

# An Unusual Presentation of Joint Inflammation in Pachydermodactyly

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A 24-year-old Chinese male presented with progressive symmetrical thickening of the soft tissue around the second to the fifth proximal interphalangeal (PIP) joints in both hands of 2 years' duration. Initially, he had no pain or functional limitation and no systemic symptoms. In the previous 5 months, he had slight pain, with limited range of motion in his right middle and ring fingers. There was no other notable medical history. Clinical examination showed enlargement and thickening of the skin of the second to fifth PIP joints (Figure 1). Laboratory tests did not show specific changes.

Radiographs of the hands showed only soft tissue swelling. Ultrasound showed soft tissue hypertrophy around the previously described PIP joints (Figure 2A). No synovitis, effusion, or bone changes were found in the PIP joints from second to fifth left fingers and PIP joints of second and fifth right fingers. However, synovitis (Figure 2B) and cortical bone injury (Figure 2C) were revealed in PIP joints of right third and fourth fingers. A skin biopsy was performed at the PIP joint of the right fourth finger after an ultrasound scan. The histopathologic examination revealed epidermal hyperplasia with compact orthokeratosis. There was thickening of the dermis with an increase in the number of collagen fibers. These results were compatible with pachydermodactyly.

Pachydermodactyly does not present with synovitis and cortical bone injury<sup>1,2</sup>. Synovitis is generally considered the characteristic feature of inflammatory joint disease; however, pachydermodactyly does not exclude other concurrent pathological conditions<sup>3</sup>. The clinical symptoms that are not related to pachydermodactyly warrant further investigation.

## REFERENCES

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Figure 1. Thickening of periarticular skin of proximal interphalangeal joints.

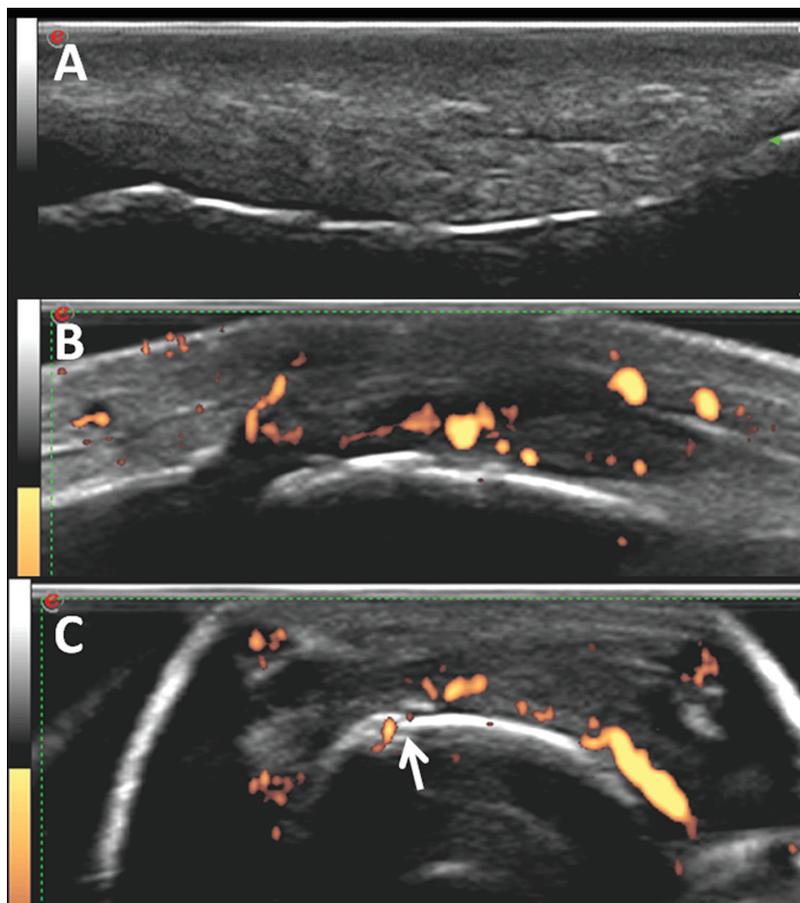


Figure 2. A. Ultrasound showed the increased thickening of skin of the fingers. B. Power Doppler ultrasound revealed synovitis in proximal interphalangeal joint. C. The cortical bone injury, shown by ultrasound.