Tuberculous fasciitis in a patient with systemic lupus erythematosus

Takahiko Akagi, Hiroyasu Hirano, Shunichi Fujita, Yoshitaka Morita

Rheumatology, Kawasaki Medical School, Kurashiki, Japan

Correspondence to
Dr Yoshitaka Morita,
morita@med.kawasaki-m.ac.jp

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DESCRIPTION

A 42-year-old woman receiving prednisolone (25 mg/day) and azathioprine (100 mg/day) presented to our clinic with fever and painful swelling of the right forearm. Seven months earlier, the patient had been diagnosed with systemic lupus erythematosus (SLE) based on the presence of arthritis, mesenteric panniculitis, leucocytopenia, antinuclear antibody and anti-dsDNA antibody. Treatment with prednisolone (30 mg/day) and azathioprine had improved her symptoms. However, SLE had recurred several times, requiring an increase in the dose of corticosteroids. The patient was negative for HIV and had no previous history of exposure to tuberculosis. Her body temperature was 37.8°C at presentation. Physical examination was unremarkable except for redness and painful swelling of the right forearm (figure 1A). Laboratory investigations revealed a C reactive protein level of 75.4 mg/L, haemoglobin of 117 g/L, a leucocyte count of $3.97 \times 10^9/L$ with a marked shift to the left (30% band cells) and a platelet count of $198 \times 10^9/L$. Liver and renal function tests were normal. Serum complement C3 and C4 concentrations were also normal. Antineutrophil cytoplasmic antibody and an interferon-gamma release assay for tuberculosis were negative. Urinalysis showed negative protein and 2+ haematuria with some red blood cells (5–9/high-power field) and white blood cells (1–4/high-power field). Contrast-enhanced CT of the chest, abdomen and pelvis showed no abnormality. Blood culture was negative. The patient was started on treatment with intravenous antibiotics for suspected cellulitis; however, her symptoms did not improve. The swelling and redness of the right forearm worsened in the following days (figure 1B) and the patient developed painful redness on the buttocks and both thighs (figure 1C). We then performed MRI to evaluate the state of the soft tissue.

Figure 1 Painful swelling and redness of the right forearm seen on the day of admission (A). A few days later, the physical findings at the right forearm had worsened (B) and she had developed painful redness in both thighs (C) as well as the buttocks.

Figure 2 MRI revealed increased T2 signal intensity in the fascial layers on the anterior aspects of both thighs (arrows).

MRI of both thighs showed increased T2 signal intensity in the fascial layers (figure 2). Pathological study of a biopsy specimen from the left vastus lateralis showed extensive necrosis without epithelioid cell granuloma. Acid-fast staining revealed acid-fast bacilli, and culture of the specimen revealed *Mycobacterium tuberculosis*. Therefore, the patient was diagnosed with tuberculous fasciitis and her symptoms improved after starting antituberculosis therapy. The treatment was continued for 12 months, and the patient remains free of relapse 10 months after it was completed.

Tuberculous fasciitis may mimic cellulitis or autoimmune fasciitis; therefore, the diagnosis may be delayed or missed in its early stages. Although uncommon, this soft tissue infection may be encountered in immunocompromised patients, such as those with HIV infection. It has also been reported in patients receiving immunosuppressive treatment for rheumatic disease, including polymyositis and rheumatoid arthritis.^{1 2} To our knowledge, this is the first documented case of tuberculous fasciitis in a patient with SLE. Of note, it is reported that extrapulmonary tuberculosis is

Patient's perspective

I got a serious illness. Thank you for making it better.

Learning points

- ▶ Tuberculous fasciitis is uncommon but may be encountered in patients who are receiving immunosuppressive therapy for rheumatic disease.
- ▶ Tuberculous infection should be included in the differential diagnosis when an immunocompromised patient presents with soft tissue inflammation of unknown cause.

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more common than pulmonary tuberculosis in SLE patients.³ Tuberculosis fasciitis should be included in the differential diagnosis when an immunocompromised patient presents with soft tissue inflammation.

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