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STRESS FRACTURE OF THE OS CALCIS

By

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There is no earlier report of stress fractures of the os calcis from Scandinavia. The incidence is proved to be very high in a series of 300 stress fractures among young soldiers in basic training in the army of the U.S.A. *Darby* (2) reported the incidence as 43.0 per cent. In an earlier report from the German Army Hospitals only four of 590 stress fractures were observed in the os calcis (4). In a series of 70 stress fractures *Carlson & Wertz* (1) found only one in the calcaneus. Larger series of stress fractures have been reported without respect to the total number of stress fractures in all sites. *Winfield & Dennis* (3) reported 42 calcaneal stress fractures in 31 patients. Judging from the literature, the calcaneal fracture is worth remembering when the patient complains of calcaneodynia.

CLINIC

The histories are, according to *Darby* (2), invariably similar. Pain in the involved heel within hours or days of prolonged exercise. The pain is usually not completely disabling, as the patient often continues his work for weeks before seeing a doctor. There is no known trauma to the heel involved. The patient usually walks with a slight limp with the tender heel elevated from the ground. The heel is tender, often with some swelling also in the area of the malleolus. There is no discoloration.

X - R A Y S

Immediately after the onset of the symptoms the X-ray shows no abnormality. After 2-3 weeks a repeated X-ray examination will show definite changes (Figure 1), usually a linear sclerotic zone perpendicu-

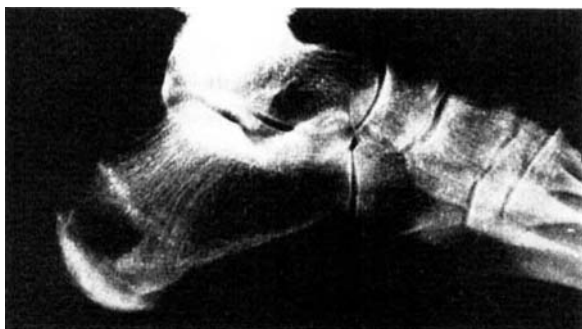


Figure 1. Lateral view of the right os calcis with the vertical irregular sclerotic line.

lar to the long axis of the calcaneous. The sclerotic line is located between the calcaneal tuberosity and the posterior articular surface for the talus.

DIAGNOSTIC PROBLEMS

Tenderness of the heel, starting without trauma and with the typical x-ray findings may be reminiscent of early osteoid osteoma and osteosarcoma. Usually the osteosarcoma is very seldom localized to the calcis. If there is any doubt about the diagnosis, surgical intervention is necessary.

TREATMENT

The main treatment of the stress fracture of the os calcis is to instruct the patient to avoid long walks, standing, jumping, running, or stooping. A plaster cast can give comfort. The cast should be used for 4-6 weeks.

CASE HISTORY

A 43 year old nurses-aid was seen at the outpatient clinic at the Orthopaedic Hospital in Aarhus in August 1967 (case history no. B. 149.257). For 6 weeks she had noticed slight swelling of the right ankle. No known trauma. For a week the right ankle and heel had been painful. Examination revealed a slight swelling of the lateral malleolar region, no haematoma, and normal range of movement. X-rays showed a vertical fracture line between the calcaneal tuberosity and the posterior articular surface for the talus (Figure 1). A plaster cast was applied.

DISCUSSION

Earlier publications (1, 4) give the impression that stress fractures of the metatarsal bones were the most common stress fractures. In 1967

Darby (2) found 43.0 per cent of 300 cases stress fractures in the os calcis and only 38.7 per cent in the metatarsal bones. The changes in occupations and in athletic activities of the civilian population together with the avoidance of long marches and walks may help to explain why the stress fracture has become a more common diagnostic problem. The first step to solve this problem is to obtain an x-ray study of a painful heel, even though no history of a specific trauma can be obtained from the patient.

SUMMARY

To draw the attention to the Stress Fracture in the Os Calcis a typical case history is given including x-ray findings. The impression from the literature is that the incidence of the stress fracture of os calcis is higher now than it was a few years ago.

RESUME

Pour attirer l'attention sur les fractures par suite de stress de l'os calcis, l'histoire d'un cas typique est donnée, accompagnée des trouvailles radiologiques. L'impression qui ressort de la littérature, c'est que l'histoire des fractures de stress de l'os calcis sont plus élevées aujourd'hui qu'il y a quelques années.

ZUSAMMENFASSUNG

Um die Aufmerksamkeit auf den Ermüdungsbruch des Calcaneus zu lenken wird eine typische Krankengeschichte insgesamt der Röntgenbefunde vorgelegt. Aus der Litteratur bekommt man den Eindruck, dass der Ermüdungsbruch des Calcaneus häufiger auftritt als vor einigen Jahren.

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