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Effectiveness of Secukinumab in Refractory Hidradenitis Suppurativa: A Real-World Study: Descriptive Research

Dirençli Hidradenitis Süpürativa'da Secukinumab'ın Etkinliği: Gerçek Yaşam Deneyimi: Tanımlayıcı Araştırma

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ABSTRACT Objective: Hidradenitis suppurativa (HS) is a chronic, relapsing inflammatory skin disease characterized by nodules, abscesses, and sinus tracts, often associated with systemic inflammation and significant comorbidities. Although tumor necrosis factor-α (TNF-α) inhibitors such as adalimumab have been used in treatment, many patients experience inadequate responses. Secukinumab, an interleukin-17A inhibitor, has recently been approved for moderate-to-severe HS. However, real-world data on its effectiveness and impact on inflammatory biomarkers remain limited. **Material and Methods:** This retrospective descriptive study included 8 patients with refractory HS who received secukinumab at a single tertiary center between 2022-2024. Demographic and clinical data, including International Hidradenitis Suppurativa Severity Score System (IHS4) scores and C-reactive protein (CRP) levels, were recorded before and after treatment. Secukinumab was administered at 300 mg weekly for 5 weeks, followed by 300 mg every 4 weeks. Treatment response was assessed using Hidradenitis Suppurativa Clinical Response 50 (HiSCR50) and changes in IHS4 scores. CRP levels were analyzed using the Wilcoxon signed-rank test. **Results:** The median age of patients was 46 years, and the median disease duration was 17.5 years. Six patients had prior anti-TNF-α treatment failure. Seven patients (87.5%) showed a reduction in CRP levels, and all patients demonstrated improvement in IHS4 scores. HiSCR50 was achieved in 7 of 8 patients (87.5%). The median IHS4 score significantly decreased from 8.5 to 4.5 (p=0.0078). One patient developed pneumonia during treatment, possibly related to immunosuppression or comorbid chronic kidney disease. No other serious adverse events were reported. **Conclusion:** Secukinumab may be a promising and well-tolerated treatment option for patients with HS, including refractory to anti-TNF-α agents and other conventional treatments.

Keywords: Secukinumab; hidradenitis suppurativa; interleukin-17

ÖZET Amaç: Hidradenitis süpürativa (HS), nodüller, apseler ve sinüs traktları ile seyreden, sistemik inflamasyon ve önemli komorbiditelerle ilişkili, kronik, tekrarlayıcı inflamatuar bir deri hastalığıdır. Tedavide adalimumab gibi tümör nekroz faktörü-α (TNF-α) inhibitörleri kullanılmakla birlikte birçok hastada tedaviye yetersiz yanıt görülmektedir. İnterlökin-17A inhibitörü olan secukinumab, yakın zamanda orta-şiddetli HS tedavisi için onay almıştır. Ancak bu ilacın etkinliği ve inflamatuar biyobelirteçler üzerindeki etkisine dair gerçek yaşam verileri sınırlıdır. **Gereç ve Yöntemler:** Bu retrospektif tanımlayıcı çalışmaya, 2022-2024 yılları arasında tek bir 3. basamak merkezde secukinumab tedavisi alan, dirençli HS tanılı 8 hasta dâhil edildi. Hastaların demografik ve klinik verileri ile birlikte tedavi öncesi ve sonrası "International Hidradenitis Suppurativa Severity Score System (IHS4)" skorları ve C-reaktif protein (CRP) düzeyleri kaydedildi. Secukinumab, ilk 5 hafta boyunca haftalık 300 mg dozunda, ardından her 4 haftada 1 300 mg idame dozu şeklinde uygulandı. Tedavi yanıtı, "Hidradenitis Suppurativa Clinical Response 50 (HiSCR50)" ve IHS4 skorlarındaki değişim ile değerlendirildi. CRP düzeyleri Wilcoxon işaretli sıra testi kullanılarak analiz edildi. **Bulgular:** Hastaların medyan yaşı 46 yıl, hastalık süresi ise 17,5 yıl idi. Altı hastada daha önce anti-TNF-α tedavi başarısızlığı mevcuttu. Yedi hasta (%87,5) CRP düzeylerinde azalma gösterdi ve tüm hastalarda IHS4 skorlarında iyileşme saptandı. Sekiz hastanın 7'sinde (%87,5) HiSCR50 yanıtı elde edildi. Medyan IHS4 skoru, 8,5'ten 4,5'e anlamlı şekilde azaldı (p=0,0078). Bir hastada tedavi sırasında muhtemelen immünosupresyon veya eşlik eden kronik böbrek hastalığına bağlı olarak pnömoni gelişti. Başka ciddi advers olay bildirilmedi. **Sonuç:** Secukinumab, anti-TNF-α tedavisine ve diğer konvansiyonel tedavilere dirençli HS hastalarında, umut vadeden ve iyi tolere edilen bir tedavi seçeneği olabilir.

Anahtar Kelimeler: Secukinumab; hidradenitis süpürativa; interlökin-17

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Hidradenitis suppurativa (HS) is a chronic inflammatory disorder marked by the formation of draining nodules, abscesses, fistulae, sinus tracts, and scarring in areas such as the axillae, inguinal folds, and anogenital areas, which notably contain apocrine glands. Typically emerging around puberty, HS has a higher incidence in females compared to males. While the precise etiology remains unclear, risk factors such as obesity, smoking, and a genetic predisposition to acne have been recognized. The disease is also frequently associated with comorbid conditions, including dyslipidemia, hyperglycemia, hypertension, myocardial infarction, cerebrovascular events, psoriasis, depression, anxiety. The management of HS is challenging due to the complexity of the lesions and their high recurrence rate, which adversely affects patients' psychological well-being and significantly impairs quality of life.[1]

As knowledge of immune dysregulation in HS improves, more biologic drugs and targeted therapies are being studied as potential treatments. These therapies act on various immune pathways by targeting molecules such as tumor necrosis factor (TNF), interleukin-17A (IL-17), IL-12, IL-23, IL-1, Janus kinases, tyrosine kinase 2, and chemokine receptors like CXCR1 and CXCR2. Adalimumab, a TNF-α inhibitor, was the first biologic approved for the management of moderate-to-severe HS. More recently, secukinumab -a human monoclonal antibody targeting IL-17A- received approval from both the U.S. Food and Drug Administration (FDA) and the European Medicines Agency in October 2023 for the treatment of adults with active, moderate-to-severe HS. Bimekizumab, another IL-17 inhibitor, was approved for the treatment of HS in the European Union in April 2024, followed by U.S. FDA approval in November 2024.[2] In clinical trials on HS, disease severity is typically assessed using lesion-based scoring systems that consider abscesses, inflammatory nodules, and draining fistulas. Commonly used scoring systems include Hurley staging, the modified Sartorius score, Hidradenitis Suppurativa Physician's Global Assessment, Hidradenitis Suppurativa Clinical Response (HiSCR), and the International Hidradenitis Suppurativa Severity Score System (IHS4). Among these, HiSCR50 is the most frequently used primary endpoint. Understanding these scoring systems is essential for interpreting clinical trial outcomes and for guiding treatment decisions in clinical practice.[2]

In this study, we aimed to report 8 patients with HS who demonstrated a favorable clinical response to secukinumab following inadequate response to anti-TNF-alpha inhibitor treatment and other conventional treatments.

MATERIAL AND METHODS

This study was conducted as a retrospective descriptive analysis of 8 patients with HS who received secukinumab treatment at Bezmiâlem Vakıf University Faculty of Medicine, Department of Dermatology between 2022-2024. Baseline characteristics recorded for all patients included age, sex, disease duration, age at HS onset, Hurley stage before treatment, IHS4 scores before and after treatment, comorbidities, and prior therapies (as summarized in Table 1). All comprehensive laboratory tests -including complete blood count, serologic tests for human immunodeficiency virus (HIV), hepatitis B and C, and the QuantiFERON-TB Gold test (Qiagen, Germantown, MD, USA)- were obtained from the hospital's electronic laboratory records. Additionally, C-reactive protein (CRP) levels were recorded before and after secukinumab treatment (Table 2). Clinical response, adverse events, and relevant laboratory parameters documented at each follow-up visit were systematically evaluated.

Secukinumab was administered at a dosage of 300 mg once weekly during the initial month (on days 0, 7, 14, 21, and 28), followed by a maintenance dose every 4 weeks thereafter. HS severity was assessed using the IHS4, and treatment response was evaluated based on changes from baseline (Table 1). HiSCR50 was used as the primary endpoint. HiSCR50 was defined as a ≥50% reduction in the total number of inflammatory nodules, with no increase in the number of abscesses or draining fistulas compared to baseline.

CRP and IHS4 values before and after treatment were compared using the Wilcoxon signed-rank test, given the limited sample size and non-normal data

TABLE 1: Baseline characteristics of all patients

Patient	Age (years)/sex	Age at onset of HS (years)	Duration of disease (years)	Hurley stage before treatment	Duration of therapy (months)	IHS4 before treatment	IHS4 after treatment	Comorbidities	Previous medications
1	35/M	20	15	3	12	12	2	Smoking+Pilonidal sinus Acne conglobata	Adalimumab
2	66/M	52	14	3	24	25	12	Smoking-Pilonidal sinus Diabetes mellitus Umbilical hernia	Adalimumab
3	42/M	22	20	3	9	10	5	Smoking+Diabetes mellitus Hypertension	Adalimumab Infliximab
4	50/M	39	11	3	2	7	5	Smoking+Diabetes mellitus Hypertension Chronic kidney failure	Adalimumab
5	60/M	58	2	1	19	3	1	Smoking-Congestive heart failure Ischemic stroke injury	Doxycycline
6	55/M	37	18	3	12	25	13	Smoking+Diabetes mellitus	Adalimumab
7	22/M	14	7	2	5	6	1	Smoking+Psoriasis vulgaris	Methotrexate
8	21/M	13	8	2	10	6	4	Smoking-Pilonidal sinus Acne conglobata	Adalimumab

HS: Hidradenitis suppurativa; IHS4: International Hidradenitis Suppurativa Severity Score System; M: Male

TABLE 2: Laboratory test CRP of all patients

Patient	Age (years)/sex	CRP before treatment	CRP after treatment
1	35/M	5.14	3.90
2	66/M	53.73	24.99
3	42/M	62.62	20.92
4	50/M	9.90	18.9
5	60/M	5.66	2.41
6	55/M	120.48	53
7	22/M	5.66	2.20
8	21/M	31	8,41

CRP: C-reactive protein; M: Male

distribution. For all analyses, statistical significance was set at $p=0.05$.

ETHICAL APPROVAL

This study was conducted in accordance with the principles of the Declaration of Helsinki. The Ethics Committee of the Bezmiâlem Vakıf University approved the study with an approved number of April 1, 2024-146737. The patients in this manuscript have given written informed consent to the publication of their case details.

RESULTS

We evaluated 8 patients, aged between 21-66 years, with a median age of 46 years. The disease duration ranged from 2 to 18 years, with a median duration of 17.5 years. A detailed summary of patient characteristics is provided in Table 1. Of these, 7 patients had moderate to severe HS classified as Hurley stage II or III, while one patient had mild HS, categorized as Hurley stage I. Six of the 8 patients had previously received at least one biologic agent (adalimumab or infliximab) but demonstrated an inadequate clinical response. One patient with Hurley stage I disease who was refractory to systemic antibiotic therapy (Patient 5) was ineligible for anti-TNF treatment due to contraindications, including congestive heart failure and a history of ischemic stroke. Therefore, off-label secukinumab therapy was initiated. In another patient (Patient 7), secukinumab was selected as the first-line biologic therapy due to the presence of concomitant moderate-to-severe plaque psoriasis. Serologic tests for HIV, hepatitis B, and hepatitis C, as well as the QuantiFERON-TB Gold test, were all negative. Smoking was the most frequent comorbidity, affecting 62.5% of the cohort, followed by dia-

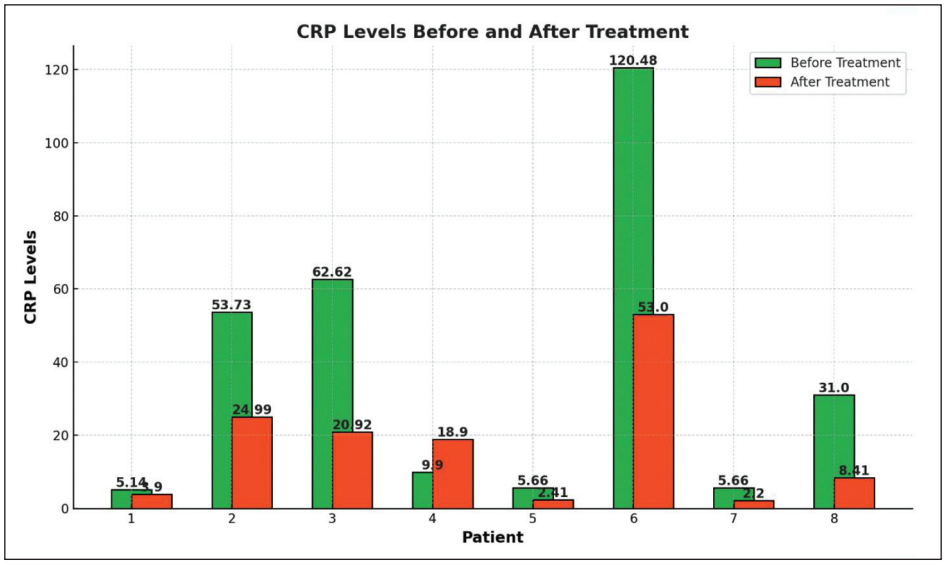

FIGURE 1: Comparison of C-reactive protein (CRP) levels before and after secukinumab treatment.

betes in 50%, pilonidal sinus disease in 37.5%, and acne conglobata in 25% of patients. One patient required a reconstructive surgical intervention during the treatment period. Seven patients (87.5%) exhibited a reduction in CRP levels (patients 1, 2, 3, 5, 6, 7, and 8), as shown in Table 2 and Figure 1. One patient developed pneumonia 2 months into secukinumab therapy and required hospitalization; this individual had chronic renal failure as a comorbidity. CRP levels did not decrease in this case, likely due to the pneumonia. The median CRP level decreased from 20.45 mg/L at baseline to 13.66 mg/L after treatment; however, this reduction was not statistically significant (p=0.0547). The duration of secukinumab treatment and the corresponding changes in IHS4 scores for each patient are presented in Table 1. Notably, all patients (100%) demonstrated improvement in IHS4 scores compared to baseline, and 87.5% (7 out of 8) achieved the HiSCR50 response following secukinumab treatment. In one patient (Patient 1), HiSCR50 was not achieved due to an increase in inflammatory nodules, despite a reduction in sinus tract formation. The median IHS4 score showed a significant decrease from 8.5 to 4.5, reflecting a notable clinical improvement (p=0.0078). No serious adverse events were observed, except for a case of pneumonia in 1 patient.

DISCUSSION

HS is a chronic inflammatory dermatological condition affecting areas in apocrine glands, primarily the axillae, inguinal, and anogenital regions. The disease is now recognized as an inflammatory process from the hair follicle, though its exact pathogenesis remains only partially understood. Elevated levels of IL-1β and tumor necrosis factor-alpha (TNF-α) have been identified in affected skin, indicating a role for the innate immune system.[3] Additionally, upregulated expression of IL-12, IL-17, and IL-23 has been reported in HS lesions.[4] Recent studies have demonstrated a marked increase in IL-17-expressing cells in both lesional and perilesional skin of patients with HS, suggesting a potential role in the initiation and amplification of inflammatory pathways.[5] Neutrophils have been identified as the predominant source of IL-17 in HS, whereas $CD4^+$ T cells [T helper 17 (Th17) cells] were present in substantially lower numbers. These findings suggest that although $CD4^+$ T cells contribute to IL-17 production, neutrophils may play a more prominent role, further supporting the involvement of the IL-17 pathway in HS pathogenesis. Consistent with the aforementioned study, Matusiak et al. reported significantly elevated serum IL-17 levels in HS patients compared to

healthy controls.[6] These findings emphasize the importance of IL-17 in the pathogenesis of HS and highlight the need for clinical studies evaluating anti-IL-17 therapies. Accordingly, secukinumab became the first IL-17A inhibitor approved by FDA in October 2023 for the treatment of adults with moderate-to-severe HS. Recent clinical trials, including the SUNSHINE (n=541) and SUNRISE (n=543) studies, have provided valuable insights into the efficacy and safety profile of secukinumab. Patients with moderate-to-severe HS were randomized to receive secukinumab 300 mg every 2 weeks, every 4 weeks, or a placebo. In the SUNSHINE trial, the group receiving secukinumab every 2 weeks achieved a significantly higher clinical response (81.5 patients or 45% of 181) compared to the placebo group (60.7 patients or 34% of 180), with an odds ratio of 1.8 (p=0.0070). Conversely, no significant difference was observed between the secukinumab every-4-weeks group (75.2 patients or 42% of 180) and the placebo (57.1 patients or 31% of 183; p=0.042). The SUNRISE trial demonstrated significant clinical improvements for both the biweekly (76.2 patients or 42%) and the monthly (83.1 patients or 46%; p=0.0022) secukinumab groups compared to the placebo (57.1 patients or 31%).[7] Similarly, in our study, all patients treated with 300 mg monthly secukinumab showed a reduction in IHS4 scores, and 87.5% achieved a HiSCR50 response.

Several recent case series, case reports, and retrospective studies have reported promising real-world data regarding the efficacy of secukinumab. In a 52-week real-world study, Martora et al. reported that among 21 HS patients who failed adalimumab, 71.4% achieved HiSCR response. Significant improvements in IHS4, Dermatology Life Quality Index (DLQI), and visual analog scale pain scales were recorded at both weeks 16 and 52.[8] An open label trial of 20 patients with moderate-to-severe HS, including 6 with prior anti-TNF-α therapy, showed that 70% (n=14) achieved HiSCR by week 24. Notably, 5 of the 6 patients previously treated with anti-TNF-α agents also reached HiSCR at the same time point. Although DLQI scores improved by 4±6 points at week 12, no significant improvement was observed at week 24.[9] A multicenter Italian retrospective study in 31 patients with moderate-to-severe HS reported a reduction in IHS4 scores and a HiSCR response rate of 41% at week 28. These findings are lower than those reported in other studies.[10] In another study focusing on drug survival, 24 patients with moderate-to-severe HS were treated with secukinumab, initially administered weekly for 5 weeks and then every 4 weeks as maintenance. The median drug survival was 16 months, with a peak response rate of 56.5% at 6 months and a dropout rate exceeding 40% at 1 year. The study highlights the importance of the induction phase and suggests that 6 months is a critical point for evaluating treatment efficacy.[11] In our study, the longest duration of secukinumab treatment was 24 months in 1 patient (Patient 2). Additionally, 4 out of 8 patients (50%) continued treatment for more than 12 months.

Comorbidities are prevalent among HS patients, contributing to the overall disease burden. A Spanish cohort study identified pilonidal sinus disease in 32.6% (269 of 839) of patients, which correlated with an earlier HS onset, higher Hurley stage, inflammatory phenotype, and increased fistulae and perianal involvement.[12] Additionally, a Turkish cross-sectional study reported significantly higher smoking rates among HS patients than in controls.[13] In our cohort, smoking (62.5%) was the most common comorbidity, followed by diabetes (50%), pilonidal sinus disease (37.5%), and acne conglobata (25%). One patient (patient 7) with concurrent psoriasis experienced a notable decrease in their Psoriasis Area and Severity Index (PASI) score from 10.3 to 0 after 6 months of secukinumab therapy, indicating effective treatment for both conditions.

In patients with HS, elevated serum levels of proinflammatory cytokines, CRP, and erythrocyte sedimentation rate (ESR) have been observed, reflecting the presence of systemic inflammation compared to healthy controls. These inflammatory markers tend to increase with the severity of clinical inflammation and indicate the systemic inflammatory burden, especially in severe disease. Among them, IL-6, CRP, and ESR are considered helpful in evaluating the severity of inflammation in HS.[14,15] Furthermore, the evaluation of inflammatory biomarkers, including CRP, ESR, and serum amy-

loid A, plays a key role in monitoring disease severity and assessing the risk of complications.[16] Identifying serum biomarkers that can predict treatment response in patients with HS is essential. While several serum biomarkers have been investigated in relation to adalimumab response, data on biomarkers predicting response to secukinumab remain limited.[17] In our study, seven patients (87.5%) showed a decrease in CRP levels during treatment. However, one patient (Patient 4) developed pneumonia 2 months after initiating secukinumab and required hospitalization. The cause of pneumonia remains unclear and may be related either to the immunosuppressive effect of secukinumab or to the patient's underlying chronic kidney disease. Despite elevated CRP levels, Patient 4 demonstrated improvement in the IHS4 score. Our study is valuable as it is one of the few that have reported changes in CRP levels as an inflammatory biomarker in HS patients treated with secukinumab.

CONCLUSION

In summary, our findings suggest that secukinumab may represent a promising and well-tolerated treatment option for patients with HS. However, due to limitations such as the small sample size, caution is warranted in generalizing these results. Further research involving larger and longer-term clinical trials is necessary to establish the long-term efficacy and safety profile of secukinumab in HS management.

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During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Güllü Gencebay;* ***Design:*** *Güllü Gencebay;* ***Control/Supervision:*** *Özlem Su Küçük;* ***Data Collection and/or Processing:*** *Nisan Çetin Yetimova;* ***Analysis and/or Interpretation:*** *Güllü Gencebay;* ***Literature Review:*** *Didem Dizman, Nisan Çetin Yetimova;* ***Writing the Article:*** *Güllü Gencebay;* ***Critical Review:*** *Özlem Su Küçük;* ***References and Fundings:*** *Güllü Gencebay;* ***Materials:*** *Güllü Gencebay.*

REFERENCES

1. Midgette B, Garg A. Epidemiology of hidradenitis suppurativa and its comorbid conditions. J Am Acad Dermatol. 2024;91(6S):S3-7. [Crossref] [PubMed]
2. Gao JL, Otto TS, Porter ML, Kimball AB. Hidradenitis suppurativa: new targets and emerging treatments. Am J Clin Dermatol. 2024;25(5):765-78. [Crossref] [PubMed]
3. van der Zee HH, de Ruiter L, van den Broecke DG, Dik WA, Laman JD, Prens EP. Elevated levels of tumour necrosis factor (TNF)-α, interleukin (IL)-1β and IL-10 in hidradenitis suppurativa skin: a rationale for targeting TNF-α and IL-1β. Br J Dermatol. 2011;164(6):1292-8. [PubMed]
4. 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. [PubMed]
5. Kelly G, Hughes R, McGarry T, van den Born M, Adamzik K, Fitzgerald R, et al. Dysregulated cytokine expression in lesional and nonlesional skin in hidradenitis suppurativa. Br J Dermatol. 2015;173(6):1431-9. [PubMed]
6. Matusiak Ł, Szczęch J, Bieniek A, Nowicka-Suszko D, Szepietowski JC. Increased interleukin (IL)-17 serum levels in patients with hidradenitis suppurativa: implications for treatment with anti-IL-17 agents. J Am Acad Dermatol. 2017;76(4):670-5. [Crossref] [PubMed]
7. Kimball AB, Jemec GBE, Alavi A, Reguiai Z, Gottlieb AB, Bechara FG, et al. Secukinumab in moderate-to-severe hidradenitis suppurativa (SUNSHINE and SUNRISE): week 16 and week 52 results of two identical, multicentre, randomised, placebo-controlled, double-blind phase 3 trials. Lancet. 2023;401(10378):747-61. Erratum in: Lancet. 2024;403(10427):618. [PubMed]
8. Martora F, Marasca C, Cacciapuoti S, Fariello F, Potestio L, Battista T, et al. Secukinumab in hidradenitis suppurativa patients who failed adalimumab: a 52-week real-life study. Clin Cosmet Investig Dermatol. 2024;17:159-66. [PubMed] [PMC]
9. Casseres RG, Prussick L, Zancanaro P, Rothstein B, Joshipura D, Saraiya A, et al. Secukinumab in the treatment of moderate to severe hidradenitis suppurativa: results of an open-label trial. J Am Acad Dermatol. 2020;82(6):1524-6. [PubMed]
10. Ribero S, Ramondetta A, Fabbrocini G, Bettoli V, Potenza C, Chiricozzi A, et al. Effectiveness of secukinumab in the treatment of moderate-severe hidradenitis suppurativa: results from an Italian multicentric retrospective study in a real-life setting. J Eur Acad Dermatol Venereol. 2021;35(7):e441-2. [Crossref] [PubMed]

11. Roccuzzo G, Repetto F, Giordano S, Sarda C, Comes A, Dapavo P, et al. Anti-IL17 secukinumab in hidradenitis suppurativa: a long-term drug survival analysis. Exp Dermatol. 2024;33(7):e15140. [PubMed]
12. Ureña-Paniego C, Gamissans-Cañada M, Molina-Leyva A, Romaní J. Pilonidal sinus disease is associated with severe hidradenitis suppurativa in a Spanish Cohort. Acta Derm Venereol. 2023;103:adv6569. [PubMed] [PMC]
13. Akdogan N, Alli N, Uysal PI, Topcuoglu C, Candar T, Turhan T. Visfatin and insulin levels and cigarette smoking are independent risk factors for hidradenitis suppurativa: a case-control study. Arch Dermatol Res. 2018;310(10):785-93. [PubMed]
14. Riis PT, Søeby K, Saunte DM, Jemec GB. Patients with hidradenitis suppurativa carry a higher systemic inflammatory load than other dermatological patients. Arch Dermatol Res. 2015;307(10):885-9. [Crossref] [PubMed]
15. Jiménez-Gallo D, de la Varga-Martínez R, Ossorio-García L, Albarrán-Planelles C, Rodríguez C, Linares-Barrios M. The clinical significance of increased serum proinflammatory cytokines, C-reactive protein, and erythrocyte sedimentation rate in patients with hidradenitis suppurativa. Mediators Inflamm. 2017;2017:2450401. [PubMed] [PMC]
16. Akdogan N, Dogan S, Incel-Uysal P, Karabulut E, Topcuoglu C, Yalcin B, et al. Serum amyloid A and C-reactive protein levels and erythrocyte sedimentation rate are important indicators in hidradenitis suppurativa. Arch Dermatol Res. 2020;312(4):255-62. [PubMed]
17. Cao Y, Hong F, Conlon DM, Sidur L, Smith KM, Fang Y, et al. Potential predictive biomarkers of adalimumab response in patients with hidradenitis suppurativa. Br J Dermatol. 2021;185(4):804-14. [PubMed]