Case Report

Spontaneous myonecrosis with pyomyositis in a young male with type 2 diabetes mellitus: A case report✩

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A R T I C L E   I N F O

Article history:
Received 20 October 2022
Revised 27 October 2022
Accepted 29 October 2022

Keywords:
Diabetes mellitus
Myonecrosis
Pyomyositis
Complications
Type 2

A B S T R A C T

Diabetic myonecrosis is a rare complication of poorly controlled diabetes mellitus which commonly affects the thigh and is managed conservatively. Spontaneous ischemic necrosis of muscle is noted without a reduction in vascular supply. Pyomyositis caused by Staphylococcus aureus infection is another rare complication. Atypical presentation of myonecrosis and pyomyositis can occur in the form of simultaneous or sequential involvement of multiple muscle groups. We present a rare case of myonecrosis with pyomyositis in a 39-year-old male patient with a background of type 2 diabetes mellitus who presented with a 5-day history of worsening pain of the right thigh radiating to the right ankle, associated with groin swelling and fever. It is important for clinicians to have a low threshold of suspicion of this rare condition due to the other diverse and similar diagnoses, as well as to prevent further complications and morbidity.

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Introduction

Diabetes mellitus has a prevalence of 7% in the United Kingdom with type 2 diabetes accounting for 90% of them [1]. Acute or chronic complications are common for uncontrolled diabetes. Diabetic myonecrosis and pyomyositis are rare complications for which patients may present with atraumatic painful swollen limb, mostly affecting the thigh. Simultaneous and multiple involvement of muscle groups and sites is uncommon. We present an unusual case of diabetic myonecrosis with pyomyositis in a young male who was misdiagnosed initially as cellulitis.

Case report

A 39-year-old male attended a district general hospital with a 5-day history of worsening pain of the right thigh radiating

✩ Competing Interests: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.
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https://doi.org/10.1016/j.radcr.2022.10.098
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to the right ankle without preceding trauma, associated with groin swelling and fever. His medical history included type 2 diabetes and hypertension. He was tachycardic with a normal blood pressure and pyrexic on admission. Atrial fibrillation was noted on electrocardiogram. The right lower limb was grossly swollen on examination, with tender lymph nodes in the right groin and erythema limited to the leg. Neurovascular status of lower limbs was intact bilaterally. No obvious skin ulcers or injury was found.

Initial hematologic and biochemistry results revealed a normal leucocyte count of 9.5 x 10^9/L (normal range, 4.5-11 x 10^9/L), an elevated C-reactive protein of 595 (normal range, 0-5) and D-dimer of 604 (normal range, <243). Computerized tomography (CT) angiography of the lower limbs was performed. It showed no evidence of acute limb ischemia but right-sided subcutaneous edema with lymphadenopathy in the inguinal, external iliac and obturator regions and stranding around the inferior vena cava, suggesting cellulitis (Figs. 1 and 2). He was initially managed with antibiotics covering cellulitis. Ultrasonography of the right leg was later performed which excluded deep vein thrombosis.

He continued to deteriorate clinically despite a change in antibiotics with worsening blood results and pain. CT abdomen and pelvis was subsequently performed which found no source of intraabdominal infection or gas gangrene (Figs. 1 and 2). No clinical improvement was made after Day 4 from admission, MRI was then performed to rule out pyomyositis due to raised Creatine Kinase of 1407 (normal range, 40-320). It showed extensive signal abnormality affecting the swollen musculature of the right adductor compartment, as well as the muscle fibers of the rectus femoris and both the vastus medialis and intermedius which was consistent with diabetic myonecrosis and pyomyositis (Figs. 3 and 4). He made an uneventful recovery with tight glycemic control, analgesics optimization, and targeted antibiotics.
Discussion

Pyomyositis and myonecrosis are rare complications of uncontrolled diabetes. Appropriate and prompt use of imaging is essential in the evaluation of patients with local pain and swelling, associated with infection. Muscle biopsy may be considered for inconclusive cases. Good prognosis and recovery are seen in the patients after muscle rest, optimization in glycemic level and pain control, and targeted antibiotics for pyomyositis.

Patient consent

Written, informed consent for publication of case was obtained from the patient.

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