Official Journal of Erciyes University Faculty of Medicine

DOI: 10.14744/cpr.2025.87060
J Clin Pract Res 2025;47(5):480–485

Subclinical Spondyloarthritis Features in Patients with Hidradenitis Suppurativa: A Real-World Cross-Sectional Analysis

Umut Bakay,[1] Özge Sevil Karstarlı Bakay[2]

[1]Department of Rheumatology, Denizli State Hospital, Denizli, Türkiye
[2]Department of Dermatology, Pamukkale University Faculty of Medicine, Denizli, Türkiye

ABSTRACT

Objective: The objective of this study is to investigate the frequency and clinical spectrum of subclinical spondyloarthritis (SpA) manifestations among patients with hidradenitis suppurativa (HS) and to evaluate their association with cutaneous disease severity and clinical characteristics.

Materials and Methods: In this prospective, cross-sectional real-world study, 120 adults with a confirmed diagnosis of HS were systematically assessed for musculoskeletal involvement. The evaluation included clinical examination for inflammatory back pain, peripheral arthritis, enthesitis, and targeted magnetic resonance imaging (MRI) for sacroiliitis when indicated. Laboratory analyses included C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and human leukocyte antigen B27 (HLA-B27) status. Spearman's rank correlation was used to analyze relationships between SpA-related features and HS clinical parameters, including the International Hidradenitis Suppurativa Severity Score System (IHS4) score, Hurley stage, and smoking.

Results: Among the cohort, MRI-confirmed sacroiliitis was detected in 13.3%, enthesitis in 18.3%, HLA-B27 positivity in 12.5%, and peripheral arthritis in 10.0% of patients. A total of 12.5% fulfilled the modified New York criteria for ankylosing spondylitis. No statistically significant correlations were observed between SpA findings and HS severity indices. Weak associations were noted between smoking and both HLA-B27 positivity (ρ=0.27) and peripheral arthritis (ρ=0.21).

Conclusion: Subclinical axial and peripheral SpA features are frequently encountered in patients with HS, often in the absence of musculoskeletal complaints. The lack of correlation with skin disease activity highlights the need for routine rheumatologic evaluation in this population to enable early recognition and tailored treatment of inflammatory joint disease.

Keywords: Cross-Sectional Studies, enthesitis, hidradenitis suppurativa, spondyloarthritis, subclinical inflammation.

Cite this article as:
Bakay U, Karstarlı Bakay ÖS. Subclinical Spondyloarthritis Features in Patients with Hidradenitis Suppurativa: A Real-World Cross-Sectional Analysis. JClinPractRes2025;47(5):480–485.

Address for correspondence:
Umut Bakay.
Department of Rheumatology, Denizli State Hospital, Denizli, Türkiye
Phone: +90 537 377 04 93
E-mail: ubakay280220@gmail.com

Submitted: 08.07.2025
Revised: 08.08.2025
Accepted: 08.09.2025
Available Online: 23.10.2025

Erciyes University Faculty of Medicine Publications - Available online at www.jcpres.com

INTRODUCTION

Hidradenitis suppurativa (HS) is a persistent, recurrent inflammatory dermatosis that predominantly involves areas with dense apocrine gland distribution, notably the axillae, inguinal folds, and perianal region. The condition is clinically characterized by painful, deep-seated nodules, abscesses, sinus tract formation, and subsequent fibrotic scarring, all of which contribute to considerable physical burden and psychological distress for affected individuals.[1,2] Epidemiological data indicate that HS affects approximately 0.1% to 4% of the population, with higher incidence among females, smokers, and individuals with metabolic comorbidities such as obesity and insulin resistance.[3,4] Although the exact pathogenic mechanisms underlying HS remain to be fully elucidated, current evidence supports a multifactorial model involving follicular hyperkeratosis, impaired innate immune responses, alterations in the cutaneous microbiome, and persistent proinflammatory cytokine activity. Key molecular mediators implicated include tumor necrosis factor-alpha (TNF-α), interleukin-1 beta (IL-1β), and the IL-23/Th17 signaling axis.[5–7] This immunologic profile supports the view that HS extends beyond a purely cutaneous disorder, aligning it with the spectrum of systemic autoinflammatory diseases. Increasing recognition has also been given to the association between HS and systemic conditions such as inflammatory bowel disease (IBD), cardiometabolic disorders, depression, and various rheumatologic syndromes.[8–10] Of particular interest is the emerging association with spondyloarthritis (SpA), a heterogeneous group of inflammatory musculoskeletal diseases typified by axial and peripheral arthritis, enthesitis, and extra-articular features like uveitis and IBD.[11,12] SpA pathogenesis is closely linked to the IL-17/IL-23 pathway and shows a strong genetic predisposition through human leukocyte antigen B27 (HLA-B27) positivity.[13,14] Recent investigations have highlighted an unexpectedly high prevalence of inflammatory back pain, clinical enthesitis, and sacroiliitis on magnetic resonance imaging (MRI) among patients with HS—even in the absence of reported joint symptoms.[15–17] These observations suggest shared immunopathogenic mechanisms between HS and SpA,[18–21] reinforcing the hypothesis that subclinical SpA may be underrecognized in this population and that routine rheumatologic assessment could offer clinical benefit. Timely detection of SpA manifestations in HS is particularly relevant in the context of biologic therapies targeting IL-17 and IL-23 pathways. In this study, we aim to characterize the prevalence and clinical profile of axial and peripheral SpA features in a real-world cohort of patients with HS and to investigate their relationships with serologic and imaging findings. Through this integrated approach, we aim to further elucidate the systemic nature of HS and support a collaborative model of dermatologic and rheumatologic care.

KEY MESSAGES

- Systemic Linkage: Hidradenitis suppurativa (HS) exhibits features of a systemic autoinflammatory disorder, with increasing evidence supporting its association with spondyloarthritis (SpA).
- Musculoskeletal Involvement: In this real-world analysis, SpA-related findings were common among HS patients, including sacroiliitis (13.3%), clinical enthesitis (18.3%), HLA-B27 positivity (12.5%), and peripheral joint involvement (10.0%).
- Clinical Recommendation: Given the frequent musculoskeletal manifestations, HS patients presenting with joint-related symptoms should be referred for rheumatologic evaluation to facilitate timely diagnosis and individualized treatment strategies.

MATERIALS AND METHODS

Study Place and Design

This real-world, cross-sectional observational study was conducted at a combined dermatology and rheumatology tertiary care center between August 2024 and June 2025.

Ethics Approval

The study protocol was approved by the Institutional Review Board of Pamukkale University Clinical Research Ethics Committee (Approval Date: 06.08.2024; Decision No: 13; Document No: E-60116787-020-577151). Written informed consent was obtained from all participants in accordance with the ethical standards of the Declaration of Helsinki.

Patients and Data Collection

A total of 120 adult patients (aged ≥18 years) with a confirmed clinical diagnosis of HS were prospectively enrolled through consecutive sampling in dermatology outpatient clinics. HS diagnosis was established according to internationally accepted criteria, requiring characteristic lesions (e.g., painful nodules, abscesses, draining sinuses, and cicatricial changes) located in apocrine gland–bearing regions, along with a chronic or relapsing course. Sociodemographic and lifestyle data (age, sex, body mass index [BMI], smoking status), HS-specific disease burden (Hurley stage, International Hidradenitis Suppurativa Severity Score System [IHS4]), and disease duration (from symptom onset) were recorded. Comorbidities (e.g., hypertension, diabetes mellitus, dyslipidemia, depression, fibromyalgia, psoriasis, IBD) were obtained via patient interviews and medical records. Fibromyalgia was classified according to the 2016 American College of Rheumatology (ACR) revised criteria.

Diagnostic Criteria and Definitions

Spondyloarthritis-related features were defined according to the Assessment of SpondyloArthritis International Society (ASAS) classification criteria. Axial SpA was diagnosed using the modified 1984 New York criteria (radiographic sacroiliitis plus ≥1 clinical SpA feature). Peripheral SpA was defined as arthritis or enthesitis in the absence of mechanical or degenerative joint disease. Inflammatory back pain was classified according to ASAS criteria.[22] Sacroiliac joint magnetic resonance imaging was interpreted according to ASAS/ Outcome Measures in Rheumatology (OMERACT) definitions,[13,23] with positivity defined as active inflammatory changes (e.g., bone marrow edema) or structural lesions (e.g., erosions, fat metaplasia, ankylosis). Enthesitis was evaluated clinically at standardized anatomical sites (Achilles tendon, plantar fascia, lateral epicondyles, costochondral junctions). Although formal enthesitis scoring systems such as the Maastricht Ankylosing Spondylitis Enthesitis Score (MASES) were not used, systematic palpation of predefined entheseal sites (Achilles tendon, plantar fascia, epicondyles, costochondral junctions) was performed by experienced rheumatologists. This simplified approach, designed for diagnostic rather than activity-monitoring purposes, aligns with ASAS recommendations and reflects real-world feasibility.

Inclusion Criteria

- Age ≥18 years.
- Confirmed HS diagnosis by internationally accepted clinical criteria.
- Willingness to provide informed consent.

Exclusion Criteria

- Prior diagnosis of any rheumatologic disease (e.g., axial SpA, psoriatic arthritis).
- Current malignancy.

Pregnancy at the time of enrollment.

Laboratory Investigation

Venous blood samples were collected to measure erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), and HLA-B27 status via polymerase chain reaction (PCR)-based genotyping. All sacroiliac MRIs were reviewed by musculoskeletal radiologists blinded to the clinical data.

Statistical Analysis

Descriptive statistics were used to summarize the dataset. Continuous variables were presented as means with standard deviations (SD) or as medians with interquartile ranges (IQR), depending on distribution normality (assessed using the Kolmogorov-Smirnov test). Categorical variables were expressed as absolute counts and percentages. The prevalence of SpA features—including MRI-confirmed sacroiliitis, HLA-B27 positivity, enthesitis, and peripheral arthritis—was calculated. Associations between these SpA features and clinical parameters (e.g., smoking status, IHS4 score, Hurley stage, disease duration) were examined using Spearman's rank correlation coefficient (ρ). A two-tailed p-value <0.05 was considered statistically significant. All analyses were conducted using SPSS version 28.0 (IBM Corp., Armonk, NY, USA). Correlation coefficients (ρ) were interpreted as follows: 0.00–0.20=very weak; 0.21–0.40=weak; 0.41–0.60=moderate; 0.61–0.80=strong; 0.81–1.00=very strong.

Post-hoc power analysis based on the observed correlation between smoking and HLA-B27 positivity (ρ=0.27) demonstrated a statistical power of 99.1% (α=0.05), supporting the adequacy of the sample size for detecting small-to-moderate associations in secondary analyses.

Table 1. Comprehensive clinical and comorbidity profile

Variable	Value
Age (mean±SD)	36.6±11.8 years
Sex (female/male)	32/88
BMI (mean±SD)	28.7±5.7
Smoking (%)	23.3%
Disease duration (median, IQR)	24.4 years (16.0–31.3)
ESR (median, IQR)	2.02 (1.42–2.80)
CRP (median, IQR)	3.2 (1.4–6.8)
IHS4 (median, IQR)	9.0 (5.0–13.0)
Hypertension	10.0%
Diabetes mellitus	9.2%
Hyperlipidemia	8.3%
Chronic lung disease	5.0%
Cardiovascular disease	6.7%
Depression	15.8%
Psoriasis	13.3%
Fibromyalgia	32.5%
inflammatory bowel disease	3.3%
Family history of SpA	4.2%

SD: Standard deviation; IQR: Interquartile range; BMI: Body mass index; ESH: Erythrocyte sedimentation rate; CRP: C-reactive protein; IHS4: International Hidradenitis Suppurativa Severity Score System; SpA: Spondyloarthritis.

RESULTS

A total of 120 patients with a confirmed diagnosis of hidradenitis suppurativa were included in the final analysis. The mean age of the cohort was 36.6±11.8 years, with males comprising 73.3% (n=88) of the population (Table 1). The mean Body Mass Index was 28.7±5.7 kg/m^2. Median disease

Table 2. Prevalence of spondyloarthritis (SpA)-related findings

Clinical feature	Number of patients	Prevalence (%)
Sacroiliitis (MRI positivity)	16	13.3%
HLA-B27 positivity	15	12.5%
Peripheral Joint involvement (peripheral SpA)	12	10.0%
Ankylosing spondylitis (NY criteria)	15	12.5%
Enthesitis	22	18.3%

SpA: Spondyloarthritis; MRI: Magnetic resonance imaging; HLA: Human leukocyte antigen; NY: New York.

duration was 24.4 years (IQR: 16.0–31.3), and the median IHS4 score was 9.0 (IQR: 5.0–13.0). Active smoking was reported by 23.3% of patients. The most frequently reported comorbid conditions included fibromyalgia (32.5%), depression (15.8%), psoriasis (13.3%), hypertension (10.0%), and diabetes mellitus (9.2%).

Features indicative of spondyloarthritis were detected in a considerable proportion of patients (Table 2). Sacroiliitis confirmed by MRI was observed in 16 individuals (13.3%), while 15 patients (12.5%) tested positive for HLA-B27. Peripheral manifestations of SpA were identified in 12 cases (10.0%), and 15 participants (12.5%) met the modified New York criteria for ankylosing spondylitis. Enthesitis emerged as the most prevalent SpA-related clinical finding, present in 22 patients (18.3%).

Correlation analysis using Spearman's rank coefficient revealed overall weak associations between SpA features and clinical parameters (Table 3). Smoking status showed modest correlations with HLA-B27 positivity (ρ=0.27) and peripheral SpA involvement (ρ=0.21). However, no statistically significant correlations were found between SpA-related outcomes and HS disease severity, as measured by IHS4 score or Hurley stage (ρ<0.15 for all comparisons). These relationships are illustrated in Table 3, highlighting the lack of a strong association between cutaneous disease burden and SpA-specific findings.

Regarding prior treatments, the cohort demonstrated diverse therapeutic exposures (Table 4). Systemic antibiotic use was reported by 89.2% of patients, while adalimumab had been administered to 59.2%. Additionally, 27.5% had received acitretin, and 10.0% had been treated with secukinumab.

Taken together, axial and peripheral SpA features, particularly sacroiliitis and enthesitis, were not uncommon in this HS cohort. The limited correlation with skin disease activity suggests that dermatology-based assessment alone may underestimate the extent of underlying musculoskeletal involvement, underscoring the need for proactive rheumatologic evaluation in routine clinical practice.

DISCUSSION

This real-world cross-sectional study highlights a substantial prevalence of previously unrecognized SpA features in individuals with HS, contributing to the evolving perspective of HS as a disorder that extends beyond the skin and involves systemic inflammation. Our results showed that 13.3% of patients demonstrated MRI-detected sacroiliitis, 18.3% had clinical enthesitis, 12.5% tested positive for HLA-B27, and 10% presented with peripheral joint involvement. These findings collectively emphasize the need for musculoskeletal screening in HS populations, including those without overt rheumatologic complaints.

The proportion of axial SpA features observed in our study is comparable to those reported in earlier imaging-based investigations, which documented rates ranging from 10% to 20% in HS cohorts.[11,18] Notably, 12.5% of our patients fulfilled the modified New York criteria for ankylosing spondylitis, underscoring the potential of systematic evaluation to uncover clinically meaningful yet undiagnosed SpA. The utility of MRI is particularly emphasized in this setting, as it offers sensitivity for detecting early inflammatory lesions prior to structural damage.[12,18]

Table 3. Correlation between spondyloarthritis (SpA) features and clinical parameters (Spearman's ρ)

SpA feature	Smoking	Disease duration	Hurley stage	IHS4 score
MRI positivity	0.07	0.10	-0.06	-0.01
HLA-B27 positivity	0.27	0.04	-0.02	0.01
Peripheral SpA	0.21	0.08	-0.06	-0.05
NY criteria	0.09	0.11	-0.09	-0.07
Enthesitis	0.05	0.06	0.04	0.11

Spearman's rank correlation coefficients (ρ) are shown for associations between spondyloarthritis (SpA) features and clinical parameters. Interpretation of Spearman's ρ: very weak (0.00–0.20); weak (0.21–0.40); moderate (0.41–0.60); strong (0.61–0.80); very strong (0.81–1.00). SpA: Spondyloarthritis; MRI: Magnetic resonance imaging; HLA: Human leukocyte antigen; NY: New York

Table 4. Prior treatments in patients with HS

Treatment	Number of patients	Percentage (%)
Acitretin	33	27.5
Antibiotics	107	89.2
Adalimumab	71	59.2
Secukinumab	12	10.0

Includes prior systemic therapies and biologics administered in the study population. HS: Hidradenitis suppurativa.

Among the musculoskeletal manifestations, enthesitis emerged as the most frequently detected feature. This finding aligns with prior studies that underscore enthesitis as a key pathological hallmark of SpA, which may be easily overlooked in dermatologic practice settings.[13,15,16] The immunopathogenesis likely reflects convergence in inflammatory pathways—particularly IL-17 and IL-23 signaling—between HS and SpA.[6,7,15]

A noteworthy observation in our analysis was the lack of a significant correlation between HS severity scores (IHS4 and Hurley stage) and the presence of SpA features. This disconnect reinforces prior evidence suggesting that skin disease activity may not accurately reflect systemic inflammatory burden.[8,10,20] Therefore, clinicians should maintain a high index of suspicion for SpA in HS patients, regardless of cutaneous disease severity.

The high frequency of fibromyalgia observed in our cohort (32.5%) may, in part, reflect overlapping nociplastic pain, but could also signal underdiagnosed inflammatory disease. Distinguishing between central sensitization syndromes and inflammatory musculoskeletal involvement is clinically essential, as misclassification can delay targeted treatment strategies and adversely affect outcomes.[9]

Smoking status showed modest associations with both HLA-B27 positivity and peripheral arthritis (ρ=0.27 and ρ=0.21, respectively), consistent with previous literature suggesting that tobacco exposure may exacerbate Th17-mediated inflammation and worsen disease expression in both HS and SpA.[4,9] These findings support the implementation of smoking cessation interventions in this dual-risk population.

On a mechanistic level, our results align with recent insights pointing to a shared immunologic milieu between HS and SpA. Dysregulation of the IL-23/Th17 axis, the contribution of neutrophils, and the activation of type 3 innate lymphoid cells (ILC3s) have been implicated in both diseases.[6,7,17] These overlapping pathways support the rationale for therapeutic interventions targeting IL-17 or IL-23 in patients with coexisting cutaneous and musculoskeletal manifestations.

Despite clear indications for biologic therapy, only 10% of our patients had been treated with secukinumab, and none had received IL-23 inhibitors. This treatment gap likely reflects a lack of coordinated dermatology-rheumatology care, as well as potential underrecognition of inflammatory joint disease. Establishing interdisciplinary care pathways and integrating SpA screening into dermatology workflows may help address this diagnostic and therapeutic shortfall.[12,14,21]

In summary, our findings support a paradigm shift in the clinical management of HS. Routine rheumatologic evaluation should be considered in patients with musculoskeletal symptoms or known risk factors, even in the absence of severe skin involvement. Early identification and timely initiation of appropriate therapy may mitigate long-term joint damage and improve overall patient outcomes.

Limitations

This study has several limitations that should be acknowledged. First, the cross-sectional design restricts interpretation of causal relationships between HS and SpA manifestations. Second, MRI imaging was selectively performed in patients with clinical suspicion of axial involvement, which may have led to an underestimation of subclinical sacroiliitis. Additionally, enthesitis assessment was limited to clinical examination without ultrasound or MRI confirmation, which may reduce diagnostic specificity. Nevertheless, the study's strengths include its prospective design, real-world context, and the integration of clinical, serologic, and imaging data.

CONCLUSION

Our findings contribute to the growing recognition of hidradenitis suppurativa as a systemic inflammatory disease with meaningful musculoskeletal comorbidity. Sacroiliitis and enthesitis were the most prominent SpA features, often present regardless of skin disease severity. These data support incorporating routine rheumatologic assessment into HS care and call for interdisciplinary management strategies that address both cutaneous and joint manifestations. Early diagnosis of SpA in HS patients may provide an opportunity for timely intervention and improved long-term outcomes through tailored, biologic-driven treatment approaches.

Ethics Committee Approval: The Pamukkale University Non-Interventional Clinical Research Ethics Committee granted approval for this study (date: 06.08.2024, number: 13).

Informed Consent: Written informed consent was obtained from patients who participated in this study.

Conflict of Interest: The authors have no conflict of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

Use of AI for Writing Assistance: Not declared.

Author Contributions: Concept – UB; Design – UB; Supervision – UB; Resource – UB; Materials – UB; Data Collection and/or Processing – ÖSKB; Analysis and/or Interpretation – UB; Literature Search – ÖSKB; Writing – UB; Critical Reviews – ÖSKB.

Peer-review: Externally peer-reviewed.

REFERENCES

1. Jemec GB. Clinical practice. Hidradenitis suppurativa. N Engl J Med 2012;366(2):158-64. [CrossRef]
2. Goldburg SR, Strober BE, Payette MJ. Hidradenitis suppurativa: Epidemiology, clinical presentation, and pathogenesis. J Am Acad Dermatol 2020;82(5):1045-58. [CrossRef]
3. Vazquez BG, Alikhan A, Weaver AL, Wetter DA, Davis MD. Incidence of hidradenitis suppurativa and associated factors: a population-based study of Olmsted County, Minnesota. J Invest Dermatol 2013;133(1):97-103. [CrossRef]
4. Garg A, Kirby JS, Lavian J, Lin G, Strunk A. Sex- and age-adjusted population analysis of prevalence estimates for hidradenitis suppurativa in the United States. JAMA Dermatol 2017;153(8):760-4. [CrossRef]
5. Dufour DN, Emtestam L, Jemec GB. Hidradenitis suppurativa: a common and burdensome, yet under-recognised, inflammatory skin disease. Postgrad Med J 2014;90(1062):216-21. [CrossRef]
6. Lima AL, Karl I, Giner T, Poppe H, Schmidt M, Presser D, et al. Keratinocytes and neutrophils are important sources of proinflammatory molecules in hidradenitis suppurativa. Br J Dermatol 2016;174(3):514-21. [CrossRef]
7. Schlapbach C, Hänni T, Yawalkar N, Hunger RE. Expression of the IL-23/Th17 pathway in lesions of hidradenitis suppurativa. J Am Acad Dermatol 2011;65(4):790-8. [CrossRef]
8. Nguyen TV, Damiani G, Orenstein LAV, Hamzavi I, Jemec GB. Hidradenitis suppurativa: an update on epidemiology, phenotypes, diagnosis, pathogenesis, comorbidities and quality of life. J Eur Acad Dermatol Venereol 2021;35(1):50-61. [CrossRef]
9. Kokolakis G, Wolk K, Schneider-Burrus S, Kalus S, Barbus S, Gomis-Kleindienst S, et al. Delayed diagnosis of hidradenitis suppurativa and its effect on patients and healthcare system. Dermatology 2020;236(5):421-30. [CrossRef]
10. Sabat R, Jemec GBE, Matusiak Ł, Kimball AB, Prens E, Wolk K. Hidradenitis suppurativa. Nat Rev Dis Primers 2020;6(1):18. [CrossRef]
11. Fauconier M, Reguiai Z, Barbe C, Colosio A, Eschard JP, Salmon JH, et al. Association between hidradenitis suppurativa and spondyloarthritis. Joint Bone Spine 2018;85(5):593-7. [CrossRef]
12. Tzellos T, Zouboulis CC. Review of comorbidities of hidradenitis suppurativa: implications for daily clinical practice. Dermatol Ther (Heidelb) 2020;10(1):63-71. [CrossRef]
13. Sieper J, Rudwaleit M, Baraliakos X, Brandt J, Braun J, Burgos-Vargas R, et al. The Assessment of SpondyloArthritis International Society (ASAS) handbook: a guide to assess spondyloarthritis. Ann Rheum Dis 2009;68(Suppl 2):ii1-ii44. [CrossRef]
14. van der Heijde D, Molto A, Ramiro S, et al. Goodbye to the term 'ankylosing spondylitis', hello 'axial spondyloarthritis': time to embrace the ASAS-defined nomenclature. Ann Rheum Dis 2024;83(5):547-9. [CrossRef]
15. Ritchlin CT, Colbert RA, Gladman DD. Psoriatic arthritis. N Engl J Med 2017;376(10):957-70. [CrossRef]
16. McGonagle D, Tan AL. The enthesis in psoriatic arthritis. Clin Exp Rheumatol 2015;33(Suppl 93):S36-9.
17. Richette P, Molto A, Viguier M, Dawidowicz K, Hayem G, Nassif A, et al. Hidradenitis suppurativa associated with spondyloarthritis -- results from a multicenter national prospective study. J Rheumatol 2014;41(3):490-4. [CrossRef]
18. Rondags A, Arends S, Wink FR, Horváth B, Spoorenberg A. High prevalence of hidradenitis suppurativa symptoms in axial spondyloarthritis patients: A possible new extra-articular manifestation. Semin Arthritis Rheum 2019;48(4):611-7. [CrossRef]
19. Almuhanna N, Finstad A, Alhusayen R. Association between Hidradenitis Suppurativa and Inflammatory Arthritis: A Systematic Review and Meta-Analysis. Dermatology 2021;237(5):740-7. [CrossRef]
20. Garg A, Malviya N, Strunk A, Wright S, Alavi A, Alhusayen R, et al. Comorbidity screening in hidradenitis suppurativa: Evidence-based recommendations from the US and Canadian Hidradenitis Suppurativa Foundations. J Am Acad Dermatol 2022;86(5):1092-101. [CrossRef]
21. Melgosa Ramos FJ, García-Ruiz R, Gegúndez Hernández H, Mateu-Puchades A.Real-world use of secukinumab in patients with hidradenitis suppurativa: A multicenter retrospective cohort study. Clin Cosmet Investig Dermatol 2023;16:2501-8.
22. Rudwaleit M, van der Heijde D, Landewe R, Listing J, Akkoc N, Brandt J, et al. The development of Assessment of SpondyloArthritis International Society classification criteria for axial spondyloarthritis (Part I): Classification of inflammatory back pain by expert opinion and evaluation of existing definitions. Ann Rheum Dis 2009;68(6):770-6. [CrossRef]
23. Maksymowych WP, Lambert RG, Østergaard M, Pedersen SJ, Machado PM, Weber U, et al. MRI lesions in the sacroiliac joints of patients with spondyloarthritis: an update of definitions and validation by the ASAS MRI working group. Ann Rheum Dis 2019;78(11):1550-8.