

Ischemic myositis in a diabetic patient receiving chemotherapy

Muscular ischemia, which may lead to infarction, is an unusual complication of uncontrolled diabetes, first described by Angervall and Stener in 1965.¹ We present the case of a diabetic patient being treated with gemcitabine (Gemzar) for pancreatic cancer. She presented with a swollen and painful right thigh, thought initially to be due to necrotizing fasciitis. The histopathology was consistent with ischemic myositis.

Case presentation

A 57-year-old woman presented with a complaint of bilateral lower extremity swelling and pain 1 week before presentation. At that time, venous Doppler ultrasonography was performed, and the results were normal. The patient's symptoms worsened on the right thigh, and she was admitted to the hospital the next day. The right thigh had associated erythema, and the pain was accentuated by movement.

Her medical history was significant for cholangiocarcinoma status following a Whipple procedure 10 months before presentation and diabetes mellitus for 20 years, with the last glycosylated hemoglobin level being 10.6% (normal value, 4%–6%). Her medications included glargine (Lantus), metoprolol, sertraline, alprazolam, prochlorperazine, acetaminophen/hydrocodone, and gemcitabine. The last chemotherapy session with intravenous gemcitabine (cycle 3, day 8) was 2 weeks before she was admitted. Of note, she was not taking a statin. In addition, she was allergic to sulfa drugs and intravenous contrast dye.

On physical examination, her blood pressure was 151/85 mm Hg,

heart rate was 76/min, temperature was 37.0 °C, and respiratory rate was 20/min. General examination showed a cachectic female who was uncomfortable and in distress. The lower extremities exhibited mild erythema and swelling of the right thigh but no crepitus or impaired sensation. Pulses were equal bilaterally in the lower extremities. A CT scan of the lower extremities (Figure 1) showed no fracture and diffuse edema throughout both thighs, although more so on the right thigh.

The patient developed crepitation and was taken immediately to the operating room for possible necrotizing fasciitis. Resection of the right anterior quadriceps was performed. All microbiologic studies were negative. The histopathology report was consistent with ischemic myositis (Figure 2).

Discussion

Ischemic myositis secondary to diabetes has a predilection for the quadriceps and thigh muscles.² The pathogenesis of the disease is not fully understood.³

In this particular case, the first differential diagnosis was deep venous thrombosis, which was later ruled out. Confronted with a rapidly changing physical examination, we were forced to consider possible life-threatening causes; thus, necrotizing fasciitis was suspected, and a surgical consultation was obtained. Due to the intravenous dye allergy, contrast CT was not possible on an emergent basis, and MRI was not readily available. Due to the high suspicion of necrotizing fasciitis, the patient underwent surgi-

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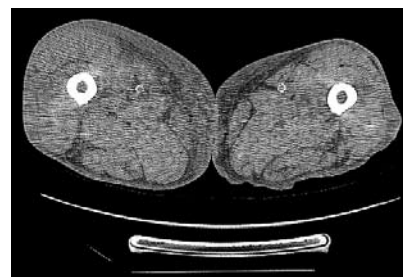


FIGURE 1 Transverse section CT scan of the lower extremities. Although there is edema throughout both thighs, it is greater on the right than on the left.

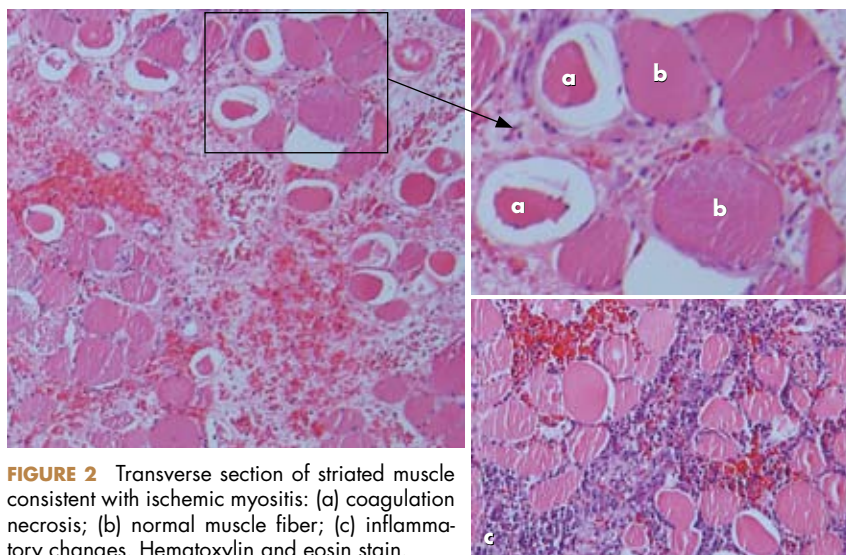


FIGURE 2 Transverse section of striated muscle consistent with ischemic myositis: (a) coagulation necrosis; (b) normal muscle fiber; (c) inflammatory changes. Hematoxylin and eosin stain.

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cal resection of the affected muscle. Fortunately, in our case, all microbiologic test results were negative, and the pathology report was consistent with fibromuscular tissue with inflammation and ischemic changes (Figure 2). Necrotizing fasciitis was excluded.

The etiology of this patient's ischemic myositis remains unclear. However, several cases of diabetic muscular infarction have been described in the literature.³⁻¹² The thigh is the most commonly reported site of involvement in patients with poorly controlled insulin-dependent diabetes mellitus.^{2,11} Diabetic muscular ischemia should be considered in any diabetic patient with severe muscular pain and imaging findings consistent with edema of the involved muscle.

Conclusion

Diabetic muscular ischemia should be suspected in a diabetic patient who develops a swollen and painful

muscle.¹⁰ When a life-threatening disease such as necrotizing fasciitis is highly suspected, an immediate surgical evaluation is warranted. On microscopy, necrotic muscle fibers and extravasation of blood may be observed in ischemic myositis. Diabetic muscular ischemia can be resolved with conservative management: rest, immobilization, and analgesia. Lastly, clinicians should be aware of the possibility of a recurrence not necessarily involving the same muscle group.²

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