

Adalimumab Treatment in a Case of Treatment-Resistant Acne Conglobata

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Received: 2024-06-02

Accepted: 2024-06-10

Published Online: 2024-06-13

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This study was presented as an oral presentation at the 31. National Dermatology congress held in Antalya on 18-22 October 2023.

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Dear Editors,

Acne conglobata is a chronic inflammatory disease that significantly impacts the quality of life due to the formation of numerous cystic nodules, sinus tracts and severe atrophic scars. Conventional treatments for acne conglobata include oral and topical antibiotics, systemic isotretinoin, and dapsone. Our patient had previously used all these agents, benefiting initially but later experiencing ineffectiveness or reduced efficacy. Anti-TNF agents used in the treatment of inflammatory diseases such as hidradenitis suppurativa have been demonstrated to be effective in acne conglobata through literature case presentations. In our case, we administered adalimumab with an 80 mg subcutaneous loading dose, followed by a weekly 40 mg subcutaneous maintenance dose. At the second week, nodular acne lesions decreased, and after nine months, there were no new acne eruptions, and existing nodules and cysts had completely regressed. Adalimumab may be a promising agent in cases of acne conglobata that are unresponsive to known guideline agents.

Acne conglobata is a rare chronic inflammatory disease that significantly impacts the quality of life due to the formation of numerous cystic nodules, abscesses, sinus tracts, and severe atrophic scars [1]. The pathogenesis of acne involves abnormal follicular keratinization, excessive sebum production, *Propionibacterium acnes* colonization, and inflammation [2]. *P. acnes* stimulates the release of IL-1B and TNF-alpha from keratinocytes, leading to an abnormal immune response and inflammation [3]. Therefore, anti-TNF therapy is considered to play a central role in suppressing inflammation in the pathogenesis. Here, we present a case of acne conglobata that was unresponsive to various treatments but showed successful results with adalimumab therapy.

A 34-year-old male patient with a 20-year history of widespread acne on the face and body presented to our clinic. Dermatological examination revealed draining nodules and atrophic scars on the face and body. The patient had previously undergone five courses of systemic isotretinoin at appropriate doses. Treatment with dapsone 3*50 mg initiated by our team resulted in a two-year remission with intermittent flare-ups. During flare-ups, systemic and topical antibiotic therapies such as oral tetracycline, cephalosporin, and azithromycin were

administered. No growth was observed in the cultures obtained from the lesions for gram-negative folliculitis. Endocrinological and immunological examinations were normal, with no history of inflammatory bowel disease. Laser epilation for hair was performed, but no expected benefit was observed. Due to the exacerbation of acne lesions and non-response to dapsone treatment, informed consent was obtained, and adalimumab treatment was initiated.

The patient received adalimumab at a subcutaneous loading dose of 80 mg, followed by a maintenance dose of 40 mg subcutaneously once a week, based on literature-derived case presentations. At the ninth month of treatment, the examination revealed regression of acne lesions with no new acne eruptions, and no adverse effects related to the medication were observed (Figs. 1 and 2).

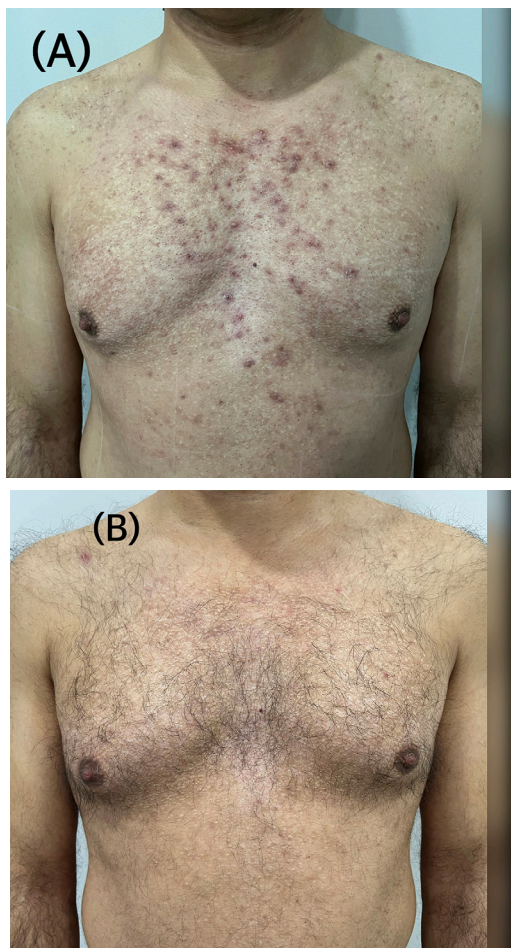


Figure 1. A: Inflammatory nodulocystic acne lesions on the patient's chest before treatment with adalimumab and **B:** 36 weeks after treatment with adalimumab.



Figure 2: Inflammatory nodulocystic acne lesions on the patient's face before and 36 weeks after treatment with adalimumab

Acne conglobata is typically seen in adult males, affecting the body and upper extremities more than the face [4]. It is part of the follicular occlusion tetrad along with dissecting cellulitis, hidradenitis suppurativa, and pilonidal sinus. Additionally, it may accompany syndromes such as SAPHO, PAPA, and PASH. Our case was a middle-aged male with acne conglobata for many years, showing no syndromic conditions or alignment with the follicular occlusion tetrad. Conventional treatments for acne conglobata include oral and topical antibiotics, systemic isotretinoin, and dapsone [5]. However, patients often show resistance and experience relapses. Our patient had previously used all these agents, benefiting initially but later experiencing ineffectiveness or reduced efficacy. Anti-TNF agents used in the treatment of inflammatory diseases such as hidradenitis suppurativa have been demonstrated to be effective in acne conglobata through literature case presentations. In a study by Sand et al. [6] an 18-year-old male with adalimumab treatment showed a decrease in nodular lesion size at the fourth week and complete regression at the twelfth week. Similarly, Yiu et al. [1] reported successful adalimumab treatment in a 26-year-old male with acne conglobata, with inflammatory nodules decreasing at the fourth week and disappearing entirely at the twelfth week. In our case, we administered adalimumab with an 80 mg subcutaneous loading dose, followed by a weekly

40 mg subcutaneous maintenance dose. At the second week, nodular acne lesions decreased, and after nine months, there were no new acne eruptions, and existing nodules and cysts had completely regressed.

In conclusion, adalimumab may be a promising agent in cases of acne conglobata that are unresponsive to known guideline agents. However, further studies are needed to validate its effectiveness in this context.

Regards,

Keywords: Acne, Adalimumab, TNF alfa

Acknowledgments: This study was presented as an oral presentation at the 31. National Dermatology congress held in Antalya on 18-22 october 2023.

Conflict of interest: None

Funding: None

Informed Consent:yes

Author Contributions: Conception: A - Design: A,B - Supervision:A,B - Fundings: NONE -Materials: A,B - Data Collection and/or Processing: A,B - Analysis and/or Interpretation:A,B- Literature: B - Review: A,B- Writing: B- Critical Review: A

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How to Cite;

Daye M, Kaya Bulut S (2024) Adalimumab Treatment in a Case of Treatment-Resistant Acne Conglobata. *Eur J Ther*. 30(4):562-564. <https://doi.org/10.58600/eurjther2220>