

TUBERCULAR SCAR RESEMBLING A TRACHEOSTOME

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ABSTRACT

INTRODUCTION

Tuberculosis caused by *Mycobacterium tuberculosis* is a common infectious disease. The past few decades have seen a decline in the disease. However, both pulmonary and extrapulmonary forms still contribute to significant disease burden. Amongst the extra-pulmonary form, lymphadenopathy is the most common.

CASE REPORT

Authors report a case of a young girl with a tubercular scar with a depression in anterior aspect of the neck, which resembled a non-healed tracheostome. It was successfully managed by excision of scar tissue and repair of the defect. Histopathological examination of scar tissue confirmed the diagnosis of cutaneous tuberculosis.

DISCUSSION

In 2022, approximately 10.6 million people were diagnosed with tuberculosis (TB) worldwide. Amongst extra-pulmonary tuberculosis, tubercular lymphadenopathy is the most common form. Such presentations are often a diagnostic and therapeutic challenge to the

clinician as they mimic other pathological conditions. Fine needle aspiration cytology (FNAC) and biopsy are useful in diagnosing such cases. Three cellular patterns have been described, amongst which epithelioid cell granulomas with necrosis is most common. The management of tuberculosis is mainly medical. The role of surgery is mainly diagnostic and sometimes therapeutic.

KEYWORDS

Tuberculosis; Tracheostome; *Mycobacterium*

INTRODUCTION:

Tuberculosis, an infectious bacterial disease, caused by *Mycobacterium tuberculosis* continues to affect human race since time immemorial. The betterment in economic and social conditions and an effective DOTS (Directly Observed Therapy Short course) program under Revised National Tuberculosis Control Programme (RNTCP) initiated by Government of India, has led to a decline in fresh cases of pulmonary tuberculosis. With onset of the AIDS pandemic, extra-pulmonary TB forms the bulk of new cases. Tubercular lymphadenopathy is the commonest extra-pulmonary form. While the disease is more

common in children in endemic countries, young adults are more commonly affected in the developed world. Most patients present with asymptomatic neck masses which are usually painless^{1,2}.

Testing for extra pulmonary tuberculosis follows the same principles as for pulmonary tuberculosis (AFB smear and culture); but in most extra pulmonary cases the samples are paucibacillary, thus making the tests less sensitive. FNAC is an appropriate diagnostic modality to diagnose mycobacterial infection, which allows a prompt and accurate diagnosis of TB.³

Once the diagnosis has been established, treatment should be started immediately. The mainstay of treatment today is ATT, the current regimen consisting of 2 months of intensive phase followed by 4 months of continuation phase.

CASE REPORT

Authors report a case of an 18-year-old girl, who presented with complain of a depression in anterior aspect of the neck, in the mid-line, which resembled a non-healed tracheostome. However, the patient had no history of a tracheostomy. Upon detailed history, patient revealed presence of a swelling in the same area 2 years ago, which was accompanied by high grade fever. The patient underwent an Incision and drainage of the swelling, following which she developed a scar with circular depression. It was not associated with any discharge. A cytology report of the swelling was suggestive of granulomatous abscess and patient had taken 6 months of ATT for the same.

On examination, there was a healed scar with approximately 1×1 cm circular depression in

anterior aspect of neck, located in midline, approximately 2 cm above the suprasternal notch, with no pus discharge (Fig. 1).



Fig. 1- Scar with depression in anterior aspect of neck, mimicking a non healed tracheostome

The surrounding skin was normal. There were no clinically palpable lymph nodes in the neck. The general physical examination was within normal limits. A complete ENT examination was performed which was unremarkable. A PPD skin test was performed, which was positive with an induration of 21mm at 72 hours. Computed Tomography Scan revealed a focal depression between both heads of sternocleidomastoid and bilateral level IA, II, III, V supraclavicular lymphadenopathy (<1cm) with few of them showing calcification. Lymphadenopathy was also seen in pretracheal, right para-tracheal and right hilar regions (Fig. 2,3).





Fig. 2, 3- CT scan images in sagittal and axial plane showing a focal depression in midline of neck.

Patient was posted for surgery under general anesthesia, and excision of scar tissue was done. The histopathology of scar tissue was consistent with that of tuberculosis and diagnosis was confirmed.

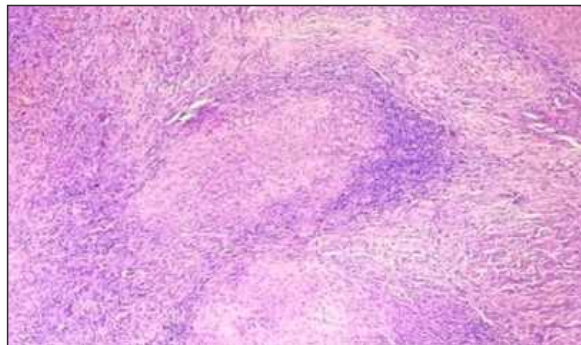


Fig. 4- Histopathological image showing epithelioid cell granuloma in a background of necrosis S/O tuberculosis



Fig. 5- Post-operative image with healed scar

The post-operative period was uneventful and patient was discharged 5 days after the surgery. During the follow-up visits, the healing was adequate and patient was started on Anti-tubercular therapy after the confirmation of disease. (Fig 5). Patient was followed up for 2 years and she did not show any signs of recurrent or residual tubercular infection.

DISCUSSION

Tuberculosis (TB) is still considered a medical burden, not only due to its medical effects, but also due to its social and economic impact.⁵ Worldwide, it is the second leading infectious killer after COVID-19. The regions with the highest incidence rates are the Indian subcontinent, southeast Asia, and Africa.^{6,7}

Though, lung is the most commonly affected organ, no part of the body is spared¹. Amongst extra-pulmonary tuberculosis, Tubercular lymphadenopathy is the most common form⁸. It has an insidious onset and initially presents as swelling⁴. It can present at following stages:

- Stage 1- Non-specific reactive hyperplasia
- Stage 2- Peri-adenitis- Nodes are bigger, firm and fixed to surrounding structures.
- Stage 3- Abscess without any signs of inflammation, also called 'cold abscess'
- Stage 4- Collar stud abscess.
- Stage 5- Sinus formation—abscess bursts and sinus get formed.

The typical constitutional symptoms of fever, weight loss, and night sweats are seen only in few cases². Cervical groups of nodes are affected the most, posterior triangle nodes being the commonest, followed by lymph nodes of upper deep cervical chain⁸.

The infection can involve lymph nodes in 4 ways-

- Primary - TB bacilli gains entry into a non allergic tissue like tonsils, adenoids, teeth, ear or skin of jaw.
- Secondary - Hematogenous spread. Commonest site is the lung.
- Allergic glandular - Adenitis occurs as a result of allergic reaction to TB proteins
- Generalized glandular - Rarest form, where mediastinal and mesenteric nodes are involved.

Organism can enter cervical lymph nodes through various routes, including oropharyngeal complex, cutaneous implantation, mucosal inoculation, via retrograde lymphatics or even trans placental route¹⁰. Such presentations are often a diagnostic and therapeutic challenge to the clinician as they mimic other pathological conditions. In India, where tuberculosis is highly endemic, tuberculin skin test result alone cannot be considered diagnostic. However, Fine needle aspiration cytology (FNAC) and biopsy are helpful in making an early diagnosis⁵. The management of tuberculosis is mainly medical. Pulmonary and extra pulmonary disease should be treated with the same regimens, which includes 2 months of HRZE (Isoniazid, Rifampicin, pyrazinamide and ethambutol), followed by 4 months of HR. Although surgery can be useful for diagnostic purposes, it has little therapeutic role. For large, fluctuant lymph nodes on the verge of spontaneous drainage, aspiration or incision and drainage is useful^{7,9}.

CONCLUSION

Cervical lymphadenopathy caused by Mycobacterium tuberculosis may progress to formation of discharging sinuses, if wrongly or inadequately treated. The healed scar may

mimic a tracheostome. Extreme caution must be implemented while dealing with healed scars in the neck region because it may be a result of previously treated/untreated Mycobacterial infection.

DECLARATIONS

Ethics approval and consent to participate: Approved by IEC

Author's contribution: All the authors contributed to the study conception and design.

Competing interests: The authors declare that they have no competing interests

Funding: The study was self funded.

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How to cite this article

Khera S, etal; Tubercular Scar Resembling a Tracheostome- UPJOHNS; Dec24; 12(2); page:31-35



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