RESEARCH / ARAŞTIRMA
DOI: 10.26650/IUITFD.1216589
İst Tıp Fak Derg 2023 / J Ist Faculty Med 2023

EPIDEMIOLOGICAL AND CLINICAL CHARACTERISTICS OF HIDRADENITIS SUPPURATIVA PATIENTS: 10-YEAR EXPERIENCE FROM A SINGLE TERTIARY CENTER

HİDRADENİTİS SÜPÜRATİVA HASTALARININ EPİDEMİYOLOJİK VE KLİNİK ÖZELLİKLERİ: ÜÇÜNCÜ BASAMAK BİR MERKEZİN 10 YILLIK DENEYİMİ

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Cite this article as: Isik Mermutlu S, Keskinkaya Z. Epidemiological and clinical characteristics of hidradenitis suppurativa patients: 10-year experience from a single tertiary center. J Ist Faculty Med 2023;86(3):235-244. doi: 10.26650/IUITFD.1216589

ABSTRACT

Objective: To investigate the clinico-epidemiological profile of hidradenitis suppurativa (HS) patients.

Material and Method: In this retrospective cross-sectional single tertiary center study, the HS patients diagnosed and/or followed up between 2012-2022 were evaluated regarding demographic features, clinical findings, associated comorbidities, therapies initiated for HS and their outcomes.

Results: Of 101 HS patients (male:female ratio=1.7:1), 23.3% (n=20) had a history of early-onset disease (<18 years). The majority had no family history of HS (82.7%, n=62). The patients were classified according to disease severity as Hurley I (33.7%, n=34), Hurley II (46.5%, n=47) and Hurley III (19.8%, n=20). Patients with early-onset disease and Hurley III HS had a significantly higher number of affected anatomical sites (p<0.05). The axillary region was the most commonly involved anatomical site (n=78), followed by the inguinal (n=57) and gluteal regions (n=23). Sixty-four patients (74.4%) were overweight/obese, and 84.5% (n=71) were current or ex-smokers. Acne vulgaris was the main dermatological comorbidity associated with HS (n=23). Pilonidal sinus disease was present in 25.5% (n=25). Patients with Hurley III HS presented with significantly higher rates of pilonidal sinus disease and involvement of the gluteal and perianal regions (p<0.05). Nineteen patients were diagnosed with metabolic syndrome. Systemic antibiotics were the most frequently prescribed first-line agents. Hidradenitis Suppurativa Clinical Response (HiSCR) achievement was observed most frequently with biologics, particularly adalimumab.

ÖZET

Amaç: Bu çalışmada hidradenitis süpürativa (HS) hastalarının epidemiyolojik ve klinik özelliklerinin araştırılması amaçlanmıştır.

Gereç ve Yöntem: Üçüncü basamak bir merkezde yürütülen bu retrospektif kesitsel çalışmada, 2012-2022 tarihlerinde tanı alan ve/veya takip edilen HS hastaları demografik özellikler, klinik bulgular, eşlik eden komorbiditeler, HS için verilen tedaviler ve tedavi yanıtları açısından değerlendirilmiştir.

Bulgular: 101 HS hastasının (erkek:kadın oranı=1,7:1) %23,3'ünde (n=20) erken başlangıç (<18 yaş) öyküsü mevcuttu. Hastaların büyük çoğunluğunda (%82,7; n=62) ailede HS öyküsü yoktu. Hastaların hastalık şiddetine göre dağılımları Hurley I (%33,7; n=34), Hurley II (%46,5; n=47), Hurley III (%19,8; n=20) şeklindeydi. Erken başlangıçlı ve Hurley III HS hastalarında anlamlı ölçüde daha fazla anatomik bölge tutulumu saptandı (p<0,05). En sık tutulum görülen anatomik yerleşim aksiller bölge (n=78) olup, bunu inguinal (n=57) ve gluteal bölge (n=23) takip etmekteydi. Altmışdört hasta (%74,4) kilolu/obez olup hastaların %84,5'inde (n=71) güncel/geçmiş sigara kullanım öyküsü mevcuttu. HS'e en sık eşlik eden dermatolojik hastalık akne vulgaristi (n=23). Olguların %25,5'inde (n=25) pilonidal sinüs hastalığı mevcuttu. Hurley III HS hastaları önemli ölçüde daha yüksek oranda pilonidal sinüs hastalığı, gluteal ve perianal bölge tutulumu ile başvurdu (p<0,05). Ondokuz hasta metabolik sendrom tanısı almıştı. Sistemik antibiyotikler en sık reçete edilen birinci basamak ajanlardı. Hidradenitis Süpürativa Klinik Yanıtı (HiSCR) en yüksek oranda biyolojik ajanlarla (özellikle adalimumab) gözlendi.

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Submitted/Başvuru: 09.12.2022 • **Revision Requested/Revizyon Talebi:** 06.03.2023 •
Last Revision Received/Son Revizyon: 16.03.2023 • **Accepted/Kabul:** 05.04.2023 • **Published Online/Online Yayın:** 25.07.2023

Conclusion: In line with the current literature, HS poses an increased disease burden with its associated comorbidities. The predominance of the male sex and the anatomical involvement patterns seen in our HS patients are compatible with previously reported Turkish series. Pilonidal sinus disease and involvement of the gluteal and perianal regions in HS patients are important signs of severe disease, also highlighted in recent studies. The biologic agents seem to be the best therapeutic option for achieving HiSCR, especially in severe HS forms.

Keywords: Hidradenitis suppurativa, Hurley, chronic inflammation, metabolic syndrome, pilonidal sinus

Sonuç: Mevcut literatür ile uyumlu olarak, HS ilişkili olduğu komorbiditeler ile birlikte hastalık yükünü arttırmaktadır. HS hastalarımızda erkek cinsiyet baskınlığı ve anatomik tutulum paternleri daha önce bildirilen Türk serileri ile uyumludur. Pilonidal sinüs hastalığı, gluteal ve perianal bölge tutulumu HS hastalarında şiddetli hastalık açısından yakın zamanlı çalışmalarda da vurgulanan önemli belirtilerdir. Biyolojik ajanlar, özellikle şiddetli HS formlarında, HiSCR sağlamak için en iyi tedavi seçeneği olarak görünmektedir.

Anahtar Kelimeler: Hidradenitis süpürativa, Hurley, kronik inflamasyon, metabolik sendrom, pilonidal sinüs

INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic inflammatory disorder of the hair follicle, presenting with recurrent deep-seated inflammatory nodules, sinus tracts, and disfiguring scars (1). The disease primarily affects intertriginous areas such as the axillary and inguinal folds and the anogenital region, where apocrine glands are abundant (2-4). Both genetic background and environmental factors have been incriminated in the emergence and course of the disease (5). The usual age of onset is between 20-30 years, mainly following puberty (2). The chronic, relapsing course significantly impacts the patient's quality of life (6) despite several therapeutic options emerging in the last decades (7).

HS has also been associated with comorbidities such as obesity, metabolic syndrome, cardiovascular disorders, tobacco smoking, mood disorders, polycystic ovary syndrome, inflammatory bowel disease, and spondyloarthropathies, necessitating a thorough evaluation to avoid further morbidity and mortality (8). In recent years, numerous papers have been published on the demographic and clinical profile of HS patients with diverse results (9).

The aim of this study is to investigate Turkish HS patients in terms of demographic and clinical characteristics, associated comorbidities and treatment results.

MATERIAL and METHODS

This was a retrospective cross-sectional single-center study on HS patients diagnosed based on the clinical findings and/or followed-up in a tertiary dermatology outpatient clinic between 2012-2022. The patients' medical files were evaluated regarding demographic features (age of presentation, sex), medical history (smoking, comorbidities), family history of HS, clinical findings [body mass index (BMI), duration of disease, age of disease onset, affected anatomical localization, disease severity], therapies administered for HS and treatment responses. Hurley staging system was used for the classification of disease severity based on the presence and degree of scarring and sinus tract formation as: mild (Hurley I), moderate (Hurley II), and severe (Hurley III) (10). The treatment response was evaluated with Hidradenitis Suppurativa Clinical Response (HiSCR) (11). HiSCR achievement was defined as at least a 50% reduction in the total number of abscess/inflammatory nodules, with no increase in abscess and draining fistula count compared to baseline.

Factors affecting the disease severity and differences among male/female sex were further assessed. The presence of family history was accepted if the disease was present in a first or second-degree relative. Early-onset disease was accepted as the age of onset <18 years. The BMI was categorized as normal weight (BMI<25 kg/m2), overweight (25-29.9 kg/m2), and obese (≥30 kg/m2).

The study was approved by the institutional ethical committee (Date: 16.11.2022, No: 2022/14-27) and conducted in accordance with the Declaration of Helsinki.

Statistical analysis

IBM SPSS Statistics Version 28.0 was used to store and analyze the data. Descriptive statistics were calculated as mean, standard deviation, median, minimum, and maximum values for continuous variables, and as frequency and percentage for categorical variables. The distribution of variables was measured with the Kolmogorov-Smirnov test. Kruskal-Wallis and Mann-Whitney U tests were used to analyze independent quantitative data. The chi-squared test or Fisher's exact test was used for comparing categorical variables between groups. The p-value less than 0.05 was considered statistically significant. The patients with missing information were excluded during the statistical evaluation of the related data.

RESULTS

A total of 101 patients were evaluated with the diagnosis of HS. Of these, 50 presented to the outpatient clinic only once, and 51 were followed up for a median of nine

months (range:1-144 months). The demographic and clinical characteristics of the patients are summarized in Table 1. The male:female ratio was 1.7:1. There was a history of early-onset disease (<18 years) in 20 patients (23.3%). The majority of the patients (82.7%, n=62) denied any history of HS in other family members. There was no significant difference among patients with early and adult-onset disease in terms of family history.

The classification of patients regarding disease severity was as follows; Hurley I (33.7%, n=34), Hurley II (46.5%, n=47) and Hurley III (19.8%, n=20). The distribution of disease severity showed no significant difference in terms of sex, age of onset or BMI, while the disease duration was significantly longer in Hurley stages II and III compared to Hurley I ($p<0.05$) (Table 2).

More than one anatomical site was involved in 65 patients. The patients with early-onset disease had a significantly higher mean number of affected anatomical sites (2.6±1.1) compared to those with adult-onset disease (2.0±1.0) ($p<0.05$). Similarly, the patients with Hurley III HS had a higher number of regions involved compared to ones with Hurley I and Hurley II ($p<0.05$) (Table 2).

The axillary region was the most commonly involved anatomical region (n=78), with significant predominance in males [male 90.5% (n=57) vs. female 56.8% (n=21); $p<0.05$]. Inguinal (n=57) and gluteal region (n=23) were the second and third most frequent localizations, the latter being more significantly involved in patients with early-onset disease [early-onset 45.0% (n=9) vs. adult-onset 16.7% (n=11); $p<0.05$]. The patients with Hurley III disease presented with significantly higher rates of gluteal and perianal region involvement and pilonidal sinus disease ($p<0.05$) (Table 2). The inframammary region was affected more frequently in females compared to males [female 40.5% (n=15) vs. male 0% (n=0); $p<0.05$].

Pilonidal sinus disease was present in 25.5% (n=25), with a significantly higher rate in males [male 36.5% (n=23) vs. female 5.7% (n=2); $p<0.05$]. Acne vulgaris was the main dermatological comorbidity associated with HS (n=23). Of these, four patients had acne conglobata, and two

Table 1: Demographic and clinical characteristics of 101 hidradenitis suppurativa patients

Sex (male:female)	64:37 (1.7:1)
Age of disease onset (years)	12-64 (median:23)
Age of disease onset category n (%)	
Early (<18 years)	20 (23.3)
Adults (≥18 years)	66 (76.7)
Missing data	15
Age at presentation (years)	14-66 (median:30)
Family history of HS n (%)	
Present	13 (17.3)
Not present	62 (82.7)
Missing data	26
Duration of disease prior to presentation n (%)	6 months-33 years (median: 4.5 years)
<5 years	43 (50)
5-10 years	18 (20.9)
>10 years	25 (29.1)
Missing data	15
BMI (mean±SD)	28.9±6.0
BMI classification n (%)	
Normal	22 (25.6)
Overweight	30 (34.9)
Obese	34 (39.5)
Missing data	15
Smoking n (%)	
Current/ex-smoker	71 (84.5)
Never	13 (15.5)
Missing data	17

Table 1: Continue

Comorbidity (n)	
Acne	23
Hyperlipidemia	21
Metabolic syndrome	19
Diabetes mellitus	16
Hypertension	13
Mood disorders	11
Thyroid disorders	6
Hirsutism	5
Polycyctic ovary syndrome	4
Crohn's disease	3
Dissecting cellulitis	2
Ankylosing spondylitis	1
Associated acne subtype (n)	
Mild	12
Moderate-severe	7
Acne conglobata	4
Pilonidal sinus disease n (%)	
Present	25 (25.5)
Not present	73 (74.5)
Missing data	3
Disease severity n (%)	
Hurley I	34 (33.7)
Hurley II	47 (46.5)
Hurley III	20 (19.8)
Affected anatomical site (mean±SD)	1-5 (2.1±1.1)
Affected anatomical site n (%)	
1	35 (35)
≥2	65 (65)
Missing data	1
Disease localization (n)	
Axilla	78
Inguinal	57
Gluteal	23
Genital	16
Inframammary	15
Perianal	8
Other	9

BMI: Body mass index, HS: Hidradenitis suppurativa, SD: Standard deviation

had dissecting cellulitis, while one of them was diagnosed with follicular occlusion tetrad.

When patients were classified regarding BMI, 64 patients (74.4%) were observed to be above the normal range. Seventy-one patients (84.5%) were current or ex-smokers. Nineteen patients fulfilled the diagnostic criteria for metabolic syndrome. Three patients were diagnosed with Crohn's disease, whereas one had ankylosing spondylitis. Five female patients had hirsutism, and four had a diagnosis of polycystic ovary syndrome. Mood disorder diagnosis had been established in eleven patients.

Medical treatment was administered in the majority of the patients (n=91), while surgery was the treatment of choice only in six patients. Topical clindamycin was the most commonly prescribed topical medication (n=72), mainly in combination with a systemic agent (n=66). The

Table 2: Distribution of demographic and clinical findings of hidradenitis suppurativa patients regarding Hurley staging

			Hurley- I	Hurley- II	Hurley- III	p-value	
Age of disease onset (years)		mean±SD	25.0±10.6	25.4±10.6	25.2±10.6	0.974	K
		median	22.0	23.0	23.0		
Age of disease onset	Early-onset	n-%	7 23.3%	8 21.6%	5 22.7%	0.925	X^2
	Adult-onset	n-%	23 76.7%	29 78.4%	17 77.3%		
Gender	Female	n-%	13 38.2%	20 42.6%	4 20.0%	0.209	X^2
	Male	n-%	21 61.8%	27 57.4%	16 80.0%		
BMI		mean±SD	29.5±6.0	28.7±6.1	28.3 ±6.1	0.801	K
		median	29.0	27.8	28.3		
Duration of disease prior to presentation (years)		mean±SD	5.0±6.2	8.4±8.0	8.8±7.7	***0.017***	K
		median	2.5	5.0	8.0		
Smoking (yes)		n-%	19 70.4%	37 92.5%	15 88.2%	***0.044***	X^2
Metabolic syndrome		n-%	9 28.1%	7 15.9%	3 15.0%	0.349	X^2
Diabetes mellitus		n-%	8 25.0%	6 12.8%	2 10.0%	0.246	X^2
Hypertension		n-%	4 12.5%	6 13.0%	3 15.0%	0.965	X^2
Hyperlipidemia		n-%	7 21.9%	10 21.7%	4 20.0%	0.985	X^2
Mood disorders		n-%	4 12.1%	3 6.5%	4 20.0%	0.270	X^2
Family history of HS	Not present	n-%	23 88.5%	25 73.5%	14 93.3%	0.151	X^2
	Present	n-%	3 11.5%	9 26.5%	1 6.7%		
Affected anatomical site		mean±SD	1.7±0.9	2.0±0.9	2.8± 1.2	***0.004***	K
		median	1.0	2.0	2.5		
Pilonidal sinus disease (present)		n-%	7 21.9%	8 17.4%	10 50.0%	***0.017***	X^2
Axilla		n-%	26 76.5%	37 80.4%	15 75.0%	0.856	X^2
Inguinal		n-%	14 41.2%	29 63.0%	14 70.0%	0.063	X^2
Gluteal		n-%	6 17.6%	7 15.2%	10 50.0%	***0.006***	X^2
Inframammary		n-%	5 14.7%	7 15.2%	3 15.0%	0.998	X^2
Genital		n-%	4 11.8%	7 15.2%	5 25.0%	0.432	X^2
Perianal		n-%	0 0.0%	2 4.3%	6 30.0%	**<0.05**	X^2
Other		n-%	3 8.8%	4 8.7%	2 10.0%	>0.05	X^2

BMI: Body mass index, HS: Hidradenitis suppurativa, SD: Standard deviation, K: Kruskal-wallis (Mann-whitney u test), X^2: Chi-squared test

systemic medications and their treatment responses are summarized in Table 3. Systemic antibiotics, namely doxycycline and rifampicin-clindamycin combination, were the first-line agents used for disease control for 1-3 months. In the case of past clinical response, the regimens were used more than once for a flare in seven and two patients, respectively. The use of retinoids was beneficial in eight patients.

Biologics were initiated mainly in Hurley III patients resistant to systemic antibiotics. HiSCR achievement was observed most frequently with biologics, particularly adalimumab, and the treatments were used for a period of 6 months to a maximum of 21 months (Figure 1). Secondary loss of efficacy was encountered in two patients with adalimumab after 14 months and 21 months, respectively. Thus, a switch to infliximab was performed, resulting in HiSCR in three months.

In 14 patients, nodular lesions were managed with intralesional corticosteroid injection once a month, promoting a temporary achievement in nine patients. After excisional surgery, complete healing was observed in two patients (one with Hurley II axillary and one with Hurley III gluteal HS).

DISCUSSION

The literature on HS has evolved particularly through the last two decades with epidemiological studies and clinical trials on therapeutic options. In light of the growing body of information, the awareness of the impact of HS on quality of life and its association with systemic disorders has increased globally (12). Although not well-established, the HS prevalence was reported to range between 0.00033-4.1% (1). There is an inconsistency regarding sex predilection among studies from different geographical regions. Female predominance was present in Western Europe and American studies, while males were reported to be affected more frequently in Turkey and Asian countries (9,12-15). Ethnicity was asserted as a possible factor for this difference (16). A recent multicentric study conducted on 1221 HS patients from Turkey has demonstrated the male sex as one of the main risk factors for the disease severity. The authors attributed the male predominance in the Turkish population to the possible increased admission of male patients to healthcare services due to the greater severity of the disease (13). On the other hand, there was no significant difference between males and females regarding disease severity in our study.

Family history of HS was reported in approximately one-third of the European patient population, whereas this rate was extremely lower in Asian studies (0.07-4%) (15). The presence of family history was associated with an earlier median/mean age of disease onset in several reports (6,17). Furthermore, two European studies comparing characteristics of patients with early-onset (onset before the age of 13 or 18) and normal/adult-onset HS revealed an association between early-onset disease and a positive family history of HS (2,18). The family history (in 17.3% of our patients) was not shown to impact our HS patients regarding the age of onset. However, a significantly higher number of anatomical regions were affected in patients with an early-onset disease with no impact on Hurley stage distribution, similar to the findings of one of the studies mentioned above (18).

Consistent with recent Turkish studies, in our series most frequently involved anatomical sites were observed as axillary and inguinal regions, respectively (9,13,14). Data from European and North American patient populations also showed these locations as the main involved areas (17,19,20). In contrast, there was a predilection of gluteal region involvement in Asian cohorts (21,22). French researchers indicated a predominant involvement of the front part of the body (inguinal and mammary) in females

Table 3: Systemic treatment modalities administered in hidradenitis suppurativa patients

Treatment option	Number of patients n (%)	Patients lost to follow-up	Treatment response	Side effect (n)
Doxycycline	47 (46.5)	25	HiSCR in 8 patients (36.4%)	Gastrointestinal intolerance (1)
Rifampicin+clindamycin	36 (35.6)	21	HiSCR in 8 patients (53.3%)	Diarrhea (1)
Retinoids (acitretin/isotretinoin)	25 (24.8)	3	HiSCR in 8 patients (36.4%)	Hyperlipidemia (1)
Adalimumab	15 (14.9)	3	HiSCR in 8 patients (66.7%)	None
Infliximab	2 (1.9)	0	HiSCR in 2 patients (100%)	None

HiSCR: Hidradenitis Suppurativa Clinical Response

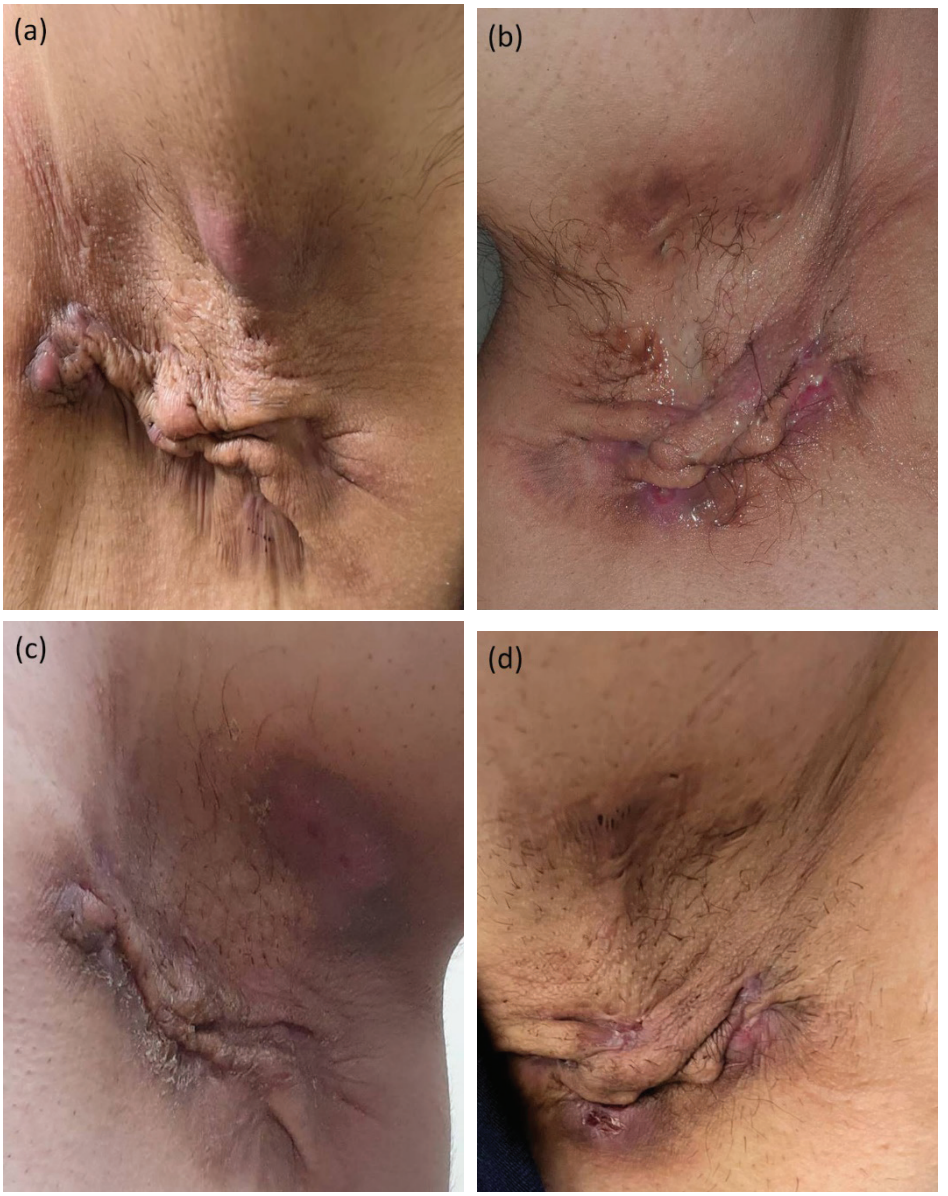

Figure 1: (a) and (b) Inflammatory nodules and sinus tracts in the axillary regions of hidradenitis suppurativa patients. (c) and (d) Hidradenitis Suppurativa Clinical Response (HiSCR) achievement in patients following six months of adalimumab treatment.

and the back part (gluteal and perianal) in males (6). Likewise, a significantly higher rate of inframammary region involvement was detected in our female patients. A similar predilection was demonstrated in different Turkish studies (13,14).

The factors associated with disease severity were frequently discussed in previous reports. Male sex, extended duration of disease and obesity/increased BMI were presented as the leading risk factors in the literature (9,13,17,19,23,24). No significant impact of sex or BMI was detected on the distribution of Hurley staging in our study, while a significantly longer disease duration was observed in the patients with Hurley II and III HS compared to Hurley I. Correspondingly, a multicenter study revealed an average diagnostic delay of 7.2 years for HS patients and an increased likelihood of late admission in patients with moderate-to-severe disease (25). The window of opportunity is a term used to define the early disease period prior to the formation of irreversible HS lesions such as fistulas, sinus tracts and scarring (26). A recent study demonstrated a negative correlation between the therapeutic delay and response to biologic therapy. The authors stated that early drug administration during the window of opportunity phase would achieve better disease control (26). Our findings regarding the extended

disease duration in moderate-to-severe HS patients also support the prompt intervention strategy during the early disease phase to prevent further progression.

The number of affected anatomical sites was detected to be higher in our patients with Hurley III HS. This was a significant finding also encountered in a series from Lithuania (3). A Korean study also mentioned that HS severity was associated with the involvement of ≥2 body regions (21). Moreover, the gluteal and perianal region involvement rates were significantly higher in our patients with Hurley III disease. Similarly, perianal involvement was detected as one of the strongest severity risk factors in a series from the Netherlands (17), in addition to another study from Switzerland demonstrating a significant association between lesions in the gluteal/perianal regions and higher Hurley stages (19).

The association of HS with other dermatological disorders with a common pathogenetic mechanism characterized by follicular occlusion, namely acne conglobata and dissecting cellulitis of the scalp, was described in the literature. These conditions comprise a follicular occlusion triad together with HS. When the pilonidal sinus disease coexists with this group of lesions, the clinical diagnosis is named follicular occlusion tetrad (27).

Pilonidal sinus disease was one of the most commonly associated comorbidities in HS patients, with a rate of 4.6-30% reported in the literature (28). Some authors considered pilonidal sinus disease as part of the HS disease spectrum (29). The 25.5% rate of pilonidal sinus disease observed in our series was compatible with these results and similar to the rate detected in the large series from Turkey (23.6%) (13). This rate was much higher than the prevalence of pilonidal sinus disease reported in the healthy Turkish population (6.6%) (30). Some authors described a significant predilection in males, as in our study (6,16). Furthermore, pilonidal sinus disease was found to be significantly more frequent in our patients with Hurley III HS. Similarly, Kimball et al. reported an over four-fold increased prevalence of pilonidal sinus disease in more severe HS forms compared to mild disease (31). Benhadou et al. described a significant rate of severe HS in patients with inflammatory lesions localized in the intergluteal fold. In that study, the authors further classified those lesions in the intergluteal fold. They identified pilonidal sinus disease in 78% of these patients, while pointing out that the rest had true HS lesions rather than pilonidal sinus disease (28). Such discrimination was not possible due to the retrospective nature of our study.

HS has been associated with several systemic comorbidities in which systemic inflammation plays a role. Metabolic syndrome and its components (diabetes mellitus, hypertension, hyperlipidemia and obesity) were detected to have a higher prevalence in HS patients compared to controls, with obesity being the most frequently associated condition (1,8). The majority of the patients with HS (50-75%) were reported to be overweight or obese, while high BMI was shown to be associated with severe disease (1). In contrast, no significant difference in the distribution of Hurley stages regarding BMI was established in our patients, despite 74.4% being above the normal BMI range. Besides metabolic comorbidities, inflammatory bowel disease (especially Crohn's disease), inflammatory arthritis, polycystic ovary syndrome and psychiatric disorders, which were also detected in our cohort, were associated with HS (1). Smoking is a modifiable factor strongly associated with HS (27). Nearly 85% of our HS patients had a current or previous history of smoking, a rate corresponding to the estimated prevalence of 70-90% in HS patients in the literature (1).

In line with the current treatment recommendations (10,32) and real-life data from different studies (13,14,33), anti-inflammatory antibiotics, particularly doxycycline, were the most frequently prescribed treatment options. In cases with severe HS, resistant to these treatments, adalimumab was the first biologic agent introduced in our series with HiSCR in more than half of the patients, the highest rate seen among the administered therapeutic options. Similarly, in a recent study from Turkey, 80% of moderate-to-severe HS patients achieved HiSCR with biologics (14).

The main limitations of our study were its retrospective design and the missing information about some patients. Moreover, there might be a recall bias regarding the age of disease onset as it was mainly gathered from patient history. The evaluation of the patients by the same observer group was its main strength.

CONCLUSION

HS is an inflammatory disorder with an increased disease burden. Clinicians should be aware of comorbidities associated with HS while evaluating their patients. The predominance of the male sex and the tendency for the involvement of axillary and inguinal regions in our HS patients further support the findings of previous Turkish reports (9,13,14). Pilonidal sinus disease and involvement of the gluteal and perianal regions in HS patients are important signs of severe disease, in line with recent studies (17,19,28,31). Despite the effectiveness of several anti-inflammatory antibiotics and retinoids, biologic agents seem to be the best therapeutic option to achieve HiSCR, especially in severe HS forms.

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