



Psoriatic dactylitis: Koebner phenomenon of the pulleys—comment on “Ultrasound assessment in psoriatic arthritis (PsA) and psoriasis vulgaris (non-PsA): which sites are most commonly involved and what features are more important in PsA?”

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We have taken interest in the recently published article entitled “Ultrasound assessment in psoriatic arthritis (PsA) and psoriasis vulgaris (non-PsA): which sites are most commonly involved and what features are more important in PsA?” by Tang *et al.* (1). They provided a comprehensive review of the role of ultrasound (US) in PsA. They emphasized the importance of assessing joints, tendons, entheses and bursae. We congratulate the authors for their effort in increasing the awareness the use of US in PsA. However, we also like to underline the importance of US examination of pulleys in patients with PsA.

A 23-year-old woman presented to our clinic with pain and swelling in the right index finger of her right hand for 2 weeks. Prior to her visit, she had spent months writing for long hours with her right hand. Her medical history revealed that she had psoriasis for a year which was well controlled with local medical agents. Upon physical examination, she had local tenderness and swelling in her right index finger (*Figure 1*). Further inspection revealed minimal psoriatic plaques on her scalp. All laboratory assessments, including acute phase reactants, were normal. Ultrasonographic examination revealed flexor



Figure 1 Soft tissue swelling in the index finger of the right hand.

tenosynovitis and diffuse isoechoic thickening of the extratendinous soft tissues around the flexor tendon (pseudotenosynovitis). Axial scan of the finger showed increased thickness of the pulleys and intra-pulley power Doppler signals, especially in the A2 pulley (*Figure 2*). We considered the diagnosis of psoriatic dactylitis and started the patient on methotrexate at a dosage of 10 mg/week. All procedures performed in studies involving human

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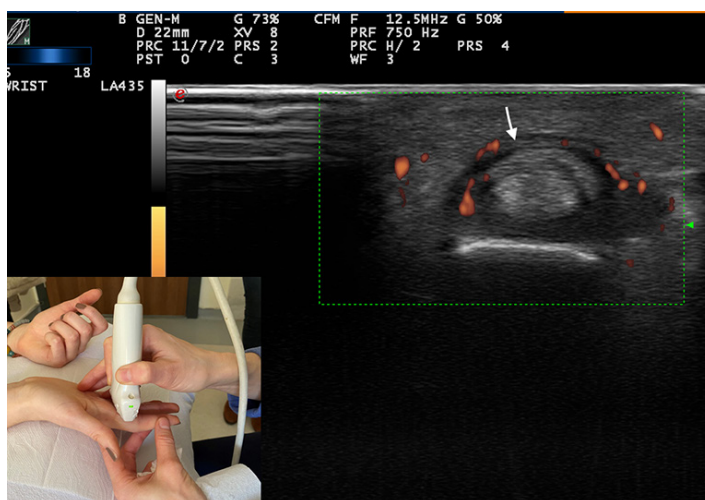


Figure 2 Axial scan of the increased thickness of A2 pulley and intra-pulley power doppler signals. White arrow: A2 pulley.

participants were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient.

Finger pulleys are annular and cruciform structures that hold the flexor tendons close to the phalanges and facilitate strong flexion of the digits. These avascular structures prevent the tendons from bow stringing and can withstand high physical stress during daily living activities. It is currently assumed that the inflammation may begin at pulleys which have a role of functional entheses in psoriatic dactylitis (2). Likewise, the exaggerated response to skin trauma known as Koebner phenomenon, excessive repair responses in the pulleys can be seen as “deep koebnerization” (3).

A recent study by Tinazzi *et al.* demonstrated the involvement of the pulleys in patients with active psoriatic dactylitis (4). In another study, they suggested using ultrasonographic evaluation of the pulleys to differentiate between rheumatoid arthritis and PsA, especially in the early phase of the disease (3). Our case study shows evidence of “deep Koebnerization” with increased thickness and power Doppler signals of the pulleys triggered by prolonged finger flexion during writing by hand. Detecting signs of physical stress at these sites may help in understanding the predisposing factors for dactylitis in patients with psoriasis.

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Footnote

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