Recurrent Bilateral Mid-Tarsal Subluxations

A Case Report

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Dislocations and subluxations of the mid-tarsal (Chopart's) joint are uncommon. They are usually caused by major trauma and frequently are associated with fractures of the tarsal bones[3,4,6]. In contrast, Janik described a patient who had recurrent mid-tarsal subluxations affecting one foot after a minor initial injury. We are reporting a similar case of bilateral recurrent mid-tarsal subluxations.

Case Report

A nineteen-year-old white chambermaid was first seen in July 1972 after she stumbled on the left foot while running. On examination, the fore part of the left foot was held in fixed inversion and extreme equinus angulation. The head of the talus was easily palpable dorsomedially; the calcaneus and talus appeared to be in their normal anatomical relationship. There was an increased range of movement in the subtalar and mid-tarsal joints of the right foot, but no generalized joint laxity. Roentgenograms revealed a mid-tarsal subluxation in the left foot, with inferomedial displacement of the navicular and cuboid on the talus and calcaneus (Fig. 1). With general anesthesia the subluxation was easily reduced and the foot was found to be stable. A below-the-knee cast was applied for three weeks and weight-bearing was allowed five weeks after injury.

Eleven months later, a similar subluxation occurred when she tripped on the left foot while descending stairs; again reduction was carried out under general anesthesia and a below-the-knee cast was applied. After removal of the cast at three weeks, however, there were several further displacements which the patient was able to reduce herself. As these episodes were frequent enough to make the foot unreliable in everyday activities, arthrodesis of the calcaneocuboid and talonavicular joints was carried out in September 1973. At surgery the capsules of these joints were found to be lax and the joints could easily be subluxated, but no bone abnormality was found. After successful arthrodesis (Fig. 2) she had no further trouble with the left foot.

In August 1975, she tripped when the right foot caught in her trouser leg. Clinical and roentgenographic examination confirmed an identical mid-tarsal subluxation in the right foot (Fig. 3). The subluxation was reduced under general anesthesia and the foot was placed in a below-the-knee cast for four weeks. In the following months several further subluxations, which the patient was able to reduce herself, occurred after minor stumbles. In March 1976 arthrodesis of the mid-tarsal joints of the right foot was carried out (Fig. 4). When last seen, the patient had no symptoms from either foot and had resumed all normal activities.

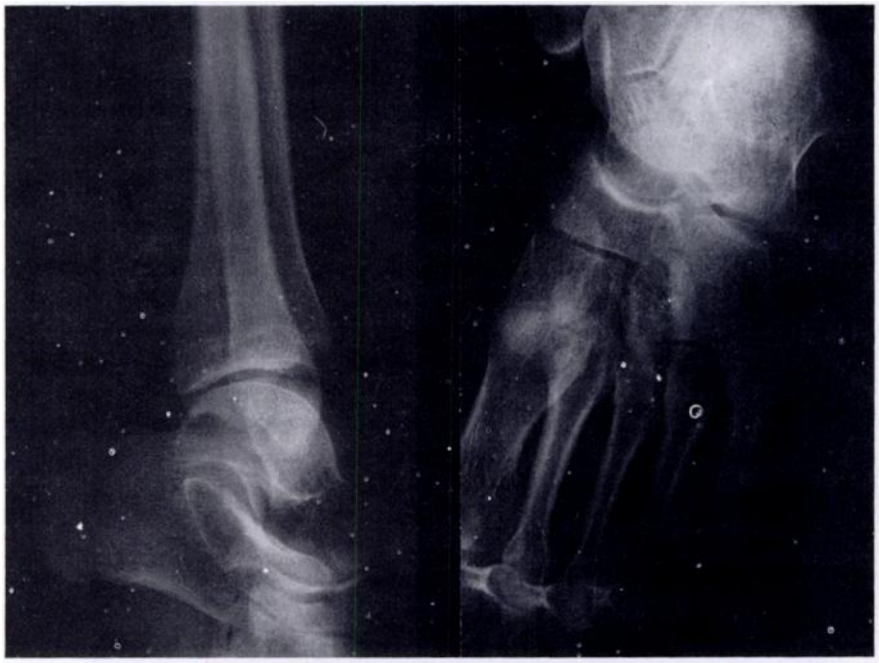

FIG. 1

Anteroposterior and lateral roentgenograms of the left foot showing mid-tarsal subluxation. There is plantar and medial displacement of the navicular and cuboid at their articulations with the talus and calcaneus, respectively.

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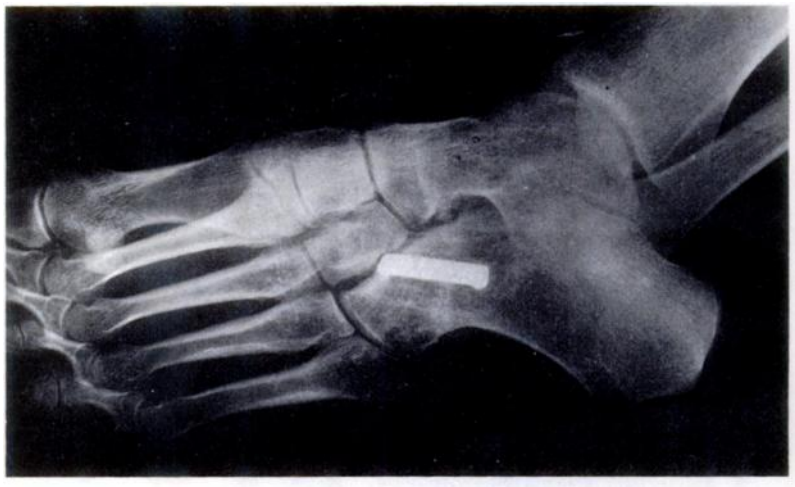

FIG. 2

Oblique roentgenogram of the left foot seventeen months after arthrodesis of the talonavicular and calcaneocuboid joints. The staple was later removed.

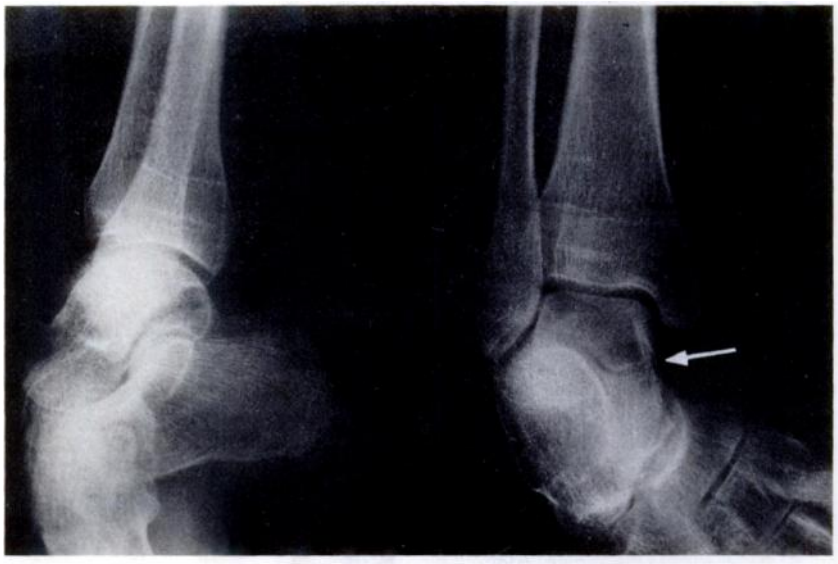

FIG. 3

Anteroposterior and lateral roentgenograms of the right foot showing a mid-tarsal subluxation identical to that seen in Fig. 1. Note that the posterior talocalcaneal articulation (arrow) is congruent.

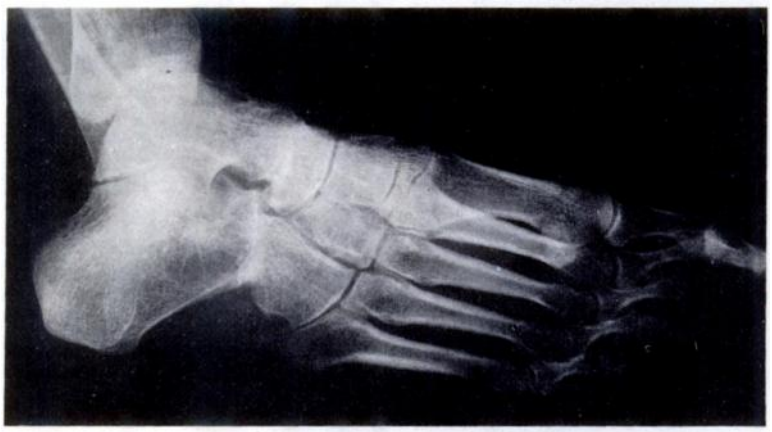

FIG. 4

Oblique roentgenogram of the right foot seven months after arthrodesis of the talonavicular and calcaneocuboid joints.

Discussion

Janik described a thirty-year-old woman who had had twenty-eight inferomedial subluxations of the mid-tarsal joint of the right foot over a ten-year period. The first subluxation followed a stumble from the sidewalk, but others occurred after minor inversion strains. As with our patient, there was an increased range of movement in the subtalar and mid-tarsal joints. Janik postulated that the laxity of the joint capsules and the varus position of the heels in his patient were predisposing factors in the first subluxation, and failure to immobilize the foot after the first episode led to further subluxations. Our patient, however, had normal heel alignment, and the periods of immobilization after the first subluxations were judged to be adequate. Nevertheless, the fact that both feet were similarly affected indicates that there was some underlying structural abnormality.

To our knowledge there has been no previous report of bilateral recurrent mid-tarsal subluxations, although Rompe described a sixteen-year-old girl who had repeated subtalar subluxations in both feet after minor stumbles. Unlike our patient, this girl had generalized hypermobility of the joints with flat feet and hallux valgus, suggesting a diagnosis of Ehlers-Danlos syndrome[1].

References

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