymph node, oval or spherical, with or without draining sinuses [5]. In our case, the lymph nodes seemed to be supple and swollen without draining sinuses. In addition, compressive symptoms like dysphagia and hoarseness can sometimes be present but were absent in our patient.

To make a diagnosis of tubercular lymphadenitis, a thorough history and physical examination coupled with

staining and culture for AFB, radiological imaging, and fine-needle aspiration have to be performed [8]. Diagnosis made only based on clinical features has poor sensitivity [9]. Therefore, FNA cytology has been suggested as the screening tool for diagnosis as it has 88% sensitivity and 96% specificity, respectively [8]. Microscopic examination shows the presence of granulomatous inflammation with or without caesation in association with reactive hyperplasia, similar to our case [10]. Therefore, the FNA cytology was performed in our case to obtain a tissue biopsy that showed granulomatous inflammation with no findings suggestive of malignancy. The most common finding on CT scans is multiple low attenuation lymph nodes with peripherally enhancing thick rims. In some, it may coalesce into a necrotic mass obliterating the fascial planes [11].

A meta-analysis showed that the optimum duration for treatment of tubercular lymphadenitis is six months [12]. In the study, it was found that the relapse rate for cases treated for six months duration was 3.3% (95% confidence interval: 1.7-5.5), with a mean follow-up of 31 months after completion of treatment completion whereas those treated for nine months resulted in a relapse rate of 2.7% (95% confidence interval: 0.6-7.8), with a mean follow-up of 20 months. Our patient was started on RIPE therapy for an entire course of nine months under a direct observation treatment regimen for active lung and Lymph node TB.

Conclusions

Scrofula is one of the most common extrapulmonary manifestations of tuberculosis. The most common symptom is chronic isolated swelling in the cervical region without systemic symptoms. FNAC is a useful screening tool for the diagnosis of TB.

Additional Information

Disclosures

Human subjects: Consent was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

References

- Lamb GS, Starke JR: Tuberculosis in infants and children. *Microbiol Spectr*. 2017, 5:10.1128/microbiolspec.TNMI7-0037-2016
- Mathiasen VD, Andersen PH, Johansen IS, Lillebaek T, Wejse C: Clinical features of tuberculous lymphadenitis in a low-incidence country. *Int J Infect Dis*. 2020, 98:366-71. [10.1016/j.ijid.2020.07.011](https://doi.org/10.1016/j.ijid.2020.07.011)
- Khan R, Harris SH, Verma AK, Syed A: Cervical lymphadenopathy: scrofula revisited. *J Laryngol Otol*. 2009, 123:764-7. [10.1017/S0022215108003745](https://doi.org/10.1017/S0022215108003745)
- Hawkey CR, Yap T, Pereira J, et al.: Characterization and management of paradoxical upgrading reactions in HIV-uninfected patients with lymph node tuberculosis. *Clin Infect Dis*. 2005, 40:1368-71. [10.1086/429317](https://doi.org/10.1086/429317)
- Bhandari J, Thada PK: Scrofula. *StatPearls*. 2021;
- Rodriguez-Takeuchi SY, Renjifo ME, Medina FJ: Extrapulmonary tuberculosis: pathophysiology and imaging findings. *Radiographics*. 2019, 39:2023-37. [10.1148/rg.2019190109](https://doi.org/10.1148/rg.2019190109)
- Biadlegne F, Tesfaye W, Anagaw B, et al.: Tuberculosis lymphadenitis in Ethiopia. *Jpn J Infect Dis*. 2013, 66:263-8. [10.7883/yoken.66.263](https://doi.org/10.7883/yoken.66.263)
- Bayazit YA, Bayazit N, Namiduru M: Mycobacterial cervical lymphadenitis. *ORL J Otorhinolaryngol Relat Spec*. 2004, 66:275-80. [10.1159/000081125](https://doi.org/10.1159/000081125)
- Jawahar MS: Scrofula revisited: an update on the diagnosis and management of tuberculosis of superficial lymph nodes. *Indian J Pediatr*. 2000, 67:S28-33.
- Lazarus AA, Thilagar B: Tuberculous lymphadenitis. *Dis Mon*. 2007, 53:10-5. [10.1016/j.disamonth.2006.10.001](https://doi.org/10.1016/j.disamonth.2006.10.001)
- Hanson RA, Thoongsuwan N: Scrofula. *Curr Probl Diagn Radiol*. 2002, 31:227-9. [10.1067/MDR.2002.128956](https://doi.org/10.1067/MDR.2002.128956)
- van Loenhout-Rooyackers JH, Laheij RJ, Richter C, Verbeek AL: Shortening the duration of treatment for cervical tuberculous lymphadenitis. *Eur Respir J*. 2000, 15:192-5. [10.1183/09031936.00.15119200](https://doi.org/10.1183/09031936.00.15119200)