

Decubital ischemic fasciitis presenting in an unusual location

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Decubital ischemic fasciitis, also called atypical decubital fibroplasia, is a distinctive fibroplasia occurring in nonambulatory older patients who are confined to bed or wheelchair-bound. These lesions are seen in the subcutaneous plane at pressure points or bony prominences. We present a case of ischemic fasciitis in a 68-year-old male patient who presented with a hard swelling in the middle third of the posterolateral aspect of the right leg, which is an unusual site for ischemic fasciitis.

Introduction

Ischemic fasciitis is a non-neoplastic proliferation of atypical fibroblasts seen in older debilitated bedridden patients at pressure points and bony prominences (1). These points are subject to intermittent ischemia with subsequent tissue breakdown and regenerative changes. The peak prevalence is in the 8th and 9th decade.

Decubital ischemic fasciitis was first described as atypical fibroplasia in 1992 by Montgomery et al (2), who found distinctive pseudosarcomatous fibroblastic proliferations in 28 patients, most of whom were physically debilitated and immobilized. Perosio and Weiss then described another series of six patients with similar lesions, and used the term ischemic fasciitis (3).

Ischemic fasciitis has been reported in the chest wall, shoulder region, sacrococcygeal region, and vulvogenital region (3-6). Ischemic fasciitis occurring in the leg is extremely rare.

Case report

A 68-year-old male patient, a carpenter, came to our hospital with complaints of swelling in the posterolateral aspect of his right leg for three years. It gradually increased in size and was associated with intermittent pain. There was no discharging sinus. The patient gave a history of squatting on the floor during work. On physical examination, a 6 x 5-cm hard nonulcerated mass was noted in the posterolateral aspect of the middle third of the right leg.

An ultrasound examination of that region showed a lobulated, hypoechoic subcutaneous lesion with multiple echogenic nodules (Fig. 1A). There was no significant vascularity within the lesion on Doppler examination (Fig. 1B). MRI of the right leg revealed an irregularly marginated lesion in the skin and subcutaneous plane over the posterolateral aspect in the mid-calf region, which measured 6.5 x 1.4 x 5 cm and appeared isointense to muscle on T1-weighted (T1W) images and heterogeneous but predominantly hyperintense on T2-weighted (T2W) and STIR images. Following contrast administration, strong heterogeneous enhancement with small nonenhancing areas were seen within the lesion. The overlying skin was thickened. The lesion caused smooth indentation over the adjacent lateral head of the gastrocnemius muscle (Figs. 2, 3).

The lesion was excised in toto and sent for histopathological examination. Microscopic examination showed a lobulated myxoid lesion with extensive pleomorphism of fibroblasts and endothelial cells in skin and the subcutaneous plane (Fig 4). Areas of fat necrosis and scattered giant cells were also seen. A few mitoses (2/10 HPF) and myxoid areas were seen in the perilesional tissue, and aggregates of lymphocytes were noted at the periphery of the lesion con-

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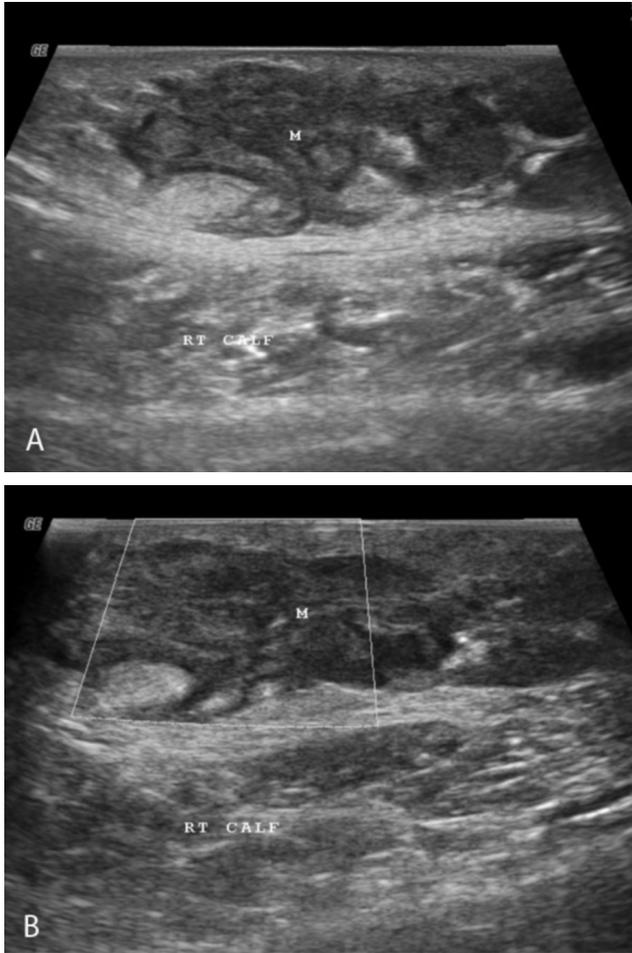


Figure 1. 68-year-old male with decubital ischemic fasciitis. A. Sonography of the right calf region using 12-MHZ linear probe shows hypoechoic lobulated mass in the subcutaneous plane. B. Color Doppler examination shows relative avascularity of the lesion.

sistent with the diagnosis of ischemic fasciitis. Following surgery, the patient made an unremarkable recovery.

Discussion

Ischemic fasciitis is an unusual reactive non-neoplastic proliferation of atypical fibroblasts seen in bedridden patients (2). These lesions look identical to soft-tissue sarcomas and pressure ulcers. Common sites of occurrence of these lesions are in the bony prominences. These lesions have also been reported in the shoulder, sacrococcygeal region, anterior chest wall (4), posterior chest wall, and lateral chest wall. One case of ischemic fasciitis in the vulvogenital region has also been reported (3, 6). The pathogenesis is likely pressure-induced repetitive ischemia that results in tissue breakdown and regenerative changes, which then lead to non-neoplastic proliferation of atypical fibroblasts (4).

However, in our case the patient was not debilitated. Since the patient was a carpenter, repeated friction in the leg region could be the cause. These lesions are localized to

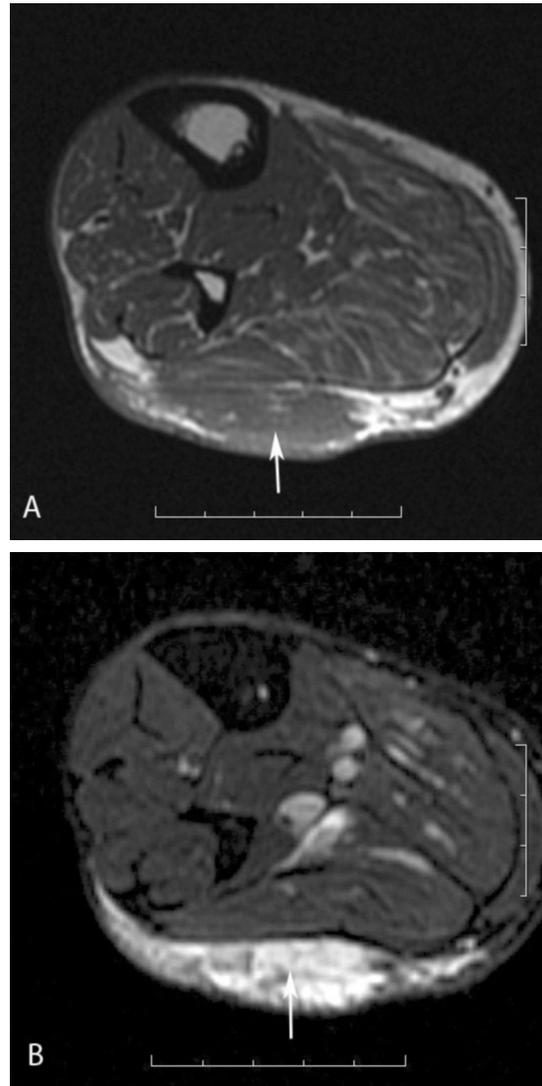


Figure 2. 68-year-old male with decubital ischemic fasciitis. A. Axial T1W image shows mass lesion in the subcutaneous plane, indenting the lateral gastrocnemius, that was isointense to muscle (TR = 440, TE = 8.2). B. Axial STIR shows hyperintense signal of the mass lesion (TR = 3260, TE = 55.1).

the subcutaneous regions, though some cases of muscle involvement have also been reported. Ischemic fasciitis is treated by local excision. Though the features of ischemic fasciitis and soft-tissue sarcoma mimic each other, radiologists should be aware of this rare lesion, as it may help in appropriate management.

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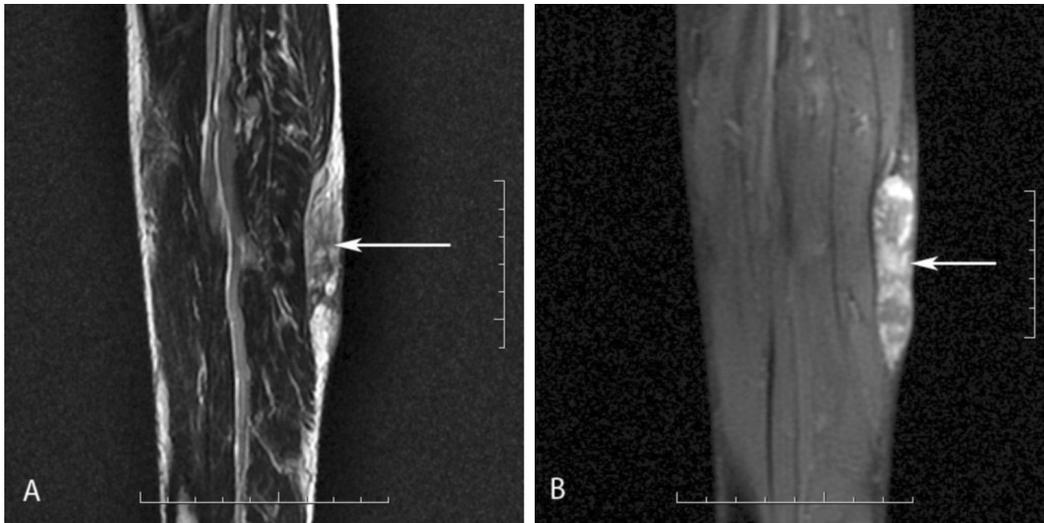


Figure 3. 68-year-old male with decubital ischemic fasciitis. A. Sagittal T2W image shows mild hyperintense signal of the mass lesion (TR = 5220, TE = 113). B. Post-contrast, sagittal, T1-weighted, fat-suppressed image shows the heterogeneously enhancing mass lesion (TR = 600, TE = 7.7).

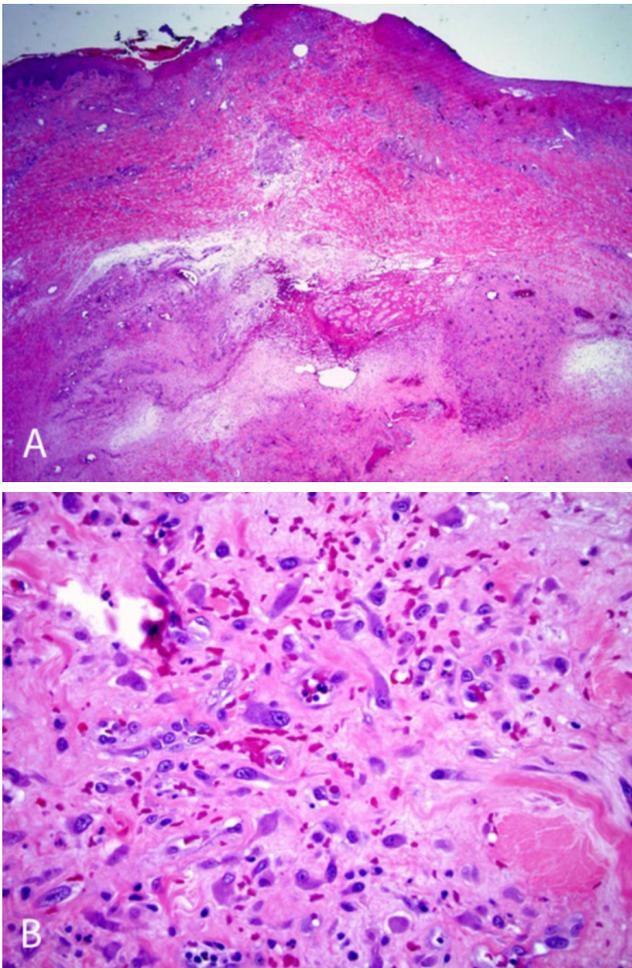


Figure 4. 68-year-old male with decubital ischemic fasciitis. A. Skin with ulceration and extensive ischemic changes involving dermis and subcutaneous tissue. H&E stain x40. B. Viable areas in the dermis show bizarre fibroblasts with enlarged pleomorphic nuclei. Note the maintenance of nuclear cytoplasmic ratio, favoring a reactive non-neoplastic lesion. H&E stain x200.

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