Rapidly progressive sacroiliitis in a patient with lymphocytic lymphoma

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Abstract
Rheumatological manifestations may develop as paraneoplastic syndromes in patients with malignancy. Sacroiliitis and spondyloarthritis have not, however, been previously associated with cancer. The case is described of a patient with a stage IV diffuse well differentiated lymphocytic lymphoma who developed concomitant sacroiliitis and enthesopathies with rapid progression following the diagnosis of malignancy.


Manifestations of rheumatological disease have been associated with malignancy as paraneoplastic phenomena. Sacroiliitis and spondyloarthropy have not been linked with the onset of a neoplasm. We describe the case of a patient who developed rapidly progressive sacroiliitis and enthesopathies along with a diagnosis of diffuse well differentiated lymphocytic lymphoma.

Case report
A 61 year old woman with diffuse well differentiated lymphocytic lymphoma presented to the rheumatology clinic in October 1990 with pain and stiffness in her hip, back, and neck. These symptoms had progressed since their onset in early spring 1990 until the patient became wheelchair bound in autumn 1990. Pain and stiffness began in the lower back and both hips, and by one month before presentation, the cervical spine had become stiff and painful. Morning stiffness was of one hour's duration. A diffuse well differentiated lymphocytic lymphoma had been diagnosed by taking a posterior cervical lymph node biopsy sample in December 1989. The patient refused medical care at that time until she presented to this institution with hip pain in May 1990. An evaluation by the haematology-oncology department included a peripheral white blood cell count of 18.1 x 10^9/L, haemoglobin 114 g/L, packed cell volume 0.35, platelets 516 x 10^9/L, polymorphonuclear leucocytes 49%, lymphocytes 47%, monocytes 1%, eosinophils 1%, basophils 1%, metamyelocytes 1%, and smudges 14%. A bone marrow biopsy sample showed multiple atypical lymphoid nodules consistent with a malignant lymphoma of the small lymphocytic type. A bone scan showed increased uptake in both sacroiliac joints, sternoclavicular and hip joints, and mid-feet, as well as the lumbar and cervical spine. Owing to the low grade histology of the lymphoma, the haematology service recommended a period of observation rather than immediate antineoplastic treatments. Treatment with piroxicam (20 mg daily) was begun, and the patient was sent for rheumatological consultation.

On physical examination, multiple 1–2 cm firm, non-tender lymph nodes were present along the left sternoclavdomastoid muscles and left posterior cervical area. The liver and spleen were not enlarged. Cervical spine motion was decreased in extension, flexion, and bilateral rotation. The bilateral acromioclavicular and shoulder joints were painful and warm on examination. The sacroiliac joints were bilaterally tender on palpation. Hip examination was normal. The Shober index was 12 cm and chest expansion was 1:2 cm. Tenderness was present at C7–T2, C7–T2, L1–L2, and L5–S1 as well as at the pubic symphysis, Achilles tendons, and plantar fasciae. Rheumatoid factor and antinuclear antibodies were negative, and the erythrocyte sedimentation rate was 72 mm/h. Radiological examination of the sacroiliac joints showed bilateral erosions and narrowing consistent with New York stage III sacroiliitis (Fig 1).

Detailed, extensive, and symmetric erosions were present on a computed tomography scan of the sacroiliac joints (Fig 2).

The patient initially received prednisone (10 mg daily) and sulphasalazine (500 mg twice a day) with the dose increasing over two weeks to 1000 mg sulphasalazine twice a day. Five weeks after starting treatment with sulphasalazine the patient was admitted to hospital for acute nephrolithiasis; the stone was passed spontaneously without analysis. At this time sulphasalazine was discontinued, and the patient began treatment with azathioprine (50 mg daily) with a tapering of the prednisone dose.

Discussion
Musculoskeletal syndromes may be directly or indirectly associated with neoplastic disease.1 Arthritis may occur as a result of a primary synovial or bone neoplasm or a metastasis to the bone or synovium. The rheumatological manifestations that are indirectly related to a neoplasm may occur in 15% of patients with advanced malignancy.1 These paraneoplastic syndromes may precede an occult malignancy and include carcinoma polyarthritis, myositis, lupus erythematosus, and vasculitis.2, 3 Neither
Figure 1  Radiograph of the sacroiliac joints showing bilateral narrowing, sclerosis, and erosions.

Figure 2  Angled transaxial computed tomography scan filmed at bone windows showing extensive bilateral erosive sacroiliitis. There are numerous erosions on the iliac and sacral sides of the two joints, as well as inflammatory subchondral osteosclerosis.

spondylitis nor sacroiliitis has been reported with a concomitant neoplasm. The patient presented here was healthy before the onset of back pain and stiffness which developed within months of her lymphadenopathy. The rapid progression to American Rheumatism Association functional class IV within months of onset suggests a causal rather than coincidental relation with the malignancy.

Although the patient has refused a joint aspirate or biopsy, arthritic metastases are unlikely as her malignant disease remains stable two and a half years after the onset of arthritis.

A pathogenesis for paraneoplastic arthritis has not been established. Abrerrant immunoregulation or modulation of immunogenetics may predispose the host to the development of malignancy in addition to rheumatological syndromes.1 Tumours can acquire or lose expression of class I and II major histocompatibility complex antigens.2 Haplotyping of the patient after the development of arthritis showed HLA-B8, w57, and DR4, w13 (w52, w53). The patient did not express the HLA-B27 haplotype. The patient has refused to have a sacroiliac joint biopsy sample taken, or another bone marrow aspirate for histocompatibility typing of her tumour cells.

In summary, a patient with stage IV diffuse well differentiated lymphocytic lymphoma developed a concomitant, aggressive sacroiliitis and spondylitis. An association of this musculoskeletal syndrome with malignancy has not been previously reported and may be a paraneoplastic phenomenon. Although abnormal expression of histocompatibility antigens may provide an immune mechanism for this phenomenon, a pathogenesis for this paraneoplastic syndrome is speculative without further studies.

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