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CASE REPORT OF TUBERCULOUS SUBDELTOID BURSITIS WITH RICE BODIES

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Keywords:
mycobacterium infections, tuberculosis, subdeltoid bursa, bursitis ,rice bodies.

Abstract

Background: Tuberculosis has decreased persistently since the introduction of antituberculous chemotherapy. However there are reports in recent literature indicating that rate of tb is increasing. Musculo skeletal tb occurs in approximately 1-3 % of tb patients. Tuberculosis of soft tissue such as tenosynovial sheath or bursa is rare. We are presenting a rare case of tuberculous subdeltoid bursitis which is accompanied by multiple rice body formation without co existing active bone and joint tuberculosis.

Objective: to describe history clinical and radiologic presentation of Tb subdeltoid bursitis and management.

Methods: detailed history, physical examination and investigations.

Conclusion: We report a unique case of tuberculous subdeltoid bursitis with rice bodies' formation in absence of any other concomitant focus of tuberculous infection, managed with open debridement and anti - tuberculous regimen with a long follow up of 8 months.

Introduction

Rice body formation is commonly observed in the joint and tendon sheaths among patients with rheumatoid arthritis, however only a few cases with rice bodies in sub-deltoid bursa of tubercular origin have been mentioned in the literature Tuberculosis of the bone and joint occurs in approximately 1 % to 3% of patients with tuberculosis. The most common type is spondylolitis which accounts for 50% of all cases. Peripheral arthritis occurs in about 30% and osteomyelitis in about 19%. Totally, tenosynovitis and bursitis account for approximately 1%.

Both primary tuberculous teno synovitis and bursitis are rare conditions.

Case report:

A 35 yr male patient presented with painless swelling over his left shoulder since 1 month .patient neighbor noticed the swelling 1 month back, swelling initially of lemon size over the anterior aspect of left shoulder, gradually increasing in size and attained the present size. On physical examination there is single diffuse swelling from anterior to antero lateral portion of deltoid area. No local rise of temperature and no tenderness over the swelling. Skin was pinchable, swelling decreased in size contraction of deltoid (anterior fibers) .swelling was soft and cystic with fluctuation positive, Tran's illumination negative. No restriction of range of movements. No other joints involved. Regional lymph nodes are not palpable.

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No history s/o pulmonary Koch such as chronic cough, constitutional symptoms.
No history of trauma. No history of contact with tuberculosis.

Investigations revealed the WBC count was 6,400/cmm. With lymphocytes being 36%.Erythrocyte sedimentation rate, c reactive protein concentration level normal.
Rheumatoid factor was negative.

Radiography was normal except for soft tissue swelling. Chest radiography did not show any evidence of primary lesion.

Magnetic resonance imaging scans showed homogenous intermediate intensity mass in subdeltoid space on T1 weighted mri.

T2 weighted sagittal mri showed delineated intermediate intensity, honeycomb like appearance in subdeltoid region sorrounded by high signal intensity.

Aspiration of swelling was performed and sent for culture for bacteria and afb.

Patient underwent wide excision biopsy of right subdeltoid bursa. There is no extension into the shoulder joint. Gross specimen findings revealed rice bodies some of which were loosely attached to synovium. Rice bodies macroscopically resembled shiny rice grains, size consistency and shape varied and more than half of them being in between 3 and 10 mm length.

Microscopically they consisted of compact fibrinous material. Light microscopic examination of bursa revealed granulomatous tissue with LANGERHANS GIANT CELLS.

Culture revealed mycobacterium tuberculosis. Mycobacterium tuberculosis was isolated from serous fluid in the bursa allowing the definitive diagnosis of tuberculous bursitis to be made.

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Clinical photos showing swelling over lt shoulder and movements.

Xray shoulder with no abnormality and mri images.

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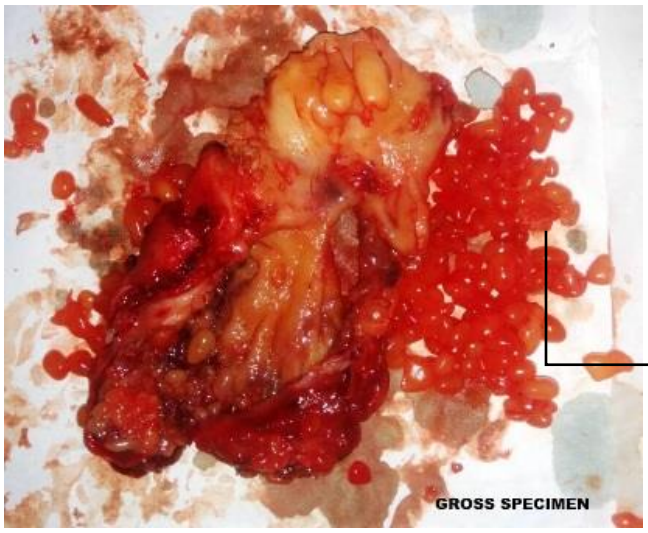
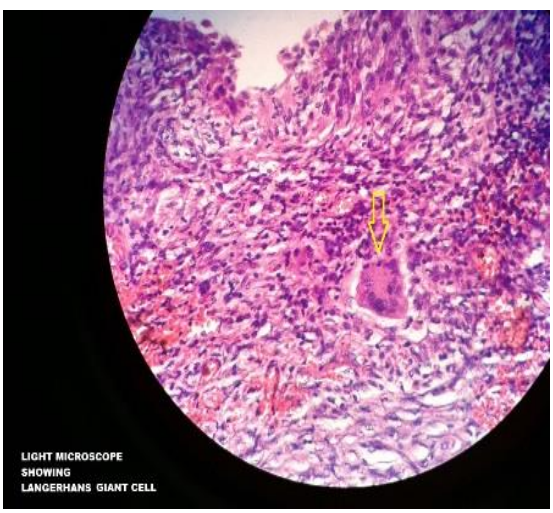
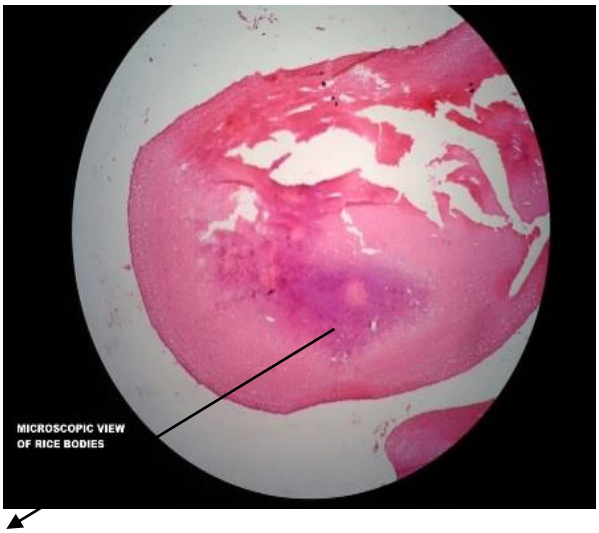
Gross Specimen After Excision



RICE BODIES

Histopathology photos showing Langerhans giant cell and rice bodies.





RICE BODY

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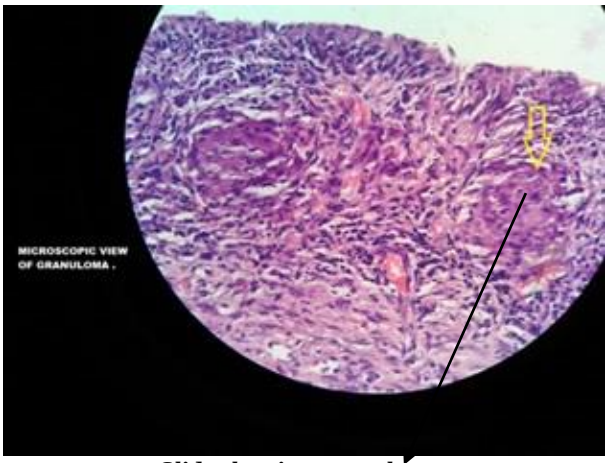

Slide showing granuloma.

Discussion

Primary tuberculous tenosynovitis and bursitis are rare conditions. Secondary tuberculous involvement of soft tissue from bone and joint tuberculosis is well recognized. Tuberculous bursitis without coexisting active bone and joint tuberculosis may affect any site but is a rare condition. Common sites of involvement are greater trochanteric, prepatellar and olecranon bursa.

Pathogenesis of tuberculosis of bursa has not been well defined.

Etiopathogenesis of tuberculous bursitis can be explained by direct inoculation or hematogenous dissemination from a primary focus usually lung. In our patient there was no history of trauma and chest x-ray did not show any focus of infection.

The absence of active primary tuberculosis or even signs of healed disease does not eliminate the possibility of tuberculous subdeltoid bursitis as a secondary tuberculous infection.

Formation of intraarticular rice bodies were first described in tuberculous arthritis. These are a common finding in rheumatoid bursitis and arthritis but rare in other arthropathies.

Etiology remains obscure .Some authors proposed a synovial origin with micro infarction leading to synovial sloughing and subsequent encasement by fibrin derived from synovial fluid. Others thought that earliest rice bodies are formed denovo in synovial fluid independently of synovial elements and that their presence is due to progressive enlargement of fibronectin/fibrin aggregates.

So far very few studies have been published on sub-deltoid bursitis. Jaovisidha et al has published a case series of 3 cases with subdeltoid bursitis. Alkalay et al has reported a case of patient with 30 year history of tuberculous subdeltoid bursitis. Kim et al reported a case with subdeltoid bursitis in a 41 year old woman.
Patient underwent anti tuberculosis treatment for 6 months, she was symptom free.

The occurrence of Subdeltoid bursa tuberculosis without any preexisting history is rare. It should be ruled out as differential diagnosis of swelling around shoulder joint.

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Conclusion

We report a unique case of tuberculous subdeltoid bursitis with rice body formation in absence of any other concomitant focus of tuberculous infection, managed with wide excision and category I anti -tuberculous regimen according to DOTS with a long follow up of 8 months.

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