Abstract

Tropical Pyomyositis is a suppurative infection commonly involving the skeletal muscle. Trauma in an immunocompromised patient predisposes to this condition. Early and prompt diagnosis along with parenteral antibiotics, analgesia and surgical debridement as and when necessary forms the main stay of treatment. In this case report, we present how a 49-year-old male who had a missed diagnosis in general outpatient department of a tertiary care hospital, was later promptly diagnosed in specialist department and treated aggressively without progressing in to worst systemic complications.

Keywords: Tropical pyomyositis, immunocompromised, skeletal muscle

Introduction

Tropical Pyomyositis is defined as suppurative infectious disease involving skeletal muscle, usually encountered in tropical countries. Rarity and unfamiliarity of the disease, atypical presentation and a wide range of masquerading conditions [1] often delays the diagnosis and management. We present a case of young diabetic male who presented with right sided chest pain, swelling and feature of SIRS and got easily missed out initially in general outpatient department (OPD).

Case Report

49-year-old male, an old case of Type 2 Diabetes Mellitus (T2DM) on medications presented with history of right sided chest pain of three days duration, which was cramping in nature radiating to right shoulder and increased on inspiration. This was associated with local swelling over right chest, redness, loss of appetite and generalized weakness. There was no history of trauma, lifting heavy objects, fever, cough, dyspnea, syncope or palpitations. His general and systemic examination was normal. He had initially presented to OPD of a tertiary care center where he was treated with analgesics with no significant relief. He progressively deteriorated and developed high grade fever with increased severity of pain. He was referred to specialist OPD where his local examination revealed a diffuse swelling over right chest. There was erythema of the overlying skin with no sinus / pus points. The swelling was firm, non-fluctuant with severe tenderness and more localized towards the upper quadrant of right breast. Range of movements at right shoulder was grossly restricted due to pain and the axillary lymph nodes were palpable. Features of Systemic Inflammatory Response Syndrome i.e. tachycardia, hypotension, dehydration, neutrophilic leucocytosis, azotemia and deranged coagulation profile with elevated INR was detected. Based on the clinical findings, a differential diagnosis of Cellulitis / pyomyositis / muscle hematoma with secondary infection were considered. He was initially managed with broad-spectrum antibiotics, liberal analgesia and supportive treatment with fluids under CVP guidance.

He was further radiologically investigated. Ultrasonography of the chest showed inflamed right pectoral muscle with hypoechoic areas in between fibers. Color Doppler Flow Imaging of the right chest showed diffuse subcutaneous swelling without any vascular enhancement. MRI Chest with contrast showed loculated necrotic collections masking right pectoralis muscle with diffusely
edematous perifocal soft tissue planes along with right axillary lymphadenopathy. T1 weighted images showed multiple high signal intensity rims while T2 weighted images showed hyperintense signals with fluid collection. Culture and Sensitivity of the aspirated pus from the site grew Staphylococcus aureus, which was sensitive to erythromycin and clindamycin and moderately sensitive to vancomycin and amikacin.

Based on clinical and radiological findings, patient was diagnosed as a case of tropical pyomyositis. He was managed with broad spectrum intravenous antibiotics (Meropenem, Vancomycin and Metronidazole) and analgesic supportive care. He underwent wound debridement under general anesthesia in operation theatre and 300 ml pus was drained. He was further managed by daily dressings. His blood sugar was taken care by basal bolus insulin. Gradually all his deranged parameters came within normal limits and his vitals became normal. He was discharged after 15 days once his wound started healing well. He has been on regular follow-up since then.

![Figure 1. Erythematous Swelling Right chest](image1)

![Figure 2. MRI Right Chest showing loculated necrotic collections in the right pectoral muscle](image2)

**Discussion**

Tropical Pyomyositis was first described by Scriba in 1885 who quoted it as endemic disease of tropics [2]. Commonest causative organism is Staphylococcus aureus [3] and the disease is found in all age group, maximum between 10-40 years with preponderance in males and immunocompromised states. Common sites affected being quadriiceps, glutei, pectoralis major, serratus anterior, biceps, iliopsoas, gastrocnemius, abdominal and spinal muscles [3,4]. It is found to have a seasonal peak during monsoon [5]. Mortality ranges from 0.5 - 2% despite advances in diagnosis and treatment [6,7].

**Microbiology**

<table>
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<tr>
<th>Microbiology</th>
<th>Staph. aureus (90%)</th>
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<tbody>
<tr>
<td>[3,8]</td>
<td>Streptococcus (group B,C)</td>
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Trivial trauma and cut

- Fever
- Metastatic abscesses
- Bacteremia, septicemia
- Invasive stage
  - High fever
  - Dissemination
- Late stage (complication)
  - Loculated necrotic collections with diffusely edematous perifocal tissue planes along with draining lymphadenopathy [23-25].

Aggressive treatment strategy with specific broad-spectrum parenteral antibiotics covering staphylococcus/other causative organisms continued until systemic as well as local signs of sepsis are controlled along with surgical drainage if required forms the mainstay of management.

Antibiotics recommended [26-28]

- Parenteral antistaphylococcal β-lactamase resistant penicillin (cloxacillin 1-2g q6h)
- Penicillin if susceptible staph. Infection
- 1st generation cephalosporins (cefaclor) if allergic to penicillin
- For MRSA, vancomycin 15mg/kg (<1g) slow iv q12h
- If intermediate sensitivity to vancomycin, Linezolid or dalfopristine-quinupristine derivatives
- For Grp A streptococcus- crystalline penicillin
- Gram negative bacilli gentamicin 5-6mg/kg/d with cephalosporin
- Anaerobic infection- metronidazole (20-30mg/kg/d) iv or PO TDS
- Immunocompromised patient- broad spectrum Gram positive plus gram negative plus anaerobic cover
- Secondary metastases - 4-6wks iv antibiotics or till symptoms subside

Elimination of nasal carriage in patients with previous history pyomyositis or staph bacteremia is recommended. Topical mupirocin nasal formulations or systemic therapy with Rifampicin 600 mg/day or Cloxacillin 500mg / 6 hourly for 10 days can be administered.

Conclusion

Our patient being a young male living in tropics with known immunocompromised state (Diabetes) presented with pyomyositis involving right pectoral muscle, was managed with broad spectrum antibiotic cover and surgical drainage. Awareness of tropical pyomyositis is wanting. Common risk factors should be kept in mind especially immunosuppressive state. Insistent therapy by open debridement must be carried out subsequent to confirming the presence of pus by USG/CT/MRI. Early antibiotic initiation is pivotal in therapy, and surgical intervention, when required should not be deferred.

Conflict of interests
The authors declare that they have no competing interests.

Financial Disclosure
The financial support no have.

Patient informed consent
Patient consent form was taken from all patients.

References


