Focal myositis of the calf muscles

Sirs,

A 21-year-old male presented with bilateral, painful swelling of the calf muscles of one week's duration that interfered with his walking. Ten days prior to his muscle complaints he had had a febrile episode (with spikes up to 38.5-39 C) of three days' duration. Past medical history was otherwise unremarkable. Laboratory investigations showed neutrophilic leukocytosis (11,120 leukocytes with 73.4% neutrophils), ESR 35 mm/1st hour, CRP 2.54 mg/dl (normal values <0.5), but normal liver and renal function tests. CK and aldolase were within limits at 88 U/l (normal range 25-195) and 4.1 U/l (normal range 0.5-7.6), respectively. Autoimmune screen and serology for common pathogens including Borrelia Burgdorferi was negative. Doppler ultrasonography ruled out venous thrombosis. Grey-scale ultrasonography of the calf muscles showed no fluid collection suggestive of abscess (Fig. 1). MRI of the legs revealed on fat-suppressed (STIR) sequences inhomogeneous edema of the soleus muscle (more pronounced on the left) but no increase in muscle size or abscess (Fig. 2). Focal myositis was diagnosed and treatment with non-steroidal anti-inflammatory drugs commenced with symptomatic benefit.

The patient attended for review one month later. His muscle complaints had virtually resolved and he was now able to walk. There was no evidence of generalized muscle weakness on manual muscle test. A repeat MRI showed near-complete resolution of the muscle edema (Fig. 3). In view of the virtually complete remission of the patient's disease, electromyography and muscle biopsy were not done. To date, the patient's complaints have not recurred.

Focal myositis is a rare inflammatory myopathy presenting as localized, painful swelling within a muscle in the absence of systemic upset (1). Most commonly the muscles of the lower legs are involved (1). Muscle enzymes are usually within limits or only mildly elevated, while EMG may show myopathic changes of the affected muscle (2). Muscle histology shows perivascular and endomysial inflammatory cell (mainly CD4-positive T cells and macrophages) infiltration (3). MRI typically reveals increased signal intensity on T2 and fat-suppressed sequences and patchy enhancement on T1 sequences after gadolinium administration in the muscle involved (2). Differential diagnosis includes soft-tissue tumors, abscesses, amyloidosis, neurogenic hypertrophy, and nodular myositis (2). In doubtful cases, pathology may be helpful, although it may not distinguish between focal myositis and other localized inflammatory myopathies (2). Rarely, focal myositis may recur or progress to polymyositis (1, 2).

Our case is unusual for the febrile episode,

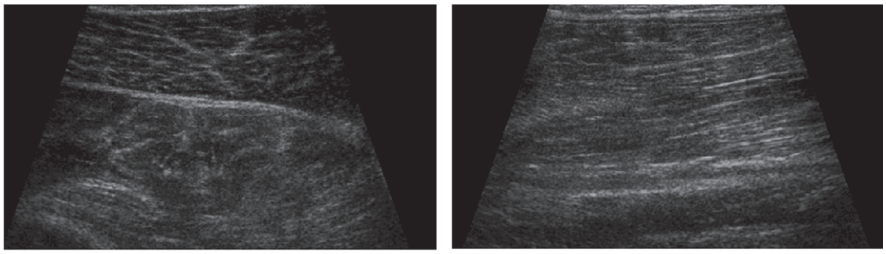

Fig. 1 Grey-scale ultrasonography of the left (A) and right (B) calf muscles showing absence of intramuscular fluid collection suggestive of pyomyositis. The muscle texture was slightly inhomogeneous, but not frankly abnormal.

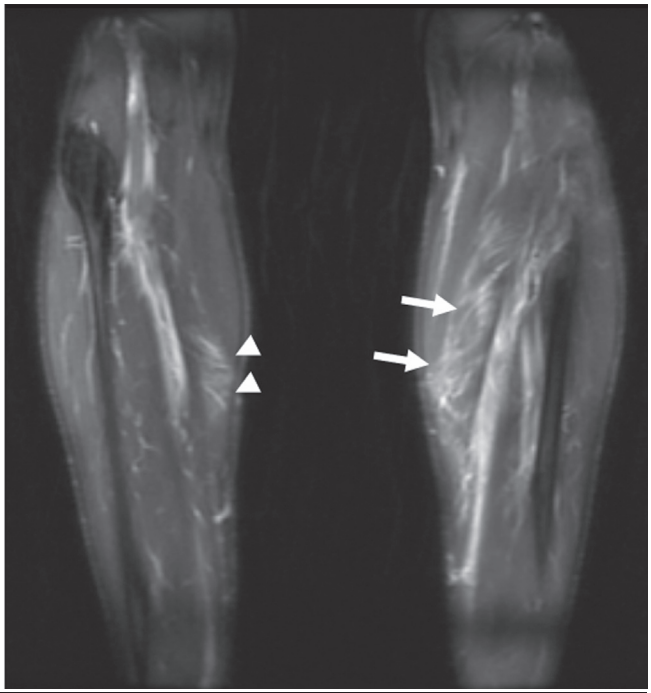

Fig. 2. Coronal Short T1 Inversion Recovery (STIR) image showing high-signal intensity alterations in the right (arrowheads) and left (arrows) soleus muscles. These alterations are consistent with edema. Note the prominent involvement of the left soleus muscle

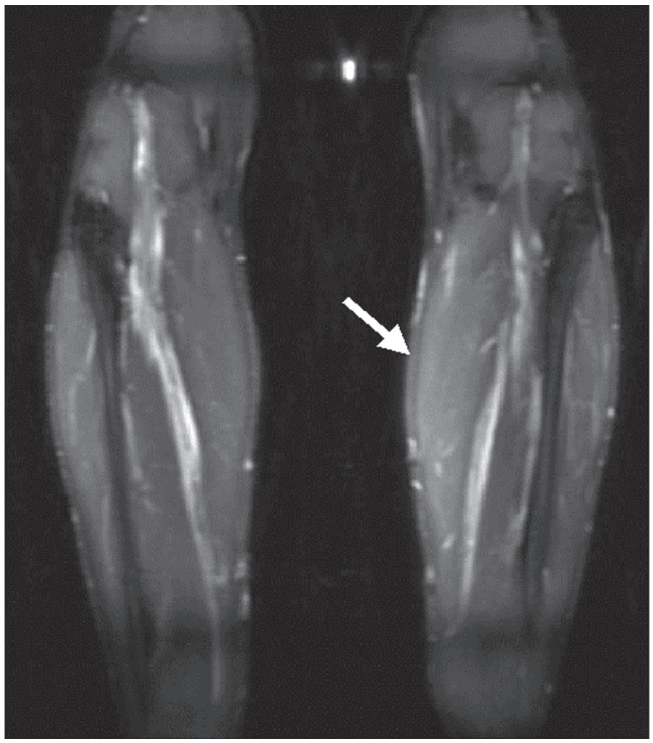

Fig. 3. Coronal short T1 Inversion Recovery (STIR) image showing the complete regression of the alterations of the right soleus muscle. Note a residual diffuse mild high-signal intensity alterations in the left soleus muscle (arrow).

possibly viral in origin, which preceded the onset of focal myositis. Infection (4) and trauma (2) have rarely been described in association with focal myositis, but the vast majority of cases are idiopathic (1). Our case also supports the role of imaging, particularly MRI, in the diagnosis and follow-up of myositis (5) including focal myositis.

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