

OS INTERMETATARSEUM

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Variations in the bones of the foot such as accessory bones, fusions and sesamoids occur with some frequency. In the ordinary way the main value in knowledge of these abnormalities lies in differentiation from fractures. Errors arising from the interpretation as fractures of certain radiological appearances, such as the epiphysis at the base of the fifth metatarsal, the os trigonum or an accessory scaphoid, are common examples which can be avoided.

An occasional finding in patients with hallux valgus is the presence of an os intermetatarsum. In the case described below a clinical condition arose in association with this uncommon congenital abnormality and is presented as of special interest.

Case History

A schoolgirl aged 10 was referred for specialist advice with regard to her feet which were somewhat painful on walking and in which there was bilateral hallux valgus deformity with prominence of the medial sides of the heads of the first metatarsals. There was no relevant family history.

On examination she was found to have bilateral hallux valgus with short, abducted first metatarsals not taking their full share in weight bearing. This seemed to be an

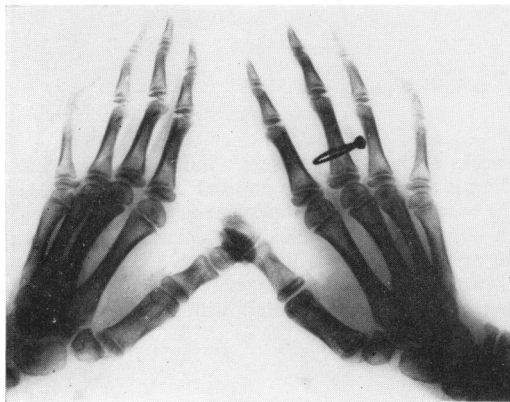


FIG. 2.

example of the transverse flat foot of congenital type. However, radiographs showed opacities lying between the first and second metatarsals suggesting the presence of supernumerary metatarsals (Fig. 1). Radiographs of the hands revealed shortening of the middle phalanges of both fifth fingers with varus deformity at the distal inter-phalangeal joints (Fig. 2).

She was admitted to hospital, the feet explored and the abnormal structures removed. They were elongated processes arising from the medial side of the bases of the second metatarsals and lying on the dorsum of the spaces between the first and second metatarsals. The base, which was bony, was $\frac{1}{2}$ in. in diameter and the structure narrowed towards the distal end which seemed cartilaginous. There was a periosteal covering and opposite

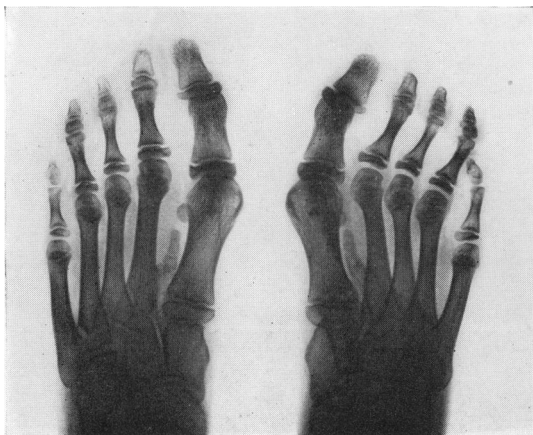


FIG. 1.



FIG. 3.

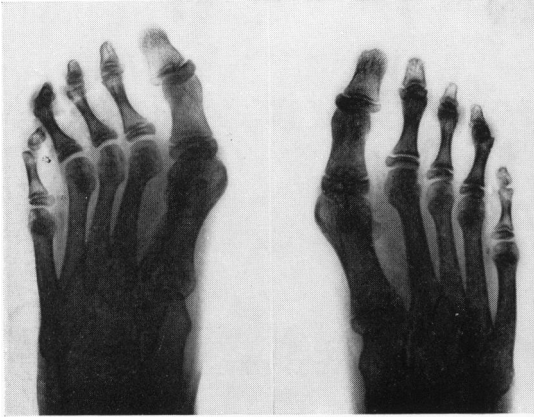


FIG. 4.

the necks of the first metatarsals the process ended in a tendinous band which was inserted into the lateral side of the base of the proximal phalanx of the hallux (Fig. 3). Both were removed by dividing the base, which was of bone, and by soft tissue dissection. She was allowed up after two weeks and went home a week later. Six months later there were no complaints with regard to the feet,

but the degree of hallux valgus remained unchanged. The radiological appearances are shown in Fig. 4.

Discussion

The intermetatarsal bones removed from this case are among the least common of the accessory bones in the foot. They are situated between the first and second metatarsals, and though sometimes present as a distinct bone are more commonly an elongation or fused with the base of the first or second metatarsals. They are rare and the explanation of their occurrence difficult. The pentadactyl limb is said to be very deeply embedded in the germ plasm of all higher animals and the plan was established when amphibia first emerged long ago. It is, in consequence, somewhat surprising that supernumerary metatarsals occur and that supernumerary digits are relatively common. One explanation of their occurrence is an atavistic return to the many bones found in a fish's fin. Another, possibly more acceptable theory, is that the condition arises by fission of the primary limb buds from which a digit develops.