Osteitis in early syphilis

A case report

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SUMMARY Osteitis of the tibia was diagnosed in a patient presenting with secondary syphilis. The course of the illness indicates that pain in bones in secondary syphilis may be the first symptom of an otherwise inapparent osteitis.

Introduction

Involvement of the osseous system was formerly well known in syphilis. Since effective antibiotic treatment was introduced reports of syphilis of the bones have mainly been presented as case reports.^{1 2} Six cases of aching pain in the bones in secondary syphilis with no apparent pathology were reported by Waugh.³ The case described suggests that pain is a symptom of an early osteo-periosteitis which has not yet produced radiographically visible changes.

Case report

PAST HISTORY

The patient was a man aged 39 years. In January 1977 a routine cardiolipin antigen test gave a positive result.⁴ There were no clinical symptoms. The diagnosis of syphilis was confirmed by a positive result to the *Treponema pallidum* immobilisation (TPI) test, and treatment with erythromycin 500 mg was given four times daily for 10 days. The reagin test results became negative four months later but in September 1977 were again positive. There were no clinical symptoms. The patient was thought to have been reinfected and was treated with pivampicillin 350 mg four times daily for 10 days. The reagin titre rose a month later, and he was treated again with procaine penicillin 0.6 megaunits daily intramuscularly for 10 days. He became seronegative in May 1978.

In August 1978 the patient presented with an anal fissure of approximately two weeks' duration in

which *T pallidum* was present. The reagin and TPI tests were strongly reactive. He was treated with three intramuscular injections of benzathine penicillin 2.4 megaunits at weekly intervals. Serological test titres for syphilis declined slowly but were still slightly positive in November 1979.

PRESENT HISTORY

In January 1980 the patient noticed aching pain in the left leg. Two months later he was referred to an orthopaedic surgeon because of continuing pain. Clinical examination showed no abnormality. Radiographs of the tibias were normal (fig 1). Serological tests for syphilis were not performed. Four weeks later the patient developed fever, sore throat, and loss of weight. Severe pain in the left shin was constantly present. Clinical examination now showed tenderness on the anterior surface of the left tibia, and x-ray films showed osteitic changes of the anterior margin of the bone (fig 2). There was an indolent enlargement of the cervical lymph nodes and a discrete papular eruption on the left cheek and arm and on the glans penis. No treponemes were found in the lesions.

Results to the reagin, TPI, and FTA-ABS tests were strongly positive. He was treated with three courses of procaine penicillin 0.6 megaunits daily for 10 days at monthly intervals. After the first injection a severe Herxheimer reaction occurred with violent pain in the left leg and a rise in temperature to 40.2°C. The reaction subsided after 10 hours and the patient had virtually no pain afterwards. The radiographic changes slowly reverted to normal after treatment. The antibody titres to cardiolipin declined significantly, without becoming negative, during the following six months; the treponemal test results remained positive.

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FIG 1 *Radiograph of the left tibia. The patient had, at this time, had pain for two months. Nothing abnormal is evident.*

FIG 2 *Radiograph of the same bone taken during treatment. Osteitic changes of the anterior margin are clearly visible.*

Because of the severe course of the disease we considered the possibility of a relapse rather than a reinfection. The patient was questioned thoroughly by an experienced contact tracer. He had had many male sexual contacts, most of whom were unknown. Reinfection thus seemed the more probable explanation, although the source of infection could not be established with certainty.

Discussion

Stokes described an early acute periosteitis in secondary syphilis, clinically demonstrable only when superimposed tissues are thin, as a doughy tender swelling of the periosteum and an acute early osteitis with no demonstrable lesions.⁵

Syphilitic osteitis is most frequently located in the cranial bones and the tibias, followed by the thoracic skeleton, the other long bones of the limbs, and the spine. The aching pain in the bones described in secondary syphilis are traced to these bones.^{3 5} This

Charlotte Graudal, Kamma Lange, and Ove Jensen

points to the conclusion that the pain is caused by an early osteo-periosteitis. If treatment is delayed, radiographic changes will have time to develop, as shown in other cases as well as our own.² Our patient was not treated until three months after the bone symptoms appeared because the diagnosis of syphilis was not initially considered, despite the patient's history.

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