ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)
IJDSIR : Dental Publication Service
Available Online at:www.ijdsir.com
Volume – 8, Issue – 3, June – 2025, Page No. : 01 - 06

Calcified Lymph Nodes of Head and Neck Region - A Case Report

[1]Dr. Abha Verma, Postgraduate Student, Department of Oral medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

[2]Dr. Saba Khan, Professor and Head. Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

[3]Dr. Tulika Sharma, Reader, Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

[4]Dr. Nishita Gautam, Senior Lecturer. Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

[5]Dr. Shreya Khandhedia, Postgraduate Student. Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

[6]Dr. Deepika Sharma, Postgraduate Student. Department of Oral Medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

Corresponding Author: Dr. Abha Verma, Postgraduate Student, Department of Oral medicine and Radiology, Darshan Dental College and Hospital, Loyara, Udaipur, Rajasthan.

Citation of this Article: Dr. Abha Verma, Dr. Saba Khan, Dr. Tulika Sharma, Dr. Nishita Gautam, Dr. Shreya Khandhedia, Dr. Deepika Sharma, "Calcified Lymph Nodes of Head and Neck Region- A Case Report", IJDSIR- June – 2025, Volume – 8, Issue – 3, P. No. 01 – 06.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Tuberculosis (TB), one of the oldest diseases of human, remains a global health problem especially in developing countries. Tuberculosis is classified as pulmonary or extrapulmonary. Tuberculosis lymphadenitis is the most common form of extrapulmonary TB. In this report, we present a patient with TB lymphadenitis who had atypical multiple lymph node involvement similar to malignancies without symptoms of lung disease. An 81-year-old male presented with a 3-month history of a growing swelling in the cervical region. In the month prior to presentation another swelling developed in the right axillary region. Physical examination revealed multiple lymphadenopathies in the cervical and axillary regions. A computerize tomography revealed lymphadenopathy at right axillary region 5 × 2 cm in diameter, a cystic mass or abscess at right posterior cervical region 3 × 2 cm in diameter and multiple lymphadenopathies in the cervical regions. Thoracic tomography revealed fibro-atelectasis, thick fibrotic

bands and increased reticulonodular density in both lungs which were reported as reactivation of TB. An excisional biopsy was performed which revealed granulomatous inflammatory process with caseous necrosis. Acid-resistant bacteria were detected from microbiological assessment of both the pus of the mass and the nodular lesion via polymerase chain reaction. The diagnosis was reactivated TB lymphadenitis. Although multiple lymphadenopathies accompanied with weight loss suggest malignancies, TB must also be considered in the differential diagnosis.

Keyword: Lymphadenopathies, malignancies, Swelling, Tuberculosis

Introduction

Tuberculosis (TB) is a chronic granulomatous infection principally caused by *Mycobacterium TB* and less frequently by ingestion of *Mycobacterium bovis* infected unpasteurized cow's milk or by other atypical mycobacteria. TB is a large-scale health hitch with 8 million citizens infected yearly and 3 million people dying from diseases related to TB complications. The frequency of TB in underdeveloped nations is snowballing, and this is believed to coexist with poor hygiene environments and increased occurrence of acquired immunodeficiency syndrome. TB chiefly affects the pulmonary system besides involving extra-pulmonary locations comprising head and neck region.[1] Extra pulmonary TB is rare occurring in 0.05-5% of patients with TB. In this way, this disease rarely features in the differential diagnosis of head and neck lesions. Here, we report the case of a child patient diagnosed with submandibular TB lymphadenitis, which resolved completely after anti TB therapy. The deposition of calcium salts, primarily calcium phosphate, usually occurs in the skeleton. When it occurs in an unorganized fashion in, it is referred to as heterotrophic calcification. Cervical lymphno decalcification is a dystrophic variety of calcification where the lymph nodes are chronically inflamed secondary to long- standing granulomatous infection. The lymphoid tissue becomes replaced by hydroxyapatite-like calcium salts, nearly effacing all of the nodal architecture .Several authors worldwide have reported varied presentations of tubercular lymphadenitis ,both clinically and radiographically. These relatively asymptomatic masses must be diagnosed and differentiated from other radiopacities occurring in this region.[2]

Case Report

Figure A: Extraoral Photograph (Left and Right Profile

Figure B: Extraoral Photographn (Front Profile)

Patient comes with the complaint of a pain and swelling in the right side of the lower jaw since two days. The swelling was small in size and has gradually increased to the present size The patient is hypertensive and is on medication since two years. she has undergone extraction six years ago .no relevant family history. no deleterious habits found on general examination, patient was Conscious and cooperative Vitals of the patient

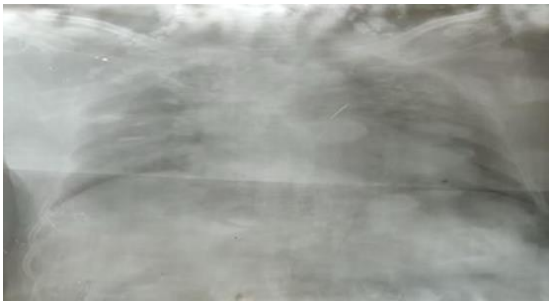
Pulse rate : 74beats /min BP: 140/86 mmHg Respiratory rate : 17breaths /min Temperature : 98.3 F On extraoral examination no abnormality .On palpation multiple oval shape nodules noted.

Reginal Lymph Nodes: On extraoral examination, there were multiple, non- inflammatory, non-compressible bony-hard non-movable, tender nodules of variable sizes (4mmto15mm) palpable in the right submandibular region The largest swelling was roughly oval in shape, extending from the angle of the mandible 4 cm anteriorly and inferiorly to a point approximately 1.5 cm in the upper third of the cervical neck region

- On Intraoral Examination Soft Tissue Examination
- Gingiva: Gingival recession grade 3
- Periodontium: Calculus ++, Stains +

- Dental Caries: 25 ,26 Root Stumps: 33,34,35 - grade 1 mobile
- 11,12,13,14,15,21,22,23 ,43,44 - grade 2 mobile
- 24,25 26 –root stumps
- Radiographically, multiple foci of calcified material seen settled bilaterally, and extending into neck region Suspect bony erosion of the anterior cortical margin soft tissue bulge in super sternal region at the C4-C5 vertebrae

Chest X Ray: lymphoid calcification seen extending till the 2nd rib



Lymphoid Calcification in chest x ray

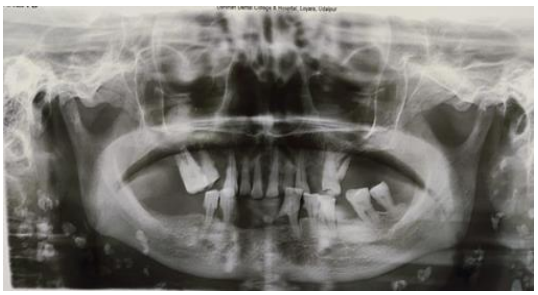
On Local Examination of Lesion

On Inspection

there were multiple, non-inflammatory, non-compressible bony-hard non-movable, tender nodules of variable sizes (4mmto15mm) ON PALPATION palpable in the right submandibular region The largest swelling was roughly oval in shape, extending from the angle of the mandible 4 cm anteriorly and inferiorly to a point approximately 1.5 cm in the upper third of the cervical neck region

Provisional Diagnosis

- Hence a provisional diagnosis of Lymphadenitis
- **Differential Diagnosis:** histoplasmosis, tuberculosis, coccidiomycosis, filariasis, lymphoma, as well as metastasis from distant neoplasms.
- **Radiographic Examination of Lesion:** The chest X-ray revealed a clear lung field, bilaterally. The laboratory data confirmed the diagnosis of extrapulmonary tuberculosis with an increase in erythrocyte sedimentation rate (20 mm)
- Positive Mantoux test (induration of 25/23 mm). An excisional biopsy of the lesions was planned.



Opg Showing Bony Hard Nodules Bilaterally

The excised nodes had a disrupted nodal architecture due to calcification. A final diagnosis of completely calcified tuberculous lymph nodes was made on the basis of histopathology and positive skin test Multiple matted/discrete tubercular lymphadenitis in the cervical neck region Pulmonary tuberculosis (constitutional symptoms present i.e. weight loss, low grade fever, night sweats, etc.).

- The patient was referred to the Department of Tuberculosis and Respiratory Diseases for further treatment. The patient has not reported to our department for further follow- up

Bony erosion of the anterior cortical margin soft tissue bulge in super sternal region at the C4-C5 vertebrae

- Histopathology Cervical lymphnodecalcification is a dystrophic variety of calcification where the lymph nodes are chronically inflamed secondary to long-standing granulomatous infection.
- The lymphoid tissue becomes replaced by hydroxyapatite-like calcium salts,nearly effacing all of the nodal architecture

Treatment[3,4]

- Antitubercular therapy
- Extrapulmonary tuberculosis (constitutional symptoms usually absent) Investigations Routine hematology (increased erythrocyte sedimentation rate), Mantoux test, chest X- ray, orthopantomography, computed tomography scan, positron emission tomography
- fine needle aspiration cytology,
- acid fast bacilli culture, polymerase chain reaction (PCR),
- Lowenstein–Jensen (LJ), direct smear, Erlich–Ziehl–Neelsen staining (EZN), histopathologic examination

Discussion

Tuberculosis, one of the oldest diseases known to affect humans, is an infectious granulomatous disease belonging to the Mycobacterium tuberculosis complex.

The disease usually affects the lungs, although in up to one-third of cases other organs are involved. If properly treated, tuberculosis caused by drug susceptible strains is curable in virtually all cases.

If untreated, the disease may be fatal within five years in more than half of cases. Tuberculosis has recently re-emerged as an important worldwide public health problem

It is estimated that 8.5 million new cases of tuberculosis occurred worldwide in 2001, 95% of them in the developing countries of Asia, Africa, the Middle East and Latin America; 98% of total deaths of tuberculosis occurred in the developing countries. This disease appears more often in males,16 second ary to various factors such as cigarette smoking, genetic factors, iron salts, alcohol consumption, hor monal factors, and delay in diagnosis or associated diseases.17 The portal of entry is often the mouth, tonsils or nasopharynx, and the infection is probably of bovine origin from ingested untreated milk.3 Tuberculosis is classified as both pulmonary and extrapulmonary

- CT are useful in conclusively diagnosing tuberculous lymphadenitis. This technique is used for diagnosing malignancy and active inflammatory processes.

It might be suggestive and helpful in guiding biopsy procedures when con ventional images, such as ultrasonograms, CT scans, or magnetic resonance imaging (MRIs), are not enough.20 Nodal calcification associated in such a granuloma. The following testing procedures are carried out to detect Mycobacterium tuberculosis in clinical samples: polymerase chain reaction (PCR), Lowenstein–Jensen, direct smear and Erlich–Ziehl Neelsen staining.

Positron emission tomography with fluorodeoxyglucose, a nuclear medicine technique, is also useful for diagnosing tuberculosis.

If, however, the primary focus is treated at an early stage, the lymphadenopathy would frequently subside and undergo fibrosis, eliminating the stony hard feel.

As in our case, if the disease is left untreated, it could again become active some years later and result in non-specific enlargement and calcification of the nodes. The neck node calcification related to tuberculosis is much less common than calcification in nodes elsewhere in the body with an incidence of only 1% to 7%.22 As reported here, numerous calcifications in the submandibular and cervical region are uncommon.

The differential diagnosis of lymph node calcification includes histoplasmosis, tuberculosis, coccidiomycosis, filariasis, lymphoma, as well as metastasis from distant neoplasms. Confirmatory diagnosis is often after systematic examination and investigation of the case. Further, there are many soft tissue calcifications that mimic lymph node calcifications, including sialo liths, stylohyoid ligament calcification, phleboliths, tonsillitis, osteoma cutis, and cysticercosis. Lymph node calcification must also be differentiated from other radiopaque images, such as foreign bodies, ghost images and lesions of the bone, such as Garre's osteomyelitis, fibrous dysplasia, odontoma, sclerosing ostitis and osteoma.4,25,26 The identification of the number, position and distribution of calcification demands specialized investigations such as a CT scan, as was done in our case.[5]

Conclusion

Tuberculosis (TB) continues to pose a significant global health challenge, particularly in developing countries where its extrapulmonary manifestations are often overlooked. This case highlights an atypical presentation of TB lymphadenitis in an elderly male patient, initially mimicking malignancy due to the presence of multiple lymphadenopathies in the cervical and axillary regions without evident pulmonary symptoms.[1] Such a clinical picture can easily lead to a misdiagnosis, emphasizing the need for thorough diagnostic evaluation in regions where TB is endemic. Imaging studies revealed extensive lymph node involvement and subtle signs of pulmonary reactivation, while histopathological and microbiological investigations confirmed the presence of caseous necrosis and acid-fast bacilli, solidifying the diagnosis of reactivated TB lymphadenitis. This case reinforces the importance of considering TB in the differential diagnosis of persistent lymphadenopathy, especially when systemic symptoms such as weight loss are present.[3] Early recognition and accurate diagnosis are essential for initiating appropriate anti-tubercular therapy and avoiding unnecessary oncological interventions. Clinicians must maintain a high index of suspicion for TB, even in the absence of typical respiratory symptoms, particularly among elderly patients or those with risk factors. A multidisciplinary approach including imaging, histopathology, and molecular diagnostics is crucial for timely and accurate diagnosis of extrapulmonary TB.[5]

References

1. Garg AK, Chaudhary A, Tewari RK, Bariar LM, Agrawal N. Coincidental diagnosis of tuberculous

lymphadenitis: a case report. Aust Dent J 2014; 59: 258–63.

2. Öksüzler Ö, Tuna E, Özbek C, Özdem C. Servikal Tüberküloz Lenfadenit. KBB-Forum 2008; 7: 102–6.
3. Tachibana T, Orita Y, Fujisawa M, Nakada M, Ogawara Y, Matsuyama Y et al. Factors that make it difficult to diagnose cervical tuberculous lymphadenitis. J Infect Chemother 2013; 19: 1015–20.
4. Karagöz T, Senol T, Bekçi TT. Tüberküloz Lenfadenit. Toraks Dergisi 2001; 2: 74–9.
5. Biadglegne F, Tesfaye W, Anagaw B, Tessema B, Debebe T, Anagaw B et al. Tuberculosis lymphadenitis in Ethiopia. Jpn J Infect Dis 2013; 66: 263–8