

Research letter

High and discordant prevalences of clinical and sonographic enthesitis in patients with hidradenitis suppurativa

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DEAR EDITOR, The prevalence of spondyloarthritis (SpA) reported among patients with hidradenitis suppurativa (HS) ranges from 2.3% to 28.2%, depending on the diagnostic method used.¹ A key feature of SpA and one of the European Spondyloarthropathy Study Group diagnostic criteria for this group of diseases is enthesitis: inflammation at the insertion of tendons, ligaments and capsules. However, pain at an enthesal site is nonspecific and does not always indicate inflammation. Objective assessment of the presence of enthesitis can be done using ultrasound.² Therefore, the aim of this cross-sectional study was to investigate the prevalence of clinical enthesitis among patients with HS and to correlate it with sonographic enthesitis.

Patients were selected randomly prior to their routine visit at the specialized HS outpatient clinic of a tertiary centre in the Netherlands between October 2018 and February 2019. The study was approved by the medical ethical committee of the Erasmus University Medical Center (MEC-2018-158). Patient characteristics were collected through the HiScreen Registry (MEC-2016-426) and patient charts.

Clinical enthesitis, defined as pain elicited by local pressure at the entheses, was assessed bilaterally at eight enthesal points (total 16 sites) according to the Spondyloarthritis Research Consortium of Canada (SPARCC) criteria.³ Ultrasound examination was performed according to the Madrid Sonographic Enthesitis Index at six bilateral entheses and sonographic enthesitis was defined according to the Outcome Measures in Rheumatology criteria.⁴

In total, 100 patients were included; see Table 1 for patient characteristics. Eighteen patients had visited a rheumatologist previously, five of whom were diagnosed with SpA, one with rheumatoid arthritis and one with sarcoidosis. Eleven patients were seen for nonrheumatic pain complaints, three of whom were diagnosed with fibromyalgia. On clinical examination, 53% of patients could be diagnosed with clinical signs of enthesitis in at least one entheses. The number of painful entheses in these patients ranged from one to 14 per individual; 58.5% had four or more affected entheses, and seven patients had an enthesitis count of over 10. Sonographic enthesitis was seen in 25% of patients. Assessing the entheses that were evaluated both clinically and sonographically

showed that 13.2% of clinically painful entheses had an underlying sonographic enthesitis. Neither clinical nor sonographic enthesitis was associated with Hurley stage or the International Hidradenitis Suppurativa Severity Score System (IHS4) score.

In summary, this is the first cross-sectional study in patients with HS in which clinical assessment of enthesitis was objectified by ultrasound. The 25% prevalence of sonographic enthesitis in our study is slightly higher than the 20% prevalence found in patients with psoriasis.⁵

Table 1 Patient characteristics

	N = 100
Sex	
Female, n (%)	80 (80)
Age, mean (SD)	39.0 (11.0)
Age of onset, median (IQR)	18.0 (14.0–29.0)
Missing, n	3
Body mass index, mean (SD)	29.8 (6.0)
Missing, n	14
Smoking status	
Current or former smoker, n (%)	70 (75.3)
Never smoked, n (%)	23 (24.7)
Missing, n	7
Family history of HS	
Positive in 1st or 2nd degree, n (%)	32 (33.3)
Negative, n (%)	55 (57.3)
Unknown, n (%)	9 (9.4)
Missing, n	4
Comorbidities	
Rheumatological comorbidities, n (%)	8 (8.1)
Missing, n	1
Inflammatory bowel disease, n (%)	5 (5.1)
Missing, n	2
Family history of SpA, n (%)	12 (12.0)
Missing, n	0
Hurley stage	
I, n (%)	47 (47.5)
II, n (%)	44 (44.4)
III, n (%)	8 (8.1)
Missing, n	1
IHS4, mean (SD)	4.3 (0.7)
Current use of anti-TNF- α biologics, n (%)	6 (6.1)
Missing, n	1
Use of pain medication, n (%)	36 (36)
Use of opioids, n (%)	6 (6)

HS, hidradenitis suppurativa; IHS4, International Hidradenitis Suppurativa Severity Score System; IQR, interquartile range; SpA, spondyloarthritis; TNF, tumour necrosis factor

The prevalence of clinical enthesitis (53%) was over twice that of sonographic enthesitis in our HS population, and many painful entheses could not be explained by underlying sonographic abnormalities. This high rate could be a consequence of the unspecific nature of enthesal tenderness, which is further supported by the high percentage of patients that had over four affected entheses.

A study on patients with psoriasis, psoriatic arthritis and fibromyalgia showed that the frequency of enthesal tenderness was higher in patients with fibromyalgia than in patients with psoriatic arthritis or psoriasis: respectively, 92% vs. 66% and 59%.⁶ Moreover, the number of affected entheses was higher in the fibromyalgia group (46%) than in the psoriatic arthritis (23%) or psoriasis (18%) groups.⁶ This raises the question of whether the chronic, widespread musculoskeletal pain associated with HS could in part be due to other causes. Tenderness at enthesal sites has an overlap with the tender points originally used for the diagnosis of fibromyalgia according to the American College of Rheumatology (ACR)-1990 criteria (changed to pain sites in the ACR-2010/2011 and ACR-2016 criteria). The underlying rationale is similar and studies have shown that clinical differentiation between fibromyalgia and enthesitis can be extremely challenging.⁷

Our study could have been influenced by inclusion bias as patients who experience joint complaints could be more inclined to participate. Moreover, observer expectancy bias could have influenced our results as both clinical and ultrasound examination were performed by the same investigator. In addition, it is known that age and body mass index (BMI) are positively correlated with the presence of enthesitis in the lower limbs.⁸ Therefore, the high BMI and age in our population could have influenced the prevalence of enthesitis. Yet this does not explain the discrepancy between clinical and sonographic enthesitis.

In conclusion, the high number of clinically painful entheses could be explained only in part by underlying sonographic enthesitis. This finding, in combination with the high proportion of patients with more than four clinical enthesitis sites, suggests that different pathologies might explain the widespread (enthesal) pain among patients with HS and requires further investigation as treatment differs for the different causes. Therefore, we urge dermatologists to refer patients

with HS with musculoskeletal complaints to a rheumatologist to identify the underlying cause.

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References

- 1 Rondags A, Arends S, Wink FR et al. High prevalence of hidradenitis suppurativa symptoms in axial spondyloarthritis patients: a possible new extra-articular manifestation. *Semin Arthritis Rheum* 2019; **48**:611–17.
- 2 D'Agostino MA, Aegerter P, Bechara K et al. How to diagnose spondyloarthritis early? Accuracy of peripheral enthesitis detection by power Doppler ultrasonography. *Ann Rheum Dis* 2011; **70**:1433–40.
- 3 Maksymowych WP, Mallon C, Morrow S et al. Development and validation of the Spondyloarthritis Research Consortium of Canada (SPARCC) enthesitis index. *Ann Rheum Dis* 2009; **68**:948–53.
- 4 de Miguel E, Cobo T, Muñoz-Fernández S et al. Validity of enthesitis ultrasound assessment in spondyloarthropathy. *Ann Rheum Dis* 2009; **68**:169–74.
- 5 Zuliani F, Zabotti A, Errichetti E et al. Ultrasonographic detection of subclinical enthesitis and synovitis: a possible stratification of psoriatic patients without clinical musculoskeletal involvement. *Clin Exp Rheumatol* 2019; **37**:593–9.
- 6 Macchioni P, Salvarani C, Possemato N et al. Ultrasonographic and clinical assessment of peripheral enthesitis in patients with psoriatic arthritis, psoriasis, and fibromyalgia syndrome: the ULISSE study. *J Rheumatol* 2019; **46**:904–11.
- 7 Marchesoni A, De Marco G, Merashli M et al. The problem in differentiation between psoriatic-related polyenthesitis and fibromyalgia. *Rheumatology (Oxford)* 2018; **57**:32–40.
- 8 Moshrif A, Mosallam A. Subclinical enthesopathy in patients with psoriasis and its association with other disease parameters: a power Doppler ultrasonographic study. *Eur J Rheumatol* 2017; **4**:24.

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