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Case Report

An unusual case of an elderly patient with multifocal pyomyositis

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ABSTRACT

Pyomyositis is an uncommon infection of the skeletal muscle that typically results in the formation of an abscess. We report an unusual case of a 74-year-old lady who presented with impaired mobility for 04 months, bilateral diffuse lower limb swelling without other signs of inflammation and normal leucocyte count, which emerged as methicillin-resistant *Staphylococcus aureus* (MRSA) pyomyositis involving different compartments of both lower extremities and responded promptly with timely surgical intervention. The role of high index of suspicion, sequential multimodal imaging in assessing infectious musculoskeletal pathologies and prompt timely operative intervention for source control remains pivotal.

Keywords: Pyomyositis, Skeletal muscle, MRSA

INTRODUCTION

Pyomyositis, also known as myositis tropicans, is a bacterial infection of the skeletal muscle that typically results in the formation of an abscess.[1] The most common offender is *Staphylococcus aureus*, however, other streptococcal species, are infrequently found.[2] It usually affects large muscle groups in the lower limb (LL). It is common in immunocompromised individuals, although various factors, like strenuous exercise and direct trauma to the muscle, can be a cause, but the inoculating source is not found in 50–70% of cases.[3]

Due to various potential possibilities, diagnosis can be difficult because it frequently manifests with non-specific symptoms. The commonest pathogenesis is the direct entry of methicillin-resistant *Staphylococcus aureus* (MRSA) into the bloodstream following trauma or indirectly seeding vulnerable muscle groups with MRSA.

In this case report, we describe an unusual presentation of an elderly patient with bilateral lower limb MRSA pyomyositis with myonecrosis affecting several muscle groups.

CASE REPORT

A 74-year-old lady known hypertensive presented with altered sensorium for 02 days, diffuse bilateral lower limb swelling, and difficulty in walking for 04 months. There was no associated history of fever, pain, trauma, burning micturition, or recent surgery.

On initial assessment, she was hemodynamically stable. She had pallor and bilateral pitting edema. On systemic examination, she was confused and disoriented with GCS was E3 V4 M5. Examining the lower extremities showed a diffuse swelling with no other local indicators of inflammation. Power in the lower limb was 3/5 in all muscle groups with normal deep tendon reflexes and no sensory deficit. The rest of the systemic examination was within normal limits.

Further evaluation revealed elevated erythrocyte sedimentation rate (ESR) (65 mm/hour), C-reactive protein (CRP) (91.6 mg/l), hyponatremia (Na: 118 mEq/l), total leucocyte count (6800 cells/cumm) and anemia (Hb: 8.1 g/dl). The remaining hematological and biochemical values were within normal ranges. NCCT of the head ruled out any intracranial pathology. The ultrasound reported

diffuse subcutaneous edema with several hypoechoic collection pockets in different LL compartments.

Figure 1: Cruciate incision given over left anterior thigh.

Figure 2: Axial section of bilateral legs showing collection (T2 MRI).

She was initially managed for suspected cellulitis with hyponatremia. Her sensorium gradually improved, but despite the prompt commencement of beta-lactam IV antibiotics, the patient's clinical condition failed to improve. On hospital admission day 4, she developed a fever of up to 102 F, with TLC of 17000 cells/mm^3 and a raised CRP of 171.6 mg/l. On suspecting infectious myositis, magnetic resonance imaging (MRI) of the lumbosacral spine, pelvis, and both lower extremities were done, which revealed diffuse asymmetric subcutaneous edema, multilobulated T2 hyperintense intramuscular collections with significant myonecrosis of the left anterior compartment, right thigh distal 1/3rd of medial compartment and right leg proximal posterolateral compartment.

The patient was emergently taken up for surgery. The LL compartments were addressed and a liter of sanguine-purulent collection was drained. The wound secondarily healed without any drain. Cultured aspirate grew MRSA.

According to MRSA treatment guidelines, the antibiotics were upgraded to injection vancomycin.[4] Following remarkable clinical improvement and two consecutive negative blood cultures drawn, the patient was discharged to home in a stable condition.

Figure 3: Coronal section of bilateral thigh showing subcutaneous edema collection (NCCT).

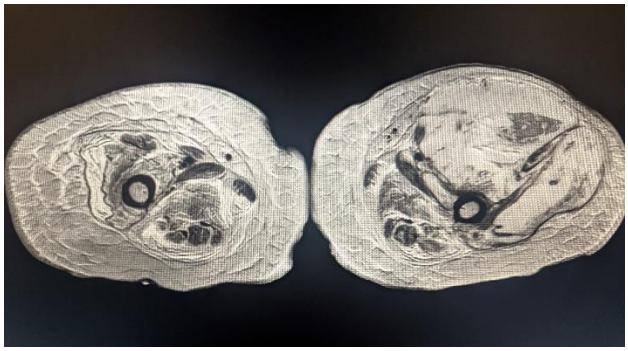

Figure 4: Axial section of bilateral thigh showing collection (T2 MRI).

DISCUSSION

Although MRSA pyomyositis is an uncommon infection in adults, though it is on the rise, due to concomitant diseases including obesity, diabetes mellitus, HIV infection, or evolving bacterial traits.[5] The disease can be classified into 03 different stages. The initial invasive stage lasts 10–21 days, second is the purulent stage and multi-organ failure, systemic symptoms, and metastatic abscesses characterize the third stage.

In our patient, the insidious onset of bilateral lower limb swelling, deterioration in mobility despite a normal leukocyte count, and the absence of local signs prevented a prompt diagnosis. Her poor inflammatory response to infection might have resulted from compromised immunity and masking of infection by antibiotics. She had prolonged invasive stage of the disease and involved different lower limb compartments. The possibility of viral and autoimmune myositis was ruled out in view of no viral prodrome and uncommon age group.[6] In our case, cellulitis and secondary skin infection might have triggered the pyomyositis. Our case report supports the fact that WBC count may be normal in the early stages of pyomyositis.[7] CRP is the most sensitive indicator of both treatment response and illness progression.[7] Consequently, we concur with earlier studies that found MRI's capabilities to be the most sensitive imaging modality for pyomyositis.[3]

IV vancomycin improved the patient's clinical condition and was continued for 02 weeks. In our patient, we achieved source control through abscess drainage and intravenous antibiotics.

CONCLUSION

We describe an uncommon case of MRSA-induced pyomyositis with a prolonged preliminary invasive stage that involved multiple muscle compartments of the bilateral lower limbs in an elderly patient who had no prior penetrating trauma or signs of inflammation. The role of sequential multimodal imaging in assessing infectious musculoskeletal pathologies and prompt timely operative intervention for source control remains pivotal.

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