SJIF Impact Factor: 6.711

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 9
Issue: 4
Page N. 176-180
Year: 2025

Original Article www.wjahr.com

LONG TERM ADALİMUMAB EFFİCACY ON HİDRADENİTİS SUPPURATİVA TREATMENT: MONO CENTER REAL LİFE DATA

Elif Günay[1]* and Meltem Türkmen[1]

T.C. Health Science University İzmir Bozyaka Education and Research Hospital, Dermatology Clinic, İzmir.

Article Received date: 25 February 2025 **Article Revised date:** 18 March 2025 **Article Accepted date:** 06 April 2025

***Corresponding Author: Elif Günay**

T.C. Health Science University İzmir Bozyaka Education and Research Hospital, Dermatology Clinic, İzmir.

Email ID: elifgunay@gmail.com,

ABSTRACT

Background: Hidradenitis suppurativa is a chronic inflammatory and disrupting disease of pilosebaceous unit. Its advanced grade forms are treated with Adalimumab, an anti-TNF agent. Adalimumab is safe and effective on hidradenitis suppurativa both with original molecule and its biosimilar. **Objectives:** Presenting efficacy and safety of both original and biosimilar forms of adalimumab on 300 hidradenitis suppurativa patients. **Methods:** 300 hidradenitis suppurativa with Hurley stage II and III patients using adalimumab therapy followed for 108 week in our clinic and their data were analyzed retrospectively.with the Friedman test followed by post hoc Dunn's multiple comparison test. Comparison of variables in two groups at the same time point was performed with the Mann Whitney U test. **Results:** Reaching HiSCR was 78 % at week 108 and no side effect was detected on patients.. Dermatological life quality index of patients was improved from 25.2 to 6.8 on the end of 108 week period. **Conclusion:** Adalimumab is safe, effective on Hidradenitis suppurativa patients and provides improvement on quality of life both with original and biosimilar forms.

KEYWORDS: Hidradenitis suppurativa, addalimumab, biosimilar.

1. INTRODUCTİON

Hidradenitis suppurativa (HS) is a chronic inflammatory disease of pilosebaceous unit, causing painful abcess, nodules, fistules, and scarring long term. Hidradenitis suppurativa affects typically intertriginous areas such as axilla, anogenital and inter- inframammarian region.[1]

Females are 3 times more affected with approximately 3:1 ratio. Prevalance of HS varies 0.01% -4.1%.[2]

Hidradenitis suppurativa is related with other comorbidities mostly metabolic syndrome, diabetes, smoking and follicular occlusion tetrad. HS is causing disintegration from people, physical, emotional and sexual disorders in time.[3]

1.1 Patophysiology

HS is an inflammatory disease affected from environmental, genetic and immune factors. Disregulation of keratinization and innate and adaptive immunity on hair follicle are the keypoints.[1,3]

Follicular occlusion due to hyperkeratosis and epithelieal hyperplasia is causing follicular dilatation and rupture. Scattering of follicular ingredient (keratin, bacteria) into the dermis triggers inflammatory process with neutrophil, monocyte, macrophages, T- and B-lymphocytes migration to the region.[1]

1.2 Evaluation

Early diagnosis and interventing rapidly to the disease is important on HS.

Clinical setting of severity of HS is mostly determined with Hurley Scale in 3 Stages worldwide.

Hurley staging system is including counts of pustules, nodules, abcess, sinusses and scarring lesions with distribution of disease region.[3]

Table 1. Hurley Classification.

Class I	Solitary or multiple abcess or nodules without sinus tract formation
Class II	Recurrent abcess and sinus tract formation on ≥1 body area
Class III	Widely involvement with interconnected inflammatory sinus tract formation and abcesses

1.3 Treatment

Hurley stage I-II patients are treated with topical-systemic antibiotherapy and systemic retinoids as first line therapy[2,3] but Hurley stage II patients non-responding to initial therapies and stage III patients are needed immunsupressive agents and lasers or surgical procedures (scarectomy, de-roofing)[3,4,8] beside pain management, lifestyle changings such as weight loss, smoking cessation and controlling metabolic syndrom if exists.[2,3]

-Biologic Therapy

Adalimumab (ADA) is the only biologic agent approved by FDA and in Eupean union, Japan and Canada for HS treatment.[1,2,5,6] ADA is a monoclonal human antibody binding to soluble and transmembrane TNF-α spesifically[1-4,7]; inhibits interaction of TNF-α and TNF-α receptors P55 and p75 on the cell surface, providing disruption of cytokine induced inflammation by disease.[7]

2. Retrospective Study

2.1 Methods

We analyzed data of the 300 patient diagnosed as moderate and severe (Hurley Class III-IV) HS, nonresponsed to traditional treatments and treated with adalimumab (169 with original, 131with biosimilar molecule) 40mg/ weekly for min. 2 years long in our clinic.

İnclusion and safety assesments

All the patients were;

-being >18 years old

-resistant to standard medical treatment

-having multifocal active HS

2.1.1 Statistics

Statistical analysis was performed with IBM SPSS 20.0 software.

Comparison of variables within the same group overtime was performed with the Friedman test followed by post hoc Dunn's multiple comparison test. Comparison of variables in two groups at the same time point was performed with the Mann Whitney U test.

All tests were two-tailed and the level of significance was set at 0.05. All values are showed as mean ± SEM unless otherwise stated.

2.2 Demographics

They were enrolled 132 women and 168 men in study, aged between18- 69 years (μ: 43.5). Their abcess and inflammatory nodules (AN) were counted before adalimumab therapy. They all were resistant to standard treatments.

Exclusion criteria

-pregnancy

-newly diagnosed systemic disease

300 patients; 119 patient were Hurley Stage II and 181 of them Hurley Stage III. Their disease durations were 4-22 years (μ: 12.8).

Before adalimumab therapy, Dermatology Life Quality İndex (DLQI) and Pain scores (between 1 to 10) were calculated, blood examinations for biochemical pannel, blood count and viral hepatitis were performed and also chest X-ray and Quantiferon test performed to establish possible latent tuberculosis and if existing; they were taken tuberculosis prophylaxis with isoniazid.

Their clinic response HiSCR (at least a 50% decrease in total AN count, with no increase in abscess and in draining fistula count relative to initial count) were recorded.

All the patients were treated with 160 mg 0. week initial dose, 80 mg 2nd week loading dose and from 4th week 40 mg /week maintenance dose adalimumab subcutaneous.

Patients were closely followed up for side effects and infections.

The changings about DLQI and pain parameters calculated and their HiSCR on 12., 52. and 108. week records were analyzed.

2.3 RESULTS

Before therapy, pain scores were 8.2±1.7, and were recalculated and recorded as; week 12 6.4± 2.04, week 52: 2.8± 1.5 and week 108: 1.9± 2.3.

DLQI scores were calculated 25.2± 3.1 initially, and were recalculated and recorded as week 12: 10.3± 2.5, week 52: 6.8± 1.7 and week 108: 3.4± 1.2.

At 108. Week, 78 % of the patients were reached HiSCR.

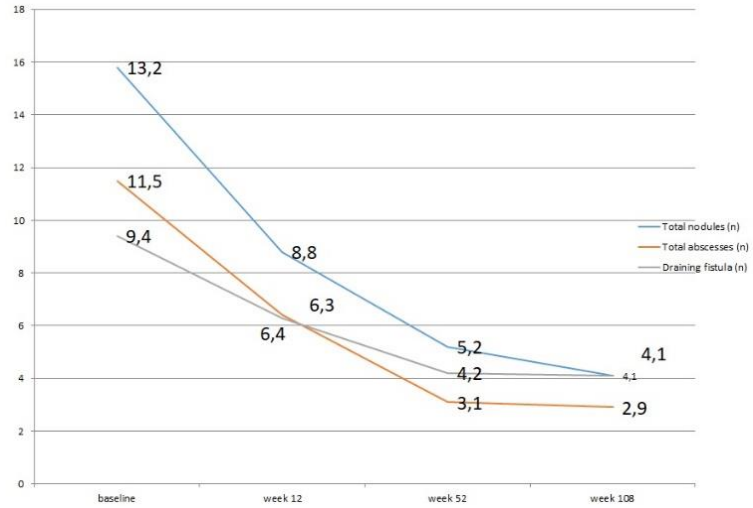

Figure 1. Improvement of lesions by weeks

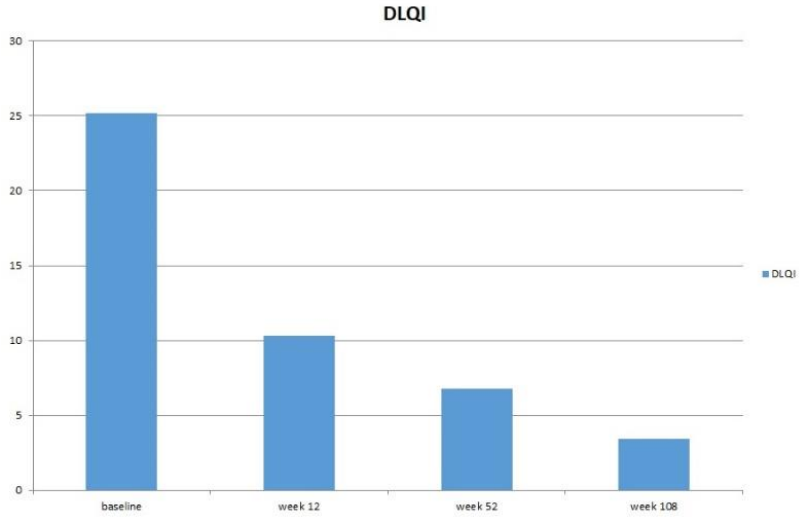

Figure 2. Improvement on dermatological life quality index (DLQI) by weeks

3. DISCUSSİON

Adalimumab is the only FDA approved molecule[4] as biologic treatment. with most efficacy and tolerability ratio for moderate- to severe HS nonresponsible to conventional therapies.[8]

Guidelines are suggesting more biologics beside adalimumab like infliximab, apremilast, anakinra, ustekinumab, etanercept etc.[4] but most of last wide clinical series are about adalimumab[6, 9] and meta analysis are about adalimumab and bimekizumab efficacy on HS.[9, 10]

A recent meta- analysis, including studies performed with adalimumab, anakinra, apremilast, avacopan, bimekizumab, CJM112, etanercept, guselkumab, IFX-1, INCB054707, infliximab and MABp1, presented that only adalimumab and bimekizumab were significantly superior to placebo in achieving HiSCR response, with no significant difference noted between adalimumab and bimekizumab (p=0.56).[10] A newly meta analysis with 7 biological agent (adalimumab, sekukinumab, bimekizumab, CJM112, IFX-1) and avacopan showed similar result for two agents being superior to placebo in HiSCR ratio[11] and the two meta analysis bimekizumab and adalimumab had higher probability of exhibiting DLQI 0/1 at week 12 to 16 compared with placebo.

In PIONEER I-II, their open label extension study had shown reaching HiSCR ratio 66.7 % of patients taken ADA 40 mg weekly[9, 12] and similar to PIONEER extension study, 78 % of our 300 patients were achieved HiSCR at week 108 during their follow up.

We observed that none of the patients had opportunistic infection, no events of active tuberculosis, demyelinisant disorder, lymphoma, nonmelanoma skin cancer, no other malignancies or death on follow up. More years of follow- up period is necessary about observing long term effects though.

Usage of adalimumab and biosimilar adalimumab are well studied and widely used on the treatment of immune auto-inflammatory diseases such as psoriasis, rheumatoid

arthritis, Crohn's disease, inflammatory bowel disease, ulcerative colitis within extrapolation concept worldwide[13] on moderate and severe hidradenitis suppurativa treatment in recent years in Europe and United States.[3,4,8] There are existing financial problems about the cost of biologic therapies and accesing them is restricted from national health policies. Many clinicians prefer biosimilars to decrease the cost and to provide effective treatment available for more patients. For moderate-to severe HS patients, it is important to beginning biological treatment as early as possible, better, before formation of sinus tracts to reach faster clinical response.[13,14]

Our patients were treated with many topical agents and antibiotic drugs before referring to our clinic; their tardy HiSCR would be related to delay accesing biological treatment.

Studies with originator adalimumab and its biosimilars are putting forth different results. Ricceri et. al retrospectively investigated biosimilar adalimumab SB5 treatment on bio-naïve and bio-experienced patients switched to biosimilar in their study and they determined no significant difference between results in terms of safety, efficacy/ clinical remission rates, infections and other side effects.[15]

Rocuzzo et. al determined that switching form originator adalimumab to biosimilar has no significant difference on efficacy but high discontinuaton rates because of injection site pain. When discontinuing patients were re-switched to originator, tolerability was increased.[16] On the other hand, Burlando et.al investigated patients treated with originator adalimumab, biosimilar and switching from one to other; they presented that the loss of efficacy on switchers are significantly higher than non- switchers whether taking originator or biosimilar. Beside that, re-switch to previous agent does not provide return the former efficacy and the study offers to maintain clinical response continuing with the same agent during whole treatment of a patient, not to try switching.[2] Similar to that, in our study, all of 300 patients were treated with the same molecule from beginning to end of 108 week follow up and their clinical responses did not differ significantly. 78% of our patients were reached HiSCR at the week 108 on follow up. No side effects including injection site pain, infections, lymphoma, cutaneous or extracutaneous malignancies were detected. None of the patients showed significant decrease of clinical response on 108 weeks of follow up.

With this analysis, we determined that adalimumab treatment both with original molecule and with biosimilar, is effective and safe as biologic therapy on hidradenitis suppurativa.

Conflict of interest

None declared.

REFERENCES

1. Markota Čagalj A, Marinović B, Bukvić Mokos Z. New and Emerging Targeted Therapies for Hidradenitis Suppurativa. Int J Mol Sci., 2022 Mar 29; 23(7): 3753.
2. Burlando M, Fabbrocini G, Marasca C, Dapavo P, Chiricozzi A, Malvaso D, Dini V, Campanati A, Offidani A, Dattola A, Caro RDC, Bianchi L, Venturini M, Gisondi P, Guarneri C, Malara G, Trifirò C, Malagoli P, Fargnoli MC, Piaserico S, Carmisciano L, Castelli R, Parodi A. Adalimumab Originator vs. Biosimilar in Hidradenitis Suppurativa: A Multicentric Retrospective Study. Biomedicines, 2022 Oct 9; 10(10): 2522.
3. Alikhan A, Sayed C, Alavi A, Alhusayen R, Brassard A, Burkhart C, Crowell K, Eisen DB, Gottlieb AB, Hamzavi I, Hazen PG, Jaleel T, Kimball AB, Kirby J, Lowes MA, Micheletti R, Miller A, Naik HB, Orgill D, Poulin Y. North American clinical management guidelines for hidradenitis suppurativa: A publication from the United States and Canadian Hidradenitis Suppurativa Foundations: Part I: Diagnosis, evaluation, and the use of complementary and procedural management. J Am Acad Dermatol., 2019 Jul; 81(1): 76-90.
4. Orenstein LAV, Nguyen TV, Damiani G, Sayed C, Jemec GBE, Hamzavi I. Medical and Surgical Management of Hidradenitis Suppurativa: A Review of International Treatment Guidelines and Implementation in General Dermatology Practice. Dermatology, 2020; 236(5): 393-412.
5. Lipa K, Zając N, Witkowski G, Ciechanowicz P, Wiszniewski K, Szymańska E, Walecka I. Hidradenitis suppurativa - biologic therapy and other available treatment options. Postepy Dermatol Alergol., 2023 Aug; 40(4): 518-528.
6. Hafner A, Ghislain PD, Kovács R, Batchelor R, Katoulis AC, Kirby B, Banayan H, Schonbrun M. Improvement in Hidradenitis Suppurativa and quality of life in patients treated with adalimumab: Real-world results from the HARMONY Study. J Eur Acad Dermatol Venereol., 2021 Nov; 35(11): 2277-2284.
7. Ellis CR, Azmat CE. Adalimumab. 2023 Nov 12. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan–. PMID: 32491812.
8. Zouboulis CC, Desai N, Emtestam L, Hunger RE, Ioannides D, Juhász I, Lapins J, Matusiak L, Prens EP, Revuz J, Schneider-Burrus S, Szepietowski JC, van der Zee HH, Jemec GB. European S1 guideline for the treatment of hidradenitis suppurativa/acne inversa. J Eur Acad Dermatol Venereol., 2015 Apr; 29(4): 619-44.
9. Kimball AB, Okun MM, Williams DA, Gottlieb AB, Papp KA, Zouboulis CC, Armstrong AW, Kerdel F, Gold MH, Forman SB, Korman NJ, Giamarellos-Bourboulis EJ, Crowley JJ, Lynde C, Reguiai Z, Prens EP, Alwawi E, Mostafa NM, Pinsky B, Sundaram M, Gu Y, Carlson DM, Jemec GB. Two Phase 3 Trials of Adalimumab for Hidradenitis

Suppurativa. N Engl J Med., 2016 Aug 4; 375(5): 422-34.
10. Huang CH, Huang IH, Tai CC, Chi CC. Biologics and Small Molecule Inhibitors for Treating Hidradenitis Suppurativa: A Systematic Review and Meta-Analysis. Biomedicines, 2022 Jun 2; 10(6): 1303.
11. Tsai YC, Hung CY, Tsai TF. Efficacy and Safety of Biologics and Small Molecules for Moderate-to-Severe Hidradenitis Suppurativa: A Systematic Review and Network Meta-Analysis. Pharmaceutics, 2023 Apr 28; 15(5): 1351.
12. Bechara FG, Podda M, Prens EP, Horváth B, Giamarellos-Bourboulis EJ, Alavi A, Szepietowski JC, Kirby J, Geng Z, Jean C, Jemec GBE, Zouboulis CC. Efficacy and Safety of Adalimumab in Conjunction With Surgery in Moderate to Severe Hidradenitis Suppurativa: The SHARPS Randomized Clinical Trial. JAMA Surg., 2021 Nov 1; 156(11): 1001-1009.
13. Kay J, Cross RK, Feldman SR, Park Y, Hanauer SB. Review of Adalimumab Biosimilar SB5 in Immune-Mediated Inflammatory Diseases. Adv Ther., 2024 Feb; 41(2): 509-533.
14. Marzano AV, Genovese G, Casazza G, Moltrasio C, Dapavo P, Micali G, Sirna R, Gisondi P, Patrizi A, Dini V, Bianchini D, Bianchi L, Fania L, Prignano F, Offidani A, Atzori L, Bettoli V, Cannavò SP, Venturini M, Bongiorno MR, Costanzo A, Fabbrocini G, Peris K. Evidence for a 'window of opportunity' in hidradenitis suppurativa treated with adalimumab: a retrospective, real-life multicentre cohort study. Br J Dermatol., 2021 Jan; 184(1): 133-140.
15. Frew JW, Jiang CS, Singh N, Grand D, Navrazhina K, Vaughan R, Krueger JG. Dermal tunnels influence time to clinical response and family history influences time to loss of clinical response in patients with hidradenitis suppurativa treated with adalimumab. Clin Exp Dermatol., 2021 Mar; 46(2): 306-313.
16. Ricceri F, Rosi E, Di Cesare A, Pescitelli L, Fastame MT, Prignano F. Clinical experience with adalimumab biosimilar imraldi in hidradenitis suppurativa. Dermatol Ther., 2020 Nov; 33(6): e14387.
17. Roccuzzo G, Rozzo G, Burzi L, Repetto F, Dapavo P, Ribero S, Quaglino P. Switching from adalimumab originator to biosimilars in hidradenitis suppurativa: What's beyond cost-effectiveness? Dermatol Ther., 2022 Nov; 35(11): e15803.