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Iliopsoas pyomyositis as the initial presentation of HIV infection : A case report

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ABSTRACT

Pyomyositis is a bacterial infection of skeletal muscle increasingly reported outside tropical regions, particularly in immunocompromised patients. We report the case of a 45-year-old woman who presented with acute right-sided abdominal pain and fever. Contrast-enhanced computed tomography showed inflammatory involvement of the right iliopsoas muscle without abscess formation. Blood cultures identified Staphylococcus aureus, and further investigations revealed previously undiagnosed human immunodeficiency virus infection. The patient was successfully treated with antibiotic therapy, with favorable clinical outcome. This case emphasizes the diagnostic role of computed tomography and the need to search for underlying immunodeficiency in patients presenting with pyomyositis.

KEYWORDS

Pyomyositis; Iliopsoas muscle; Computed tomography; Human immunodeficiency virus

MAIN ARTICLE

Introduction

Pyomyositis is a bacterial infection of skeletal muscle that may progress from early inflammation to abscess formation. Initially described in tropical regions, it is now increasingly reported in other settings [1,2]. Staphylococcus aureus is the predominant causative organism [1,3]. Imaging plays a key role in diagnosis. While magnetic resonance imaging is considered the most sensitive modality for muscle infection, contrast-enhanced computed tomography (CT) is frequently used as first-line imaging in emergency settings to detect muscle involvement and exclude alternative diagnoses.

We report a case of pyomyositis revealing previously undiagnosed human immunodeficiency virus (HIV) infection, highlighting the contribution of CT imaging and the importance of etiological investigation.

Case report

A 45-year-old woman with no significant past medical history presented to the emergency department with right-sided abdominal and lumbar pain evolving over several days. The pain was progressive, deep, and exacerbated by movement, with no history of trauma. She reported low-grade fever, without associated digestive or urinary symptoms.

On physical examination, the patient was febrile at 38.1 °C. Palpation elicited tenderness in the right iliac fossa and lumbar region, with pain during hip movement, particularly extension. No cutaneous lesions or signs of local infection were observed.

Laboratory investigations revealed an inflammatory syndrome, with elevated C-reactive protein and leukocytosis. Renal and liver function tests were within normal limits. Given the suspicion of an intra-abdominal or retroperitoneal pathology, a contrast-enhanced computed tomography (CT) scan of the abdomen and pelvis was performed.

CT imaging demonstrated enlargement of the right iliopsoas muscle with heterogeneous attenuation and poorly defined hypodense areas, consistent with inflammatory muscle involvement (Figure 1). After contrast administration, the muscle showed heterogeneous enhancement without a well-defined encapsulated collection, suggesting an early stage of infectious myositis rather than a mature abscess (Figure 2). No associated spondylodiscitis, vertebral osteomyelitis, intra-abdominal collection, or lymphadenopathy was identified.

Based on clinical, biological, and imaging findings, the diagnosis of right iliopsoas pyomyositis was suspected. Blood cultures were obtained, and empirical intravenous antibiotic therapy was initiated. In the absence of identifiable predisposing factors, further

etiological investigations were performed. Serological testing revealed previously undiagnosed human immunodeficiency virus (HIV) infection, confirming an underlying immunocompromised state. Blood cultures subsequently isolated *Staphylococcus aureus*. The patient showed favorable clinical and biological evolution under antibiotic treatment, with regression of pain and normalization of inflammatory markers. No percutaneous drainage was required. Antiretroviral therapy was initiated after multidisciplinary discussion. Follow-up clinical assessment and imaging confirmed resolution of the infection without complications.

Discussion

Pyomyositis is a primary bacterial infection of skeletal muscle that may progress from diffuse muscle inflammation to abscess formation. Although it was historically considered a tropical disease, its incidence has been increasingly reported in temperate regions, mainly among immunocompromised patients [1,2]. Staphylococcus aureus is the most frequently isolated pathogen, responsible for up to 90% of cases in most series [1,3].

Immunosuppression represents a major predisposing factor for pyomyositis. Conditions such as diabetes mellitus, malignancy, chronic renal failure, corticosteroid therapy, and human immunodeficiency virus (HIV) infection significantly increase the risk [2,5]. In patients living with HIV, pyomyositis may occur at any stage of the disease and has been reported as a revealing manifestation of previously undiagnosed HIV infection [1,5]. Impaired cellular immunity facilitates hematogenous spread of bacteria to skeletal muscle, even in the absence of local trauma [3].

The clinical presentation is often nonspecific, particularly during the early stage, with localized muscle pain, swelling, and low-grade fever, which may lead to diagnostic delay [2,4]. Imaging therefore plays a crucial role in diagnosis. Magnetic resonance imaging (MRI) is considered the most sensitive modality, allowing early detection of muscle edema, inflammatory changes, and abscess formation [3,4]. Computed tomography (CT) remains a valuable alternative, especially in emergency settings, and is useful for identifying hypodense intramuscular collections with peripheral enhancement as well as for guiding percutaneous drainage when required [4].

The differential diagnosis includes inflammatory myopathies, soft tissue tumors, muscle infarction, hematoma, and necrotizing fasciitis [3,4]. Early recognition based on imaging findings combined with clinical and laboratory data is essential, as prompt initiation of appropriate antibiotic therapy, with or without drainage depending on disease stage, is associated with favorable outcomes [1,3].

This case underlines the importance of investigating underlying immunodeficiency in patients presenting with pyomyositis without obvious predisposing factors. Systematic HIV testing should be considered in such situations, as early diagnosis enables timely initiation of antiretroviral therapy and reduces morbidity and mortality. Radiologists and clinicians should be aware that pyomyositis may represent a revealing manifestation of HIV infection.

Conclusion

Pyomyositis should be considered in patients presenting with acute muscle or abdominal pain, even in the absence of obvious risk factors. Contrast-enhanced computed tomography plays a crucial role in the initial diagnosis, particularly in emergency settings when magnetic resonance imaging is not readily available. In such cases, identification of pyomyositis should prompt etiological investigation, including screening for underlying immunodeficiency such as HIV infection, to ensure appropriate management and favorable outcomes.

FIGURES:

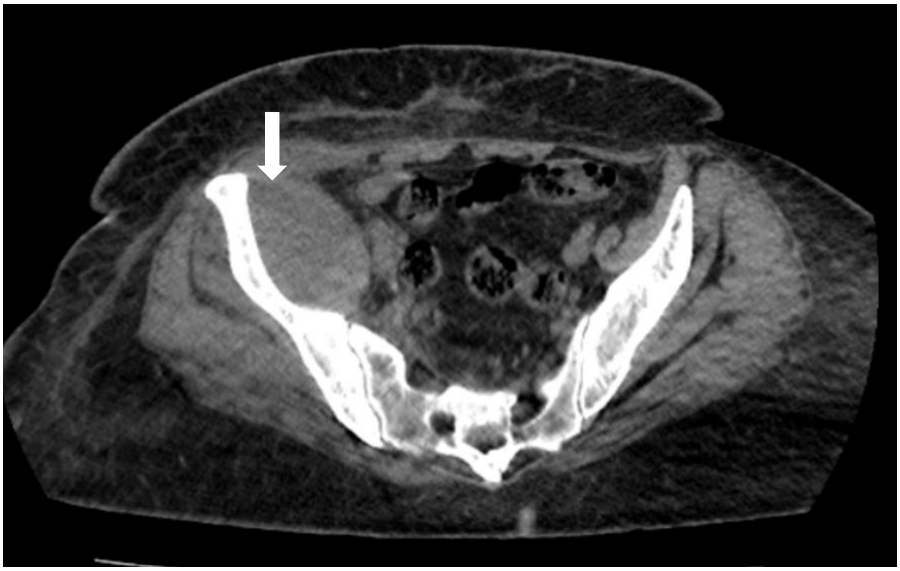

Figure 1 : Axial non–contrast-enhanced computed tomography (CT) image showing enlargement and increased attenuation of the right iliopsoas muscle (arrow) compared with the contralateral side, suggestive of inflammatory involvement.

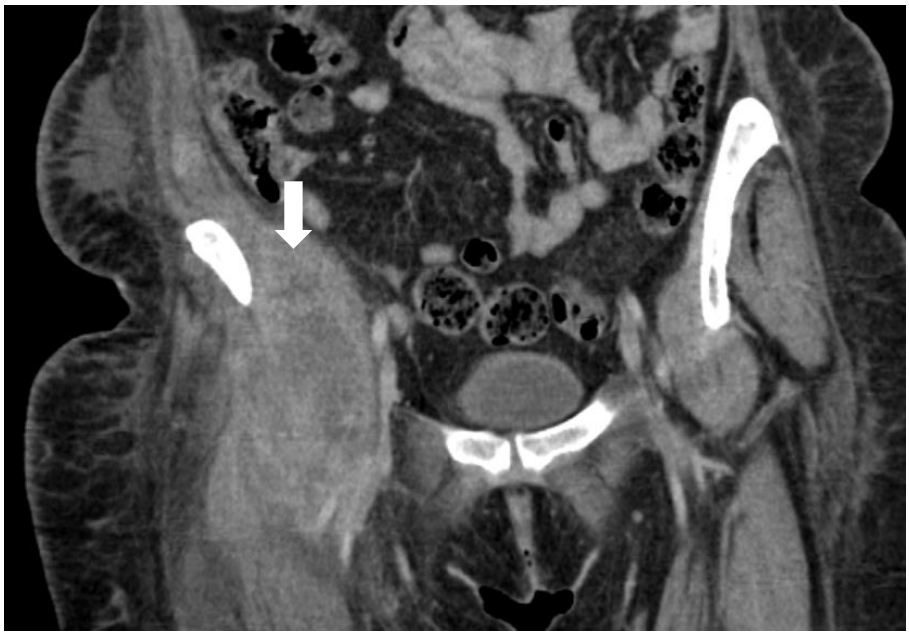

Figure 2. Contrast-enhanced coronal CT image demonstrating heterogeneous enhancement and inflammatory infiltration of the right iliopsoas muscle (arrow), without well-defined abscess formation.

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