Bone pain as the presenting manifestation of secondary syphilis

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Abstract

A 31 year old fireman presented with acute pain and tenderness in both shins and forearms. Radiographs were normal but bone scintigraphy showed widespread increased isotope uptake. Serology was consistent with a diagnosis of secondary syphilis, and the patient's symptoms resolved completely six weeks after a course of penicillin.

Periostitis is a recognised but rare manifestation of secondary syphilis¹ and usually occurs in conjunction with other cutaneous and mucosal lesions. We describe a case in which bone pain was the only presenting feature and confirm recent reports of the value of bone scintigraphy in detecting early periostitic lesions.²

Case report

A 31 year old fireman presented with a two week history of pain in both shins and along the ulnar borders of both forearms. His pain was worse at night, keeping him awake, and his limbs felt tender to touch. He was a sexually active homosexual and had noticed mild anal discomfort for the previous 10 days. He was otherwise well and when directly questioned reported no rashes, eye symptoms, arthralgia, or other orogenital symptoms.

On examination he was a fit young man with no rash, mucocutaneous lesions, or lymphadenopathy. He was acutely tender along the anterior borders of both tibiae, and there were

localised areas of tenderness along both ulnae. Rectal examination showed mild proctitis. There was no arthritis and neurological and remaining systemic examination was normal.

Routine investigations were normal apart from an erythrocyte sedimentation rate (ESR) of 88 mm in the first hour and an alkaline phosphatase of 1193 IU/l (normal <280). Rectal smear and culture for gonorrhoea, herpes simplex virus, and chlamydia were negative. Syphilis serological tests showed a positive *Treponema pallidum* haemagglutination assay and fluorescent treponemal antibody test and a positive Venereal Disease Research Laboratory (VDRL) test with a titre of 1/32. Chest and skeletal x ray examinations were unremarkable. Abdominal ultrasound was normal but a ^{99m}Tc (technetium) bone scan showed widespread increased uptake affecting specifically both tibiae, both ulnae, and the frontal region of the skull (figure).

In view of the high VDRL titre treatment was started with a 10 day course of benethamine penicillin (Triplopen) two vials daily. After six weeks his bone pain had resolved completely and his ESR and alkaline phosphatase had returned to normal. Repeat x rays of his tibiae showed no destructive lesions or periostitis. A repeat bone scan four months later showed no change in isotope uptake.

Discussion

Although bone pain is a recognised feature of secondary syphilis, it very rarely occurs as the

A ^{99m}technetium bone scan showing increased uptake affecting both tibiae, both ulnae, and the frontal region of the skull.

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only manifestaion of that disease. A recent retrospective study of early acquired syphilis found only two reports of periostitis in 854 cases.¹ In case reports periostitis usually occurs with other stigmata of the disease such as lymphadenopathy and rash,^{2 3} condylomata lata,⁴ or obvious osteolytic lesions on routine radiology.^{5 6} The patient reported here presented to a rheumatologist with no other signs of secondary syphilis and had normal x rays at the time of presentation and at follow up. Our case suggests that secondary syphilis should be included in the differential diagnosis of bone pain in young adults and that they should be specifically questioned about recent venereal infection.

This case also shows the value of bone scintigraphy in detecting early lesions of periostitis when the x rays are often normal. A recent paper by Veerapen *et al* describes two other patients who had normal or only minimal radiographic changes but widespread isotope uptake on bone scan.²

Our patient declined HIV antibody testing.

The natural history of syphilis in HIV infection is not yet fully understood, but a recent report suggests accelerated progression of late complications such as neurosyphilis even in treated patients.⁷ Whether such patients are also at risk from accelerated bone destruction is as yet unknown.

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