INFECTIVE MYOSITIS IN A PATIENT HAVING NO RISK FACTORS: A CASE REPORT

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ABSTRACT

Infective myositis, an uncommon type of inflammatory myopathy caused by a wide range of infective agents like viruses, bacteria, fungi, and parasites, is a potentially treatable condition if diagnosed in time. It can cause devastating illnesses in previously well patients. We present a case of infective myositis which illustrates that it is a rare case in a patient with no risk factors and highlights the challenges encountered in the diagnosis.

Key Words: Infective myositis, MRI findings in infective myositis

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INTRODUCTION

Inflammatory myopathies (synonym: idiopathic inflammatory myopathy, IIM) – in short: myositis–are conditions that can affect multiple organs apart from muscle and often lead to severe impairment of the quality of life [1]. They are rare autoimmune diseases and heterogeneous in their muscle phenotype and extra-muscular manifestations [2]. Most of these myopathies are generally characterized by chronic proximal muscle inflammation and weakness [3]. They can be divided into two types: infectious and non-infectious. For infectious myositis, the epidemiology is less well-defined due to the extensive list of causative agents including fungi, viruses, bacteria and parasites. Fungal pathogens have been found to preferentially affect immunocompromised hosts, and the spectrum of parasitic pathogens is informed by patient's travel histories or environmental exposures. In bacterial cases, Staphylococcus aureus accounts for over 75 percent of the cases [4]. It most commonly invades skeletal muscle through hematogenous dissemination. However, the non-infectious myopathy is caused by conditions like muscle injury, autoimmune conditions and drug side effects (like statins).

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CASE REPORT

A 31 years old female, a mother of two children, presented in the ED at midnight with 5 days history of worsening bilateral calf pain. There was no history of trauma, fever, any recent travel, insect bite or systemic symptoms. The patient had no history of diabetes or immunosuppression. She was stable clinically with an unremarkable systemic examination. Locally, both the calves were very tender to touch on light palpation and pulses were palpable bilaterally. Moreover, there was no local oedema, rubor or skin discoloration. A routine set of bloods including full blood count, renal function tests and CRP were not significant, however, CK was mildly (400 IU/L) elevated. The full autoimmune screen like RF, anti CCP antibodies and ANA also turned out to be negative. Compartment syndrome, acute limb ischemia and necrotizing fasciitis were ruled out. She was admitted to the hospital and was prescribed painkillers (paracetamol and oramorph). During her admission, she spiked temperature for which a blood culture was done which did not show any growth, however, she was started on broad-spectrum antibiotics (amoxicillin, metronidazole and gentamicin). On the second day of admission, the right leg started to look swollen from the knee downwards; an MRI of both legs was done which showed infective myositis with a developing abscess on the right side and infective myositis with no abscess on the left side. The figure below shows

intramuscular fluid collection with peripheral rim-enhancement.

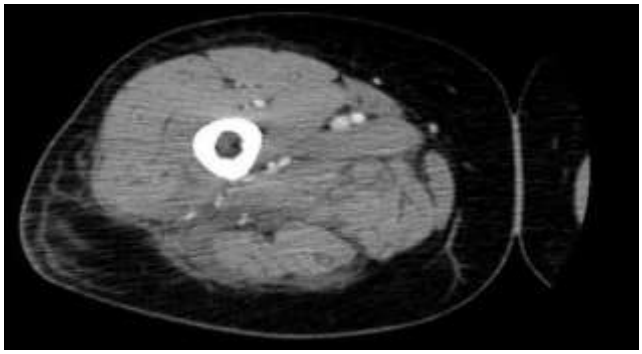

Figure-I: Intramuscular fluid collection with peripheral rim-enhancement

Echocardiography was done to look for any infection focus, but it was unremarkable. The antibiotics were escalated to meropenem after consultation with the microbiology team. Later, a tissue biopsywas done to confirm the causative agent (Staphylococcus aureus). Histopathology also confirmed gram positive cocci along with muscle necrosis. She was treated accordingly for 6 weeks.

DISCUSSION

An infective myositis is an uncommon group of inflammatory myopathies. In a retrospective study conducted in Yale University, New Haven, USA only 18 cases of infective myositis were identified between January 2012 and May 2020. Diffuse myositis is caused by viruses while local myositis is commonly caused by bacteria and fungi in sites affected by trauma or surgery and is more common in immunocompromised individuals [5]. It can manifest itself as an acute, sub-acute, or chronic condition characterized by pain, swelling, tenderness or muscle weakness [6]. Radiological investigations like MRI can be useful to identify the muscle affected. The specific agent causing disease can be detected on blood cultures, muscle biopsy or serology. Treatment depends on the underlying causative agent. Open surgical or imaging-guided drainage is usually the treatment for bacterial myositis [7]. However, due to the low prevalence of myositis, range of clinical features, and lack of comprehensive and internationally accepted diagnostic criteria, diagnosis of myositis can be challenging, and many patients experience significant diagnostic delays [8].If left untreated, it may lead to localized complications like compartment syndrome, the spread of infection to adjacent structures (osteomyelitis and septic arthritis) or systemic spread leading to septic shock and distant abscess formation.

CONCLUSION

To summarize, infective myositis is a rare yet potentially treatable condition. This case report illustrates that it can present itself acutely in an otherwise healthy adult without predisposing factors and can be treated without complications if diagnosed timely.

CONFLICT OF INTEREST

None

AUTHORS CONTRIBUTION

Kanwal Jamil: : Prepared and presented the case. Wrote the case report

Muhammad Harris Ayub: Supervised the case report and did final reading and editing. Corresponding author

Muhammad Adil Ayub, Sanam Harris, Arooj Baig: Literature review

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