

Radiation Myo-Fasciitis

Sir,

Myo-fasciitis syndrome encompasses a group of disorders characterized by palpable induration of the skin due to chronic inflammation and/or fibrosis of the subcutaneous septa and muscular fascia. The prototype of this syndrome is eosinophilic fasciitis or Shulman disease. Other diseases, such as eosinophilia–myalgia syndrome, localized forms of deep scleroderma or fibrosing dermatomyositis, may have a similar pattern.

We report here a case of a patient who developed a non-infectious fasciitis with myositis of the trapezius and deltoid muscles 3 months after radiotherapy for bronchial cancer.

CASE REPORT

A 63-year-old man presented with a 3-week history of severe pain in the shoulders. Six years earlier he had been operated on for epidermoid carcinoma of the right lung. Because of a relapse, he had undergone neoadjuvant chemotherapy 18 months previously and mantle irradiation 3 months previously. High-energy photons (25 MV) were delivered (60.5 Gy to the mediastinal area and 40.5 Gy to each supra-clavicular area) at a daily dose of 2 Gy.

Examination revealed marked thickening and cutaneous infiltration of both scapular areas. There was no leukocytosis and no hyper eosinophilia. The erythrocyte sedimentation rate was normal, as was blood glucose. Creatine phosphokinase was 308 U/l (normal <190 U/l) and aldolase was 14.3 U/l (normal <8 U/l). Antinuclear antibodies were negative and serum immunoelectrophoresis was normal.

A magnetic resonance imaging (MRI) scan with axial T₂-weighted slices (TR and TE; 1800 and 80 ms, respectively) and fat saturation (spoiled inversion recovery) demonstrated hyperintense trapezius in the irradiation fields and a nodular neoplasm recurrence in the right pulmonary apex (Fig. 1). On the basis of these investigations, a provisional diagnosis of radiation myo-fasciitis was made.

This diagnosis was confirmed by histologic examination of a deep cutaneous and muscular biopsy. The skin was normal but the fascia was infiltrated with radiation fibroblasts. In addition, there was a rhabdomyolysis of the underlying muscle, without cellular inflammatory reaction, vasculitis or neoplastic cells (Fig. 2).

Systemic steroids were used in order to treat the inflammatory component but as the patient died due to tumor relapse no further follow-up was possible.

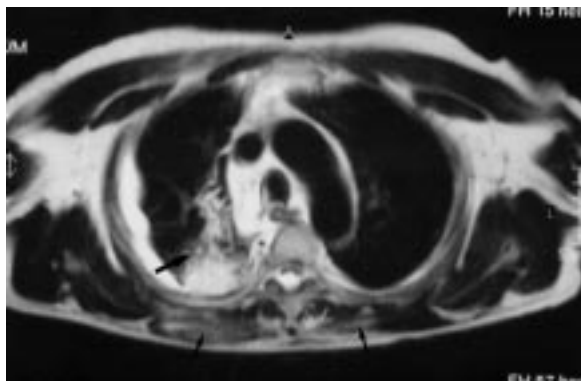


Fig. 1. MRI scan: hyperintense trapezius in the irradiation fields (small arrows) and nodular neoplasm recurrence in the right pulmonary apex (large arrows).

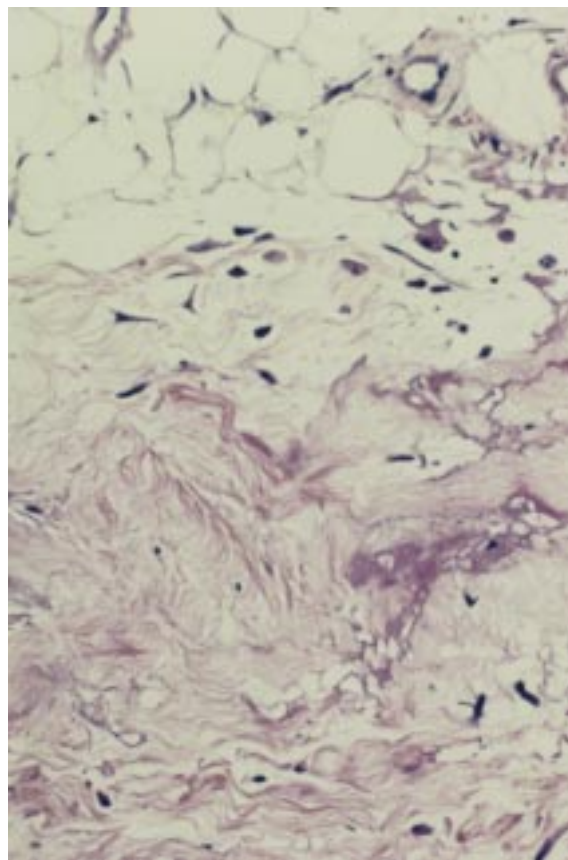


Fig. 2. Infiltration of the fascia by radiation fibroblasts.

DISCUSSION

The clinical presentation described is compatible with a syndrome of fasciitis and associated myositis. An infectious origin was ruled out. Shulman disease and eosinophilia–myalgia syndrome were excluded, as were scleroderma, scleromyxedema and dermatomyositis. Paraneoplastic fasciitis usually has prominent palmar involvement and is more often associated with ovarian carcinoma (1). Radiotherapy was suspected although there was no radiodermatitis; however, high energy X-rays have very deep penetration, which explains the absence of injury of the epidermis and dermis.

MRI can demonstrate some abnormalities in the case of myositis, which are best determined with T₂-weighted sequences with fat saturation. The increased signal intensity of the affected muscles indicates prolongation of the T₂ relaxation time (2). Moreover, in our case, MRI clearly showed a predominance of this high signal in the irradiation fields, supporting the diagnosis of radiation myo-fasciitis. The histologic examination confirmed this radiation injury in the fascia because of the presence of atypical fibroblasts, which are characteristic of delayed radiation injury (3). These so-called radiation fibroblasts are large cells, usually basophilic, with angular and elongated cytoplasm, and have a triangular shape. Their nuclei are hyperchromatic and ill-defined but mitotic shapes are almost never seen. The associated

rhabdomyolysis, without cellular inflammatory infiltrate, favors a biophysical mechanism.

Radiation myo-fasciitis is probably a rare disease and only a few cases have been reported in the literature (4). An increased level of radio-sensitivity due to genetic factors could be responsible for such a severe reaction. Knowledge of the clinical, histologic and morphologic characteristics of radiation myo-fasciitis is helpful in order to distinguish it from an infectious fasciitis or myositis.

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Superficial Granulomatous Pyoderma of the Scrotum: an Extremely Rare Cause of Genital Ulcer

Sir,

Superficial granulomatous pyoderma is the vegetative variant of pyoderma gangrenosum. It has a relatively benign course with simple treatment modalities. We report here a young male patient with scrotal involvement, which has been reported to be rare. Lesions healed in 3 weeks with the use of oral prednisolone therapy.

CASE REPORT

An 18-year-old male student, who had multiple homosexual partners, was referred to our hospital with the suspicion of a sexually transmitted disease in September 1999. Red–purple lesions had appeared on the scrotal skin 1 week after an upper respiratory tract infection, and then ulcerated in a few days. Tetracycline, 2 g/day for 2 weeks, had been recently prescribed by a general practitioner but did not provide any improvement.

Physical examination revealed some blue–violet nodules and multiple, painful superficial ulcers with vegetative borders on the oedematous scrotal skin (Fig. 1).

The pathergy test was negative. Urinalysis, erythrocyte sedimentation rate, liver function tests, renal function tests and electrolytes were normal. Leukocyte count was $18,200 \times 10^9/l$ with a shift to the left. CRP level was 24 mg/dl (normal range: 0–6 mg/dl). The anaerobic and aerobic swab cultures of the ulcers did not show any pathogenic micro-organism. Dark ground examination did not show any spirochaetes. Venereal diseases reference laboratory (VDRL), rapid plasma reagin (RPR), *Treponema pallidum* haemagglutination antibody (TPHA) tests for syphilis, enzyme-linked immunosorbent assay (ELISA) test for human immunodeficiency virus (HIV) and herpes simplex type 2 (HSV-2) IgM titre were negative.

A punch biopsy was taken from the edge of the ulcer. Histological examination revealed ulceration in the epidermis and dense, mixed inflammatory cell infiltration with some granulomatous foci in the dermis.

Clobetasol-17-propionate cream was applied for 3 weeks but the lesions did not improve. Oral prednisolone 20 mg/day (0.25 mg/kg)

was started and all the ulcers were healed with an acceptable cosmetic scar in 3 weeks.

DISCUSSION

Pyoderma gangrenosum (PG) is an unusual ulcerative disease, mostly affecting the lower limbs (1). The pathogenesis is unclear, but it is believed that it is related to the defensive immune response (2). Four clinical variants of the disease have been described; ulcerative, pustular, bullous and vegetative (3). Superficial granulomatous pyoderma (SGP) is the chronic, slowly enlarging and vegetative variant of PG (3, 4).

Scrotal PG is extremely rare. Only 6 cases have been reported in the English language literature (1, 5–8, 11). Infants with pyoderma gangrenosum may have ulcers on



Fig. 1. Some small purple nodules and superficial ulcers with vegetative borders are to be seen on the scrotum.