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Brief report

Lower extremities and iliopsoas pyomyositis with concurrent septic arthritis and spinal epidural abscess in a diabetic patient

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ABSTRACT

Pyomyositis is a rarely encountered infection among diabetics, which usually affects lower extremities. Herein, we present a case of lower extremities and iliopsoas pyomyositis with concurrent septic arthritis and spinal epidural abscess in a patient with poorly controlled diabetes mellitus.

1. Introduction

Pyomyositis is an acute bacterial infection of the skeletal muscle, characterized by bacterial one or more abscesses formation [1]. Its exact pathogenesis remains unknown, although a bacteremic phase is usually involved [2]. It is traditionally considered a disease endemic to warmer climates, hence the name ''tropical pyomyositis''. Nevertheless, it has recently become more prevalent in temperate regions, where it can usually be found in predisposing immunocompromised patients with conditions such as human immunodeficiency virus (HIV) infection – as approximately 21% of patients with pyomyositis are HIV positive – diabetes, bone marrow malignancies, and sickle cell anemia [3–6]. Herein, we present a case of pyomyositis in a Greek Caucasian male diabetic patient complicated with septic arthritis of the right shoulder and spinal epidural abscess.

2. Case presentation

A fifty-two years old male patient was brought to the emergency department of our hospital due to an altered level of consciousness that started two hours ago. His relatives reported that the patient had difficulty in rising to the upright position and difficulty in walking for the last ten days. From his past medical history, the patient had diabetes mellitus, for which he did not take any antidiabetic drugs, but he unsuccessfully tried to control his diabetes only with diet modification. His HbA1c was 12.9% on admission.

On physical examination, the patient had 120 pulses, a high temperature of 40° C with rigors, systolic blood pressure 120 mmHg and diastolic blood pressure 80 mmHg. He replied to simple questions with difficulty, and complained of widespread myalgias and malaise. Nudal rigidity was absent; while in the posterior tibial region of the right leg there was a red tender and painful lesion that fluctuated,

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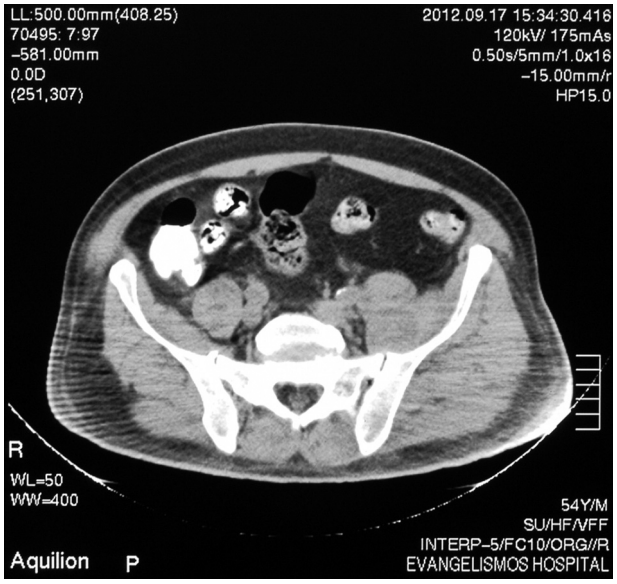

Fig. 1 – The abdominal CT scan depicting an abscess of the left iliopsoas muscle.

suggestive of an abscess. His blood glucose level was 564 mg, without the presence of diabetic acidosis, though. The patient was started on insulin intravenously along with the administration of normal saline. Due to the patient's fever with headache and difficulty in speaking, a brain CT scan was obtained, that showed no pathological lesions. A lumbar puncture was performed and the celebrospinal fluid showed only 1–2 cells/mm^3. Three blood cultures were obtained from the patient and he was administered ciprofloxacin plus clindamycin. As all of the three blood cultures grew *Staphylococcus aureus*, vancomycin was added to the regimen. During his hospitalization, the patient developed similar lesions on the anterior tibial region of both legs as well as on major pectoralis muscle, adjacent to the right maxilla. Those similar lesions, with the exception of the small one near the right maxilla were drained by surgeons. Transthoracic echocardiography as well as transesophageal echocardiography did not show any vegetations. Due to the patient's difficulty in standing up and walking, an abdominal CT scan was performed, which revealed the presence of a large abscess in the left iliopsoas muscle, which was drained under CT evaluation (Fig. 1). During his hospitalization, he complained of a decreased ability to move his right arm, while he experienced intense pain when moving his arm and extreme tenderness on his right shoulder. An MRI of the right shoulder was performed that was compatible with septic arthritis of the right shoulder. A brain MRI was normal, whereas a spinal MRI revealed the presence of cervical spondylodiscitis and a small epidural abscess. Neurosurgeons opinion was to continue with the intravenous antimicrobial chemotherapy due to the small size of the epidural abscess. As long as the patient remained hospitalized, mobility of his right arm improved significantly and a new spinal MRI showed that the epidural abscess disappeared. As the patient's blood cultures became negative and defevereness continued for twelve days, the patient was discharged from the hospital after a total stay of 42 days inhospitalized. We have to point out that defeverness occurred only after the drainage of almost all suppurative muscle lesions.

3. Discussion

Pyomyositis is a clinical entity which is frequently encountered in tropical regions, but is increasingly observed in temperate regions and especially among HIV positive patients and among diabetics, particularly with poor glycemic control. Also, other immunocompromised patients have been reported to have pyomyositis, such as patients with hematologic malignancies and/or bone marrow transplantation, patients with chronic granulomatous disease, sickle cell anemia and rarely patients with solid tumors after chemotherapy or trauma and in children [6–9]. Although approximately 90% of cases of pyomyositis are due to *S. aureus* infection, polymicrobial, parasitic, viral or mycotic pyomyositis may also occur [7–10]. Those unusual bacteria are cultured predominantly from patients with hematologic malignancies and in tropical climates. Recently, ca-MRSA has been found to be an important causative agent in pyomyositis [2,11].

Pyomyositis in temperate regions usually appear in the lower extremities [12–16]. Diagnosis may be difficult to make due to the rarity of this clinical entity in temperate climates and the fact that the lesions could be mistaken for cellulitis, before they fluctuate. MRI is the imaging modality of choice for diagnosing pyomyositis [17]. Antimicrobial chemotherapy together with surgical interventions is needed for treating pyomyositis.

Our patient presented with abscess in the right gastrocnemial and later on, during the course of his hospitalization, he developed abscess in the anterior surface of the tibial regions in both legs, with tenderness that caused his difficulty in walking.

Apart from the lower extremities, the patient had involvement of the left iliopsoas muscle, which caused the difficullty in standing in the upright position, the right pectoralis muscle, the right shoulder which along with cervical spondylodiskitis caused tenderness and difficulty moving his arm and a small spinal epidural abscess. To our knowledge, our patient's presentation, with so many skeletal muscles involved, septic arthritis and epidural abscess is completely strange and has not been reported before. Involvement of both lower and upper extremities, together with septic arthritis of the shoulder, cervical spondylodiskitis and spinal epidural abscess is intriguing and – to our knowledge – has not been described before. Early recognition of pyomyositis is significant in order to avoid its many complications, among which sepsis or septic shock is the most severe ones.

Conflict of interest

There is no conflict of interest.

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