CLINICAL PRACTICE ARTICLE

Case report: Treating a combination of hidradenitis suppurativa and psoriasis with different therapeutic approaches [version 1; peer review: awaiting peer review]

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Abstract

Hidradenitis suppurativa and psoriasis are considered chronic inflammatory diseases suggesting the existence of common pathogenetic pathways. We present two cases of comorbid psoriasis and hidradenitis suppurativa, treated with certolizumab pegol and brodalumab due to failure of response to other conventional therapies. Monoclonal antibody therapies have revolutionized the treatment of chronic inflammatory disorders such as psoriasis and hidradenitis suppurativa. Given the good clinical response to anti-IL-17 and anti-tumor necrosis factor agents in patients undergoing psoriasis and hidradenitis treatment, investigations on this direction could represent the starting point in new therapeutic approach for revolutionary treatment in these difficult-to-treat diseases.

Keywords

hidradenitis suppurativa, psoriasis, certolizumab, brodalumab

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Introduction
Hidradenitis suppurativa (HS) and psoriasis are considered chronic inflammatory diseases suggesting the existence of common pathogenetic links\(^1\)\(^-\)\(^3\). Patients with psoriasis and HS have elevated levels of tumor necrosis factor (TNF) and interleukin-17 (IL-17) in lesional tissues, which has been the justification for selective targeting of these inflammatory pathways\(^4\)\(^-\)\(^7\). We present two cases of comorbidity of psoriasis and HS treated with certolizumab pegol and brodalumab due to the peculiarities of treatment with other therapies.

Case report
The first patient, a 27-year-old Caucasian woman, presented with extensive psoriasis covering her head, trunk, lower limbs over a period of 5 years, concomitant psoriatic arthritis with axial joint involvement (manifestations of hierolagonitis) over the previous 2 years and moderate HS-stage II (according to the Hurley staging system) on the axillae (Figure 1a, b, c, d, e) with considerable pain, discomfort and substantial negative effect on quality of life over the last year, despite the limited extent of the lesions. The patient didn’t have a positive family history for the above diseases and the molecular control for HLA-B27 was negative. Previous treatments with topical corticosteroids and methotrexate for one year were not effective and treatment with apremilast for 8 months didn’t offer clinical improvement. The patient underwent comprehensive laboratory investigations, including complete blood cell count, chemistry panel, tuberculosis (Quantiferon-TB Gold test), human immunodeficiency virus and hepatitis B and C screening and chest X-ray. Since all these examinations revealed values within normal limits and because of the patient’s desire for childbirth, she was treated with certolizumab pegol (CZP). The initial dose was 400mg, followed by 400mg every 2 weeks. Treatment with CZP significantly improved psoriasis and psoriatic arthritis at week 8 and HS at week 12 (Figure 1f–i). She continues treatment 9 months after and at 3 months follow-up is fully controlled.

The second patient, a 42-year-old Caucasian man, was referred to our hospital’s dermatological department with multiple, itchy, scaly, red-gray psoriatic plaques covering almost all his body: scalp, arms, trunk, thighs (Figure 2a–d) for the previous 6 months, over a history of 10 years psoriatic disease. The patient also experienced concomitant psoriatic arthritis with peripheral joint involvement and dactylitis discomfort over the previous 10 years, with moderate HS-stage II appearing on the groin area in the previous year. The above diseases had a negative impact factor on his quality of life. The patient’s family history was positive: his mother and sister were also suffering from psoriasis. The patient had until recently received almost all the available therapies related to his diseases: cyclosporine for 2 years interrupted due to urea and creatinin increase (examinations restored after discontinuation), methotrexate and golimumab for 3 years with improvement only in psoriatic arthritis, adalimumab ustekinumab and secukinumab, with a partial response. After a complete laboratory examination, with results in normal limits, the patient started therapy with brodalumab. The initial dose was
210 mg at weeks 0, 1, 2 followed by 210 mg every 2 weeks. His psoriasis and psoriatic arthritis were highly improved at week 8 (Figure 2 e–h), as was HS at week 16. He has continued treatment for 1 year; at 3 months follow-up he reported improvement in of his quality of life.

Discussion
Monoclonal antibody therapies have revolutionized the treatment of chronic inflammatory disorders such as psoriasis and HS. CZP is a TNF inhibitor that does not have a fragment crystallizable (Fc) region, which is normally present in a complete antibody and therefore it does not cause antibody-dependent cell-mediated cytotoxicity8–10. In contrast to other whole-antibody anti-TNFs, CZP crosses the placenta only by passive diffusion and could therefore be considered as the first-line choice of treatment for women who wish to become pregnant. Since CZP is an anti-TNF drug, therapies which have good clinical response in both psoriasis/psoriatic arthritis and HS, it was chosen as the treatment of choice in our case since it also has a safe profile for possible future pregnancy.

Brodalumab is a monoclonal antibody against human IL-17 receptor A (IL-17RA). Given its efficacy in psoriasis and its mechanism of action in psoriatic arthritis and HS, due to the patient’s non response to all the available treatment options it was decided its use on the above combination diseases11–14.

It is well known that psoriasis and HS likely share immunopathogenetic pathways, including involvement of IL-17 and TNF. Given the good clinical response to anti-IL 17 and anti-TNF drugs in psoriasis and HS treatment, investigations into this direction could represent a starting point for a new therapeutic approach for revolutionary treatment of two difficult to treat diseases.

Data availability
All data underlying the results are available as part of the article and no additional source data are required.

Consent
Written informed consent for publication of their clinical details and clinical images was obtained from the patients.
References


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