A Rare Case of Tropical Myositis

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Citation

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Abstract

Pyomyositis is a primary infection of skeletal muscles usually caused by staphylococcus aureus. This infectious disease is endemic in tropical areas and sporadic in temperate climates. It mainly affects immunocompromised patients like patients with AIDS, leukemia, and diabetes mellitus, etc. The incidence of pyomyositis is increasing worldwide with rise in prevalence of patients infected with HIV virus. The disease is neglected initially due to nonspecific clinical features. Further evolution of disease is usually associated with fever, septic shock and inflammatory involvement of large muscles of the lower extremity. The diagnosis of the responsible agent is established by blood culture and surgical or radio-guided puncture. Treatment includes antibiotics and surgical drainage. Our case showed such a typical presentation of myositis without any pus formation, which responded to standard treatment. We would like to report such a rare case at our institute.

CASE HISTORY

A 30-year-old Hindu male patient residing in Mumbai was admitted for pain in his left thigh for 3 days which was not relieved by standard analgesics. He was admitted in the ICU in a private hospital in view of unrecordable blood pressure. He was treated in that hospital in view of deep venous thrombosis and was then referred to our institute for management of falling blood pressure.

There was no history of any trauma to his left thigh or any fever or any injection given in the left buttock or thigh prior to this. There was also no history of prolonged immobilization. The patient had no other complaints except severe agonizing pain in his left thigh and buttock, which was increasing.

On examination, the patient was a little drowsy but was well oriented in time, place and person. He had no fever. He had tachycardia of 96 beats/min. and a recordable blood pressure. The patient was tachypnoic and abdominal examination was within normal limits.

On local examination, his left thigh was more edematous than the right one and there were no features of redness/tense compartment suggestive of DVT/abscess. The patient's resuscitation started immediately after his arrival at our institute and he was put on dopamine and adrenaline drip to restore his blood pressure. A broad-spectrum antibiotic was administered along with pain analgesia without any sedatives. He was catherised and his CVP was monitored via jugular access.

After vigorous resuscitation for 48 hours, the patient became hemodynamically slightly better with a blood pressure of more than 70 systolic. Simultaneously an ultrasound was done of thigh, abdomen and pelvis to rule out any abscess or deep venous thrombosis, but it was normal. There was no sign of compartment syndrome, either. The clinical senario was extremely confusing and was not fitting into any standard criteria.

After 48 hours (on the 3rd day), a small incision was made over his left thigh after checking his coagulation profile which was within normal limits. It was done for ~5cm under local anesthesia and the findings were very rare. There was only edematous fluid within without muscle edema and no pus pocket. The patient was relieved of his pain and his blood pressure became 110 systolic after 24 hours.

Edema fluid was sent for routine microscopy and culture sensitivity but it showed no organisms. A diagnosis of tropical myositis with superficial necrotizing gangrene of skin was made after review of the literarure.

The patient required repeated wound debridement. After the wound became healthy, the patient underwent SSG under spinal anesthesia. Graft take was 85% on 1st wound check. The patient was discharged after two weeks when the wound was well covered with graft. Now, after 2 years, the patient is totally disease-free, asymptomatic and settled completely.

Figure 1

Figure 1: Initial wound appearance after extended release incision.

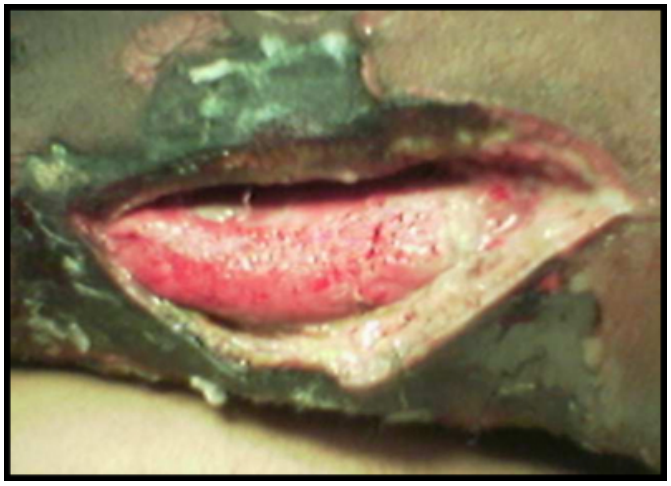


Figure 2

Figure 2: Wound after extensive debridement after one week.

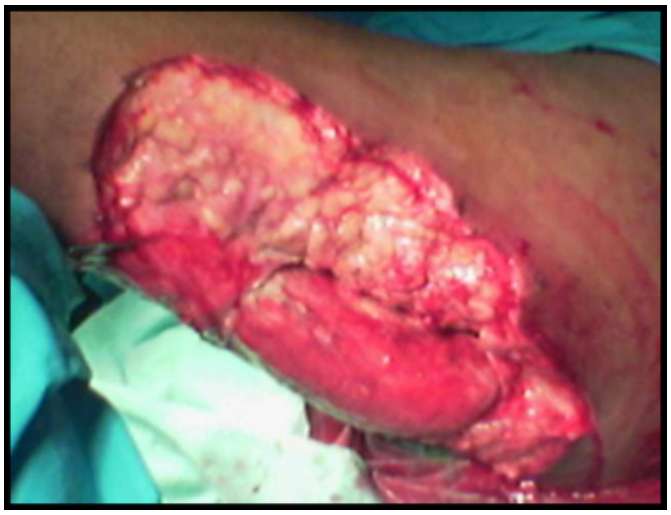


Figure 3

Figure 3: Wound ready for grafting after two weeks

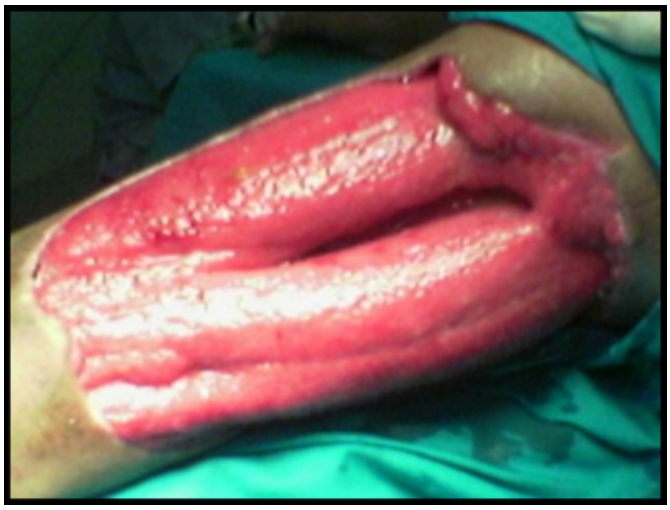
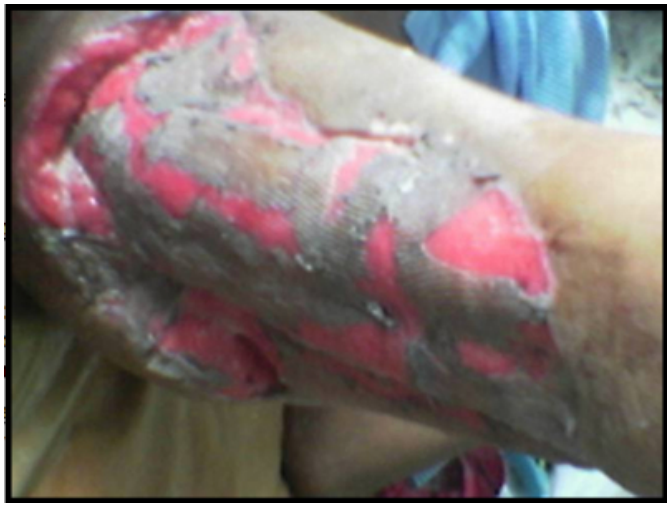


Figure 4

Figure 4: Post-SSG wound, after one week



DISCUSSION

Definition: Tropical pyomyositis (1) is an acute bacterial infection, usually caused by staphylococcus aureus infection involving single or multiple groups of muscles, occurring mainly in the tropics and in temperate climates.

Differential diagnosis: The Differential diagnosis of pyomyositis (TPM) varies according to the location. In extremities, it usually mimics osteomyelitis, septic arthritis, deep venous thrombosis, muscle rupture and hematoma, while TPM of abdominal wall muscle may mimic appendicitis or other acute abdominal conditions.

Epidemiology: In tropical countries pyomyositis is endemic (2). The prevelance of pyomyositis is 5% of total emergency hospital admissions in western African countries like

Nigeria. In the tropics, the disease is more prevalent in young people and males are more commonly affected than females. By contrast, in non-tropical areas pyomyositis is uncommon and affects mainly adults and elderly with equal frequency in males and females. An associate history of trauma can be traced in about 25% of cases.

Pyomyositis, both in the tropics and in non-tropical countries, is strikingly associated with immunocompromised status like HIV infection, leukemia or diabetes mellitus. The prevalence of myositis is increasing with rise in patients infected with HIV. It is especially high with patients with CD4 count of <150/cc.

Clinical features: The clinical course of pyomyositis (3) can be divided into three stages:

First stage or invasive stage: During the first two weeks, the disease is subacute and symptoms are often neglected. Generally, symptoms are variable including fever and anorexia. Local symptoms consist of swelling, erythema, mild pain and minimal tenderness.

Second stage or suppurative stage: Diagnosis is often made at this stage. General signs are more permanent with high-grade fever; chills and septic shock. Local abnormalities include tenderness, swelling, inflammation and myalgia.

Third stage: Systemic manifestations are seen with sepsis and fever. Local examination shows erythema and exquisite tenderness. Further complications like metastastic abscess, septic arthritis, septic shock and renal failure can occur.

Biochemically, leucocytosis is frequent and so is eosinophlia. But eosinophilia may reflect the common prevalence of parasitic infections seen in the tropics and not so commonly found in myositis cases of non-tropical countries. Muscle enzyme levels are usually normal. The markers of malnutrition like hypoalbuminemia may be an associated finding.

Etiology: Staphylococcus aureus is responsible for 95% of cases of myositis in the tropics and of 70% cases in temperate climates. Other gram-positive cocci: Staphylococcus epidermidis, Staphylococcus pneumoniae, Streptococcus pyogenus. Gram-negative bacilli: Proteus mirabilis, Klebsiella pneumoniae, Yersinia enterocolitica, Salmonella species, Escherichia coli, etc. Anaerobes: Bacteroides fragilis. The causative agent can be isolated from USG- or CT-guided biopsy or surgical puncture or from blood culture.

Diagnosis (4): Ultrasonography: It shows muscular heretogenicity or purulent collection. It can also guide puncture. However, it is not useful during the first stage of the disease. CT scan: It can confirm the diagnosis before abscess formation with muscle enlargement and hypodensity. Also detects abscess location and exact extent.

MRI scan: It shows hyperintense signals in T2-weighted images, a hyperintense rim on enhanced T1-weighted images and peripheral enhancement after gadolinium-diethylene-penta-acetic-acid (Gd-DTPA) scan. MRI is currently the most sensitive and specific investigation of choice in myositis.

Treatment (5): Surgical drainage of abscesses along with antibiotic therapy is an effective treatment. The antibiotics should be chosen depending upon the culture and sensitivity reports. If the patient is in shock then adequate resuscitative measures are taken first to stabilize the patient and then to treat him/her accordingly. The exact duration and the specific protocol of the treatment are not yet specified. Plain myositis is rarer compared to pyomyositis which is common in the tropics (6).

SUMMARY

Our case showed all features of classical myositis without any pus formation (that is pyomyositis). Simple myositis causing a severe shock is quite rare. In our case, after stabilizing the patient and controlling local infection, the wound was ready for split-thickness skin graft (SSG). We followed standard measures of “wound cover”.

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