

## Inconstant Bursa Between Head of 5th Metatarsal Bone and Tendon of Abductor Digiti Minimi in Psoriatic Arthritis

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A 67-year-old man who had had psoriasis for 15 years and psoriatic arthritis for 3 years was referred to the Rheumatology Department of Lucania by his family doctor. Physical examination also revealed an unusual, prominent, and painful soft tissue swelling close to the metatarsophalangeal (MTP) joints of the 5th ray in both feet (Figure 1). Foot radiography showed 2 regions of erosion on the lateral aspect of the head of the right 5th metatarsal (Figure 2). Ultrasonography (US) of the lateral aspect of the 5th MTP joint was performed with a 10 MHz linear transducer and showed an inhomogeneous, hypoechoic oval area adjacent to the lateral surface of both the 5th MTP joints. Magnetic resonance imaging (MRI) using fast spin echo and gradient echo sequences with and without fat suppression highlighted the presence of a soft tissue mass next to the lateral surface of both 5th MTP joints that extended onto both the plantar and dorsal surfaces of the joint (Figure 3). The mass

was hyperintense on T2 sequences and of irregular outline. There was evidence of bone erosion on the adjacent surface of the head of the right 5th metatarsal. Both US and MRI findings suggested bursitis and this was confirmed by a biopsy from the right foot that showed inflammation of the synovial lining of the bursa.

The bursa could be classed as an inconstant, subtendinous one that was located next to the head of the 5th metatarsal. A bursa at this location is not mentioned in most modern anatomy texts, but is documented in the older literature. Hartmann<sup>1</sup> refers to an inconstant bursa that intervenes between the tendon of abductor digiti minimi and the head of the 5th metatarsal, and comments that such a structure was reported in the 19th century German literature by Gruber and by Synnestvedt. Hartmann described it as being the size of a millet seed and reports it as present in 24% of feet<sup>1</sup>. Wood Jones also describes a bursa at this site that is



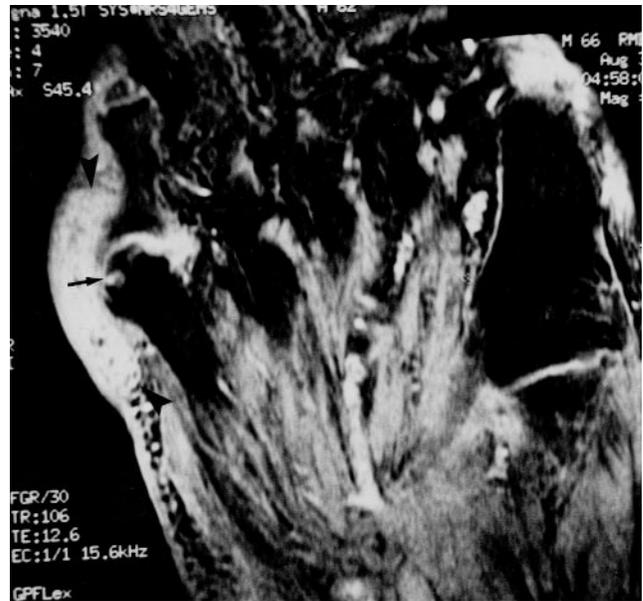
Figure 1. Marked soft tissue swelling of the patient's feet in the region of the 5th MTP joints (arrows).



Figure 2. Radiographs of the feet showing 2 erosions on the lateral aspect of the head of the right 5th metatarsal (arrow), together with periostitis of the 1st distal phalanx and narrowing and erosion of the 1st MTP.



A



B

Figure 3. MRI of the left foot. These fast spin echo (A) and gradient echo T2 weighted (B) coronal images show bursitis (arrowheads) and erosion of the 5th metatarsal (arrow).

continuous with the cavity of the 5th MTP joint<sup>2</sup>. This is a significant observation that would explain the erosion observed in the current study on the head of the right 5th metatarsal. Although subtendinous bursae are common in the foot, many are inconstant and are largely overlooked by modern authors. Both factors clearly relate to the rarity of our clinical findings.

#### REFERENCES

1. Hartmann H. The tendon sheaths and synovial bursae of the foot. *Foot Ankle* 1981;1:247-69.
2. Wood Jones F. Structure and function as seen in the foot. Chapter 20. *Tendons, tendon sheaths and bursae*. London: Bailliere, Tindall and Cox; 1944:226-42.