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# Band acro-osteolysis in a middle-aged woman

Toru Uchiyama<sup>1</sup>

Uchiyama Orthopedic Clinic,  
Kashiwazaki-shi Niigata-ken,  
Japan

Correspondence to  
Dr Toru Uchiyama,  
toru.uchiyaama@nifty.com

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## DESCRIPTION

A female market worker in her 50s presented with fingertip pain and swelling over the past 6 months, rendering it difficult to handle goods (figure 1). She had no symptoms of Raynaud's phenomenon or history of psoriasis, traumatic hand injury, frost-bite or exposure to polyvinyl chloride. She had no family history of congenital bone dysplasia and psoriasis. Physical examination revealed mild clubbing of both thumbs and index fingers without nail deformities. Arterial oxygen saturation measured by pulse oximetry of the right index finger was 97%. Radiography (figure 2) and MRI (figure 3) revealed band acro-osteolysis of the distal phalanges of both thumbs and index fingers. A destructive change was evident in the distal interphalangeal (DIP) joint of the right middle finger. There were no elevations in the levels of C reactive protein, serum alkaline phosphatase, calcium or intact parathyroid hormone. The serum was negative for rheumatoid factor, anti-DNA antibodies, anti-Scl-70 antibody and anticomere antibodies.

The aetiologies of acro-osteolysis can be classified as idiopathic disease, occupational disease (caused by exposure to polyvinyl chloride, frost-bite, or trauma), immunological disease (systemic sclerosis and psoriasis), infections (leprosy), endocrinological disease (hyperparathyroidism and diabetes mellitus), genetic condition (Hajdu-Cheney syndrome with or without syringomyelia) and lysosomal storage disorder (Gaucher's disease).<sup>1,2</sup>

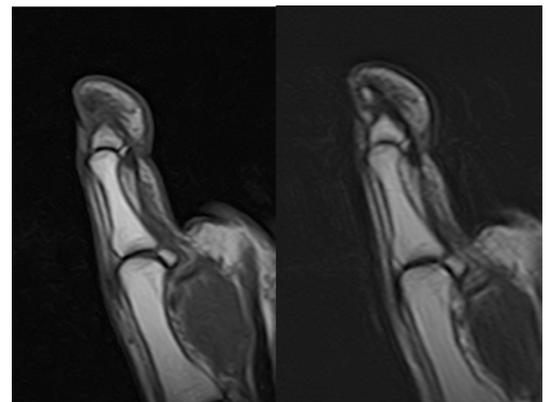
The familial form of acro-osteolysis is often well established by the late teens, whereas the idiopathic form may not present until the third decade of life or later.<sup>2</sup> Together with the age and other clinical findings described above, the aetiology of this case is likely suggestive of idiopathic form but is not conclusive.



**Figure 1** Mild clubbing was evident in both thumbs and index fingers.



**Figure 2** Radiograph of the hands revealing band acro-osteolysis in the distal phalanges of both thumbs and index fingers.



**Figure 3** T1-weighted (left) and T2-weighted (right) magnetic resonance images of the distal phalanx of the right thumb.

## Learning points

- ▶ There are two types of acro-osteolysis. One is osteolysis of the terminal tuft and the other (exemplified by the present case) is band/transverse osteolysis of the shaft of the distal phalanx.
- ▶ Band acro-osteolysis may occur in exposure to polyvinyl chloride, renal osteodystrophy/hyperparathyroidism, idiopathic non-familial acro-osteolysis, and Hajdu-Cheney syndrome or familial acro-osteolysis.

Acro-osteolysis is often a prominent feature of psoriatic arthritis.<sup>2</sup> A destructive change of DIP joint of the right middle finger makes psoriatic arthritis a likely diagnosis. However, the patient does not meet the CASPAR criteria<sup>3</sup> enough to diagnose psoriatic arthritis since there is no



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personal or family history of psoriasis, no typical psoriatic nail change and no current or past dactylitis. On the other hand, acro-osteolysis can also develop in patients with psoriasis without arthritis.<sup>1 2</sup> Long-term follow-up is required to make the definitive diagnosis.

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