Low grade fever, back pain and livedo reticularis in a 60-year-old man

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Key words:

Case report
A 60-year-old man was admitted to our hospital because of low grade fever, back pain and livedo reticularis on the lower extremities. The patient was a painter by profession and a habitual smoker (one pack of cigarettes daily for 40 years). Apart from a perianal fistula and local abscesses 2 years before, the patient had been well until 18 months before his admission, when he experienced increasing lumbar pain. The pain was radiating in nature, extending to the lower abdomen, groin and posterior surface of the thighs. Fourteen months before his admission he developed low grade fever. Eight months before his admission a physical examination showed the presence of prostatic hypertrophy. The hematocrit was 38%, white cell count 8,500/mm³, platelet count 432,000/mm³, and erythrocyte sedimentation rate (ESR) 50 mm/hr. Blood chemistries, a thyroid function test, prostate specific antigen and urinalysis were all within normal limits. Abdominal ultrasound and computed tomography (CT) scan of the abdomen and lumbar spine, as well as a radionuclide bone scan, were unrevealing. Non-steroid anti-inflammatory drugs were prescribed.

Six months before his admission he continued to have lumbar pain and low grade fever. All examinations were negative, however. The hematocrit was 38.4% and the white cell count was 6,500/mm³ with 61% neutrophils, 24% lymphocytes and 15% monocytes. The platelet count was 400,000/mm³ and the ESR was 68 mm/hr. The C-reactive protein was 16 mg/dl. Blood chemistries, prothrombin time and partial thromboplastin time were normal. Liver and muscle enzymes, vitamin B₁₂ and folic acid levels, and a serologic test for syphilis, as well as a urinalysis, were all within normal limits. Blood and urine cultures were negative.

Sero logic tests for hepatitis B surface antigen, and antibodies to hepatitis C and HIV were negative. Antinuclear antibodies, rheumatoid factor, and antineutrophil cytoplasmic autoantibodies (both perinuclear and cytoplasmic) were all negative. Agglutinating antibodies against the somatic and flagellar antigens of S. typhi, CMV-specific IgM antibodies, the Mono test, and the Wright test were negative. A tuberculin test (PPD) was positive.

An echocardiographic examination of the heart was normal. Fiberoptic esophagogastroduodenoscopic examination showed a mild gastritis involving the body and fundus of the stomach. Gastric juice and urine cultures were negative for Mycobacterium tuberculosis. Colonoscopy was normal. Thoracic CT scan, and X-ray films of the lumbar spine and pelvis were normal. Biopsy of the temporal artery was unrevealing. Empirical treatment with isoniazid, rifampin, ethambutol and pyrazinamide for four months was not successful.

The patient was finally referred to our hospital. On physical examination his temperature was 37.0°C and his blood pressure 120/80 mm Hg. No peripheral oedema, clubbing, lymphadenopathy or cyanosis were noted. The lungs, heart and abdomen were normal. Livedo reticularis was present on the lower extremities, and on the anterior tibial surface a painless, hard subcutaneous nodule was palpable. A neurologic examination was negative. Rectal examination revealed mild prostatic enlargement. The hematocrit was 40%, and the white cell count was 8,000/mm³ with 61% neutrophils,
28% lymphocytes, and 11% monocytes. The ESR was 350,000/mm³. The platelet count was 80 mm/h and C-reactive protein was 4.6 mg/dl. Urinalysis was normal. Urea nitrogen was 34 mg/dl, glucose 116 mg/dl, bilirubin 0.6 mg/dl, calcium 8.8 mg/dl and protein 8.1 g (albumin 4.4 g and globulin 3.7 g/dl). ASAT was 12 U, ALAT 10U, and LDH 261 U. Alkaline phosphatase was 217 U, 5' nucleotidase 19 U and amylase 80 U/l.

An electrocardiogram and chest X-ray were normal. An upper gastrointestinal series with small bowel study were normal. A percutaneous celiac and superior mesenteric artery angiography showed no abnormalities. Biopsy of the sural nerve was unrevealing. Biopsy of the pre-tibial nodule revealed a septal panniculitis with marked small vessel proliferation, and lymphohistiocytic perivascular inflammation with focal granulomatosus formation. There was no necrosis of the adipose tissue. A diagnostic procedure was performed.

**Differential diagnosis**

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The patient was a 60-year-old man with a 14-month history of low grade fever and back pain radiating to the thighs, groin and lower abdomen, who presented with livedo reticularis and a subcutaneous nodule on the lower extremity. In determining the possible causes of his disease, one could easily rule out an infection or malignant process. The patient was too well for the former and the illness was not sufficiently progressive for the latter.

In view of the clinical picture and laboratory findings, one could hypothesize that the patient was suffering from a chronic inflammatory disease producing systemic manifestations. Polyarteritis nodosa (PAN) was a possible diagnosis. PAN often involves the small and medium sized arteries, typically the muscular vessels. Its particular manifestations include ischemia of the tissues perfused by the obstructed vessels and symptoms like fever, weight loss and anorexia due to the accompanying inflammation. The cutaneous lesions of PAN include palpable purpura, infarctions, ulcerations, livedo reticularis, subcutaneous nodules and ischemic changes of the distal digits (1). Livedo reticularis and nodular lesions, which are more indicative of medium sized artery involvement, occur in 50% and 15% of PAN patients respectively. Histopathologically the nodular lesions are characterized by necrotizing vasculitis of the arterioles in the subcutaneous tissue with surrounding lobular panniculitis (2, 3).

The patient’s clinical picture could be explained by involvement of the visceral and cutaneous vessels. However, arteriographic examination of the hepatic, mesenteric and celiac arteries did not show aneurysms or other vascular irregularities, the sural nerve biopsy was normal, and a biopsy of the nodule showed only septal panniculitis without evidence of vasculitis. These histologic and angiographic findings ruled out the possibility of PAN in this particular patient.

Septal panniculitis is typically seen in erythema nodosum and its variant, subacute migratory panniculitis. In contrast, pancreatic panniculitis, Weber-Christian disease, erythema induratum and systemic vasculitis are primarily lobular panniculitides.

**Erythema nodosum** (EN) refers to a syndrome of crops of painful nodules often occurring on the anterior surfaces of both lower extremities. Subacute nodular migratory panniculitis is thought to be a variant of erythema nodosum but deserves attention because of some of its particular clinical and histologic features. This process consists of a few discrete, minimally painful nodules occurring in a unilateral fashion on the anterior aspects of the legs (3). We believe that our patient displayed the typical clinical and histological findings of nodular migratory panniculitis. It is considered to be a hypersensitivity reaction to a variety of antigenic stimuli and thus may appear as a side effect of treatment, as well as during the course of several diseases.

Among the various diseases associated with erythema nodosum, it may be pertinent to discuss in this context tuberculosis and regional enteritis. Tuberculosis occasionally presents with a puzzling picture. If a patient with tuberculosis...
Retroperitoneal fibrosis (RPF) is a chronic inflammatory condition that involves the retroperitoneal space, commonly affecting the kidneys, ureters, aorta, and vena cava. It is characterized by the presence of a fibrous inflammatory mass that can compress surrounding structures, leading to symptoms such as abdominal pain, back pain, and urinary tract obstruction. The disease is more common in older adults and is often idiopathic, but can also be associated with other conditions such as systemic lupus erythematosus, scleroderma, and other connective tissue diseases.

The clinical presentation of RPF can vary widely, with some patients presenting with vague symptoms and others with more severe manifestations. The diagnosis is typically made through imaging studies, such as CT scans, which show a thickening or sclerosis of the retroperitoneal tissues. Laboratory tests may show abnormalities in inflammatory markers, but these are not specific to RPF.

RPF can be progressive and may require treatment with corticosteroids or immunosuppressive agents to control the inflammatory process. In some cases, surgical intervention may be necessary to relieve obstruction.

In conclusion, retroperitoneal fibrosis is a complex and potentially serious condition that requires a multidisciplinary approach for diagnosis and management.
References