

## A Case of Tropical Pyomyositis

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### ABSTRACT

Tropical pyomyositis is an infectious disease that affects skeletal muscle and may appear as a diffuse inflammation or a rapidly progressive myonecrotic process. *Staphylococcus aureus* is the most common microorganism, accounting for 90% of cases. Not confined to tropics, also occurs in temperate regions. Incidence being 1% to 4% in hospital settings. It is typically associated with immunodeficiency conditions. Tools for diagnosis include radiology, culture and laboratory parameters. We present a 50 years old male patient presenting with fever with chills, bilateral lower limb pain and generalised anasarca. Patient was managed with broad spectrum antibiotics and incision & drainage procedures, after which the patient improved.

### Introduction :

Tropical pyomyositis is not a well-known disease, and its initial characteristics are nonspecific. The first case of pyomyositis was described by Scriba in the 19th century, being found endemically in tropical regions. Under normal circumstances, skeletal muscle tissue is intrinsically resistant to bacterial infections. The initial signs and symptoms are nonspecific, making it often underdiagnosed. In tropical pyomyositis, microorganisms reach the skeletal muscles by haematogenous spread during surgical manipulation of infected oral tissues or even routine dental manipulations, contaminated lower urinary tract catheterization - and it finds favorable conditions, as immunosuppression conditions, that trigger infection<sup>2,4,5</sup>. *Staphylococcus aureus* is the most common microorganism, accounting for 90% of cases. Misdiagnosis is often common, delay in appropriate management can be a sign of poor prognosis. With early diagnosis and medical intervention complete recovery is possible.

### Case Report :

50-year old male patient, resident of Nagpur, Maharashtra, chronic alcoholic, k/c/o type 2 DM with HTN on irregular medications was brought by

relatives with complaints of bilateral lower limb pain since 15 days, Fever with chills since 15 days, Generalised body swelling since 15 days. On general examination patient was febrile, toxic, edematous with pulse of 130/min. Systemic Examination was WNL. On local examination patients had swelling in the left breast around 5x5x3 cm in size. He was empirically put on Antibiotics and insulin for control of blood sugars. He was being evaluated for anasarca and left breast mass. On investigation his WBC count was 17,780 cell/cmm. Peripheral smear was showing neutrophilic leucocytosis. His Kidney functions were marginally deranged, Liver functions suggestive of hypoalbuminaemia and thyroid profile was within normal limits. Inflammatory markers including serum LDH, CRP were raised. USG of the left breast was suggestive of soft tissue mass of size 7.8x3.5 cm in outer, retro, alveolar region in left breast. FNAC from the left Breast was non specific.

On detailed examination he was also found to have two large swellings, one in right thigh over lateral aspect around 15x8x6 cm in size, other in left thigh over medial aspects with 15x10x8 cm in size. All swellings were firm and tender with no dermatological changes over it. Ultrasound studies of the lower limbs showed abscess in - anterolateral aspect of right thigh of size 190 cc of collection, and posteromedial aspect of left thigh of size 140 cc of collection. With subcutaneous oedema in bilateral lower limbs, USG guided diagnostic tapping of the swelling showed pus, culture of which came out to be negative for aerobic and anaerobic bacteria and

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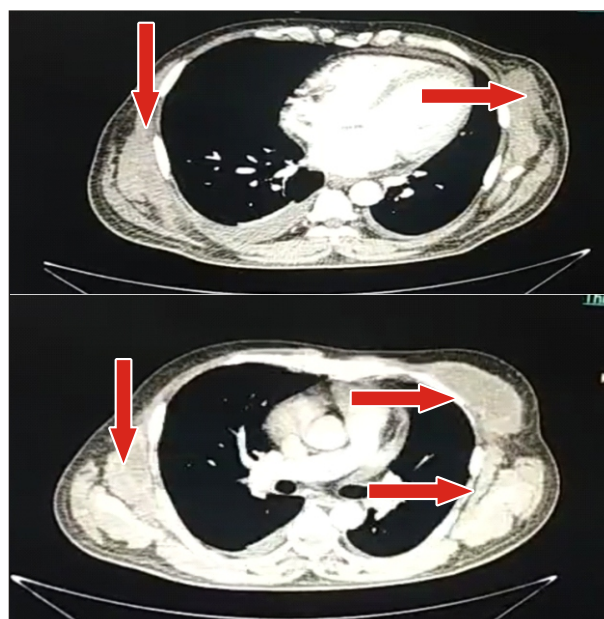


Swelling in left breast on evaluation come out to be breast abscess

fungi. Patient was started empirically on broad spectrum antibiotics [inj. meropenem & inj. Linezolid]. High resolution computed tomography of thorax and abdomen was done that showed multiple relatively well defined loculated peripherally enhancing thick walled collections involving intra and intermuscular compartments of left anterior chest wall mainly right supra-spinatous, left pectoralis major and minors, anterior right chest wall from 1st to 8th rib and sections of bilateral thigh, s/o infective aetiology? abscess. After incision and drainage of b/l thigh abscesses patient improved significantly evident by loss of pain in lower limbs, reduction in generalised anasarca and improvement in toxic look. Patient was discharge after 4 weeks of antibiotics and daily wound dressing on oral medications.

#### Discussion :

Tropical pyomyositis is common cause of soft tissue infections in tropical as well as in temperate regions. It primarily occurs in two age groups : children (ages 2 to 5] and adults [ages 20-50]), while majority of temperate cases occurs in adults. Males affected more than females. Most affected patients are immunocompromised or have other serious underlying conditions. Trauma, injection drug use , concurrent infection, malnutrition, immunodeficiency states associated with pyomyositis include HIV, diabetes mellitus, cirrhosis, renal



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insufficiency, organ transplantation and immunosuppressive agents. HIV being particularly important risk factors. Staphylococcus aureus is the most common cause of tropical pyomyositis, it causes up to 90% of tropical and 75% of temperate cases. Resistant strains are increasingly important.

Less common organisms include non-group A, beta-hemolytic streptococci, pneumococci and gram negative enteric bacilli. Mycobacterial pyomyositis has also been reported, it can also be polymicrobial, particularly in diabetic patients. It presents with fever and pain with cramping localized to a single muscle group. Mostly affects lower extremity [sites include the thigh, calf and gluteal muscles] but can involve any muscles, the iliopsoas, pelvic, trunk, paraspinous and upper extremity muscles. Multifocal infections are observed in up to 20% cases. Three stages have been observed in tropical pyomyositis. **(1) Invasive stage** - pain, fever, leucocytosis, no pus. **(2) Suppurative stage** - in second and third week. high grade fever with chills, pus, severe pain, tenderness, marked leucocytosis. Frank abscess can be clinically evident. **(3) Late stage** - associated with systemic toxicity, affected muscle is fluctuant, disseminate into sepsis, septic shock, septic arthritis, brain abscess, acute renal failure and multi organ dysfunction syndrome. It can be confused with muscle strain, contusion, hematoma, cellulitis, deep vein thrombosis, osteomyelitis, septic arthritis, neoplasm, clostridial myonecrosis, necrotizing fasciitis, spontaneous gangrenous myositis, diabetic muscle infarction.

Once diagnosed, pyomyositis requires early institution of antibiotics and evaluation for surgical drainage. Anti-staphylococcal medication is traditionally the medicine of choice; broad-spectrum antibiotic coverage for anaerobic infections, especially in patients without immune compromise. With the emergence of drug resistance, the right choice of antibiotics would significantly improve outcome. The duration of treatment is until the complete reduction of abscesses, normal

leukocytes and absence of fever for at least one week. If the patient presents in the late phase with secondary dissemination of infection of the involved muscles, the recommendation is four to six weeks of parenteral antimicrobial therapy. *S. aureus* is cited in the literature as the most common microorganism, although it cannot be seen in all blood cultures as in our case. A high level of suspicion is important in diabetic patients and/or patients with other types of immune-compromised states. The prognosis remains excellent if the disease is promptly identified and treated correctly.

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Thigh showing Incision and Drainage sites.