

Successful Treatment of Refractory Plaque-Type Psoriasis and Psoriatic Arthritis With Guselkumab and Adalimumab Combination Therapy: A Case Report

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ABSTRACT

Copy: A number of biologics have been approved for use in plaque-type psoriasis. They act by either blocking the action of a specific type of cell or protein in the immune system.

Case presentation: Herein, we report a case of a 46-year-old woman with a 12-year history of severe plaque psoriasis and psoriatic arthritis who was treated successfully with guselkumab and adalimumab after failure of prior topical corticosteroids, cyclosporine and narrow-band ultraviolet B (NBUVB) phototherapy.

Conclusion: There is limited data supporting the combination of biological agents in the management of psoriasis and psoriatic arthritis. This is the first case report of plaque psoriasis with arthritis, successfully treated with guselkumab and adalimumab combination therapy, without concurrent use of other systemic agents during the treatment. However, further studies need to be carried out to evaluate the efficacy and safety of this biologic combination therapy.

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INTRODUCTION

Psoriasis is a common, chronic, immune-mediated systemic disease with a relapsing and remitting course. Arthritis occurring in patients with psoriasis is termed as "psoriatic arthritis", which is a chronic inflammatory form of arthritis with a highly variable clinical presentation and is frequently associated with skin and nail psoriasis.[1-4] Biologic agents target specific steps in the immune cascade and interrupt the immune process contributing to psoriasis, unlike generalized immunosuppressive action of drugs such as methotrexate (MTX), cyclosporine, etc. They are manufactured proteins, generally well tolerated, and limited data have demonstrated them to be safe in moderate to severe plaque psoriasis for long-term use. However, they have been associated with a small increase in the risk for infection due to their immunosuppressive action.[5,6]

Case Presentation

A 46-year-old woman presented with a 12-year history of severe plaque psoriasis and psoriatic arthritis. She failed to respond to several prior treatments including topical corticosteroids, cyclosporine and NBUVB phototherapy. The PASI score was 42, so she was started with subcutaneous (SC) injections of adalimumab, 80 mg at week 0 and 1, and later 40 mg every 2 weeks, combined with subcutaneous 25 mg methotrexate administered weekly. Significant clearance of psoriatic plaques and the diminution of arthritis ensued after three months. The PASI score had reduced to 8. However, a few months later, she developed increased gastrointestinal intolerability and extreme fatigue. The patient was advised to discontinue use of methotrexate and adalimumab. Thereafter, guselkumab 100 mg SC was prescribed at week 0 and 4, and then every 8 weeks. But, the patient also continued to use adalimumab without informing the physician, considering increased effectiveness of the combined therapy. Two months later, she displayed almost completely clear skin and had no symptoms of psoriatic arthritis as well. The PASI score was 2 after the combination therapy.

No serious adverse effects were observed on follow up after 6 months with the combination therapy. She stated that she never felt symptomatically better and insisted on maintaining the 2-biologic regimen, but the physician discontinued adalimumab due to possible adverse effects of combination biologic therapy and continued only guselkumab every 8 weeks for the patient.

DISCUSSION

An armamentarium of treatment options available for advanced plaque psoriasis includes NBUVB phototherapy, psoralen with ultraviolet A light (PUVA), retinoids, methotrexate (particularly for arthritis), cyclosporine, and biological agents.[7,8] Few of the previous studies regard biological agents as third-line treatment for plaque psoriasis following inadequate response to topical treatment, phototherapy, and non-biologic systemic medications. Individuals with psoriasis may develop neutralizing antibodies against monoclonal antibody medications, thereby decreasing the effectiveness of these medications.[9,10] Our patient, receiving combination treatment with adalimumab and guselkumab experienced a great reduction in both the signs and symptoms of the psoriatic disease without any adverse effect during therapy. The combination biologic therapy or treatment with guselkumab alone was found to achieve PASI 90 in most patients when administered as a monotherapy.[11] Babino et al evaluated the combination therapy with etanercept in psoriasis and demonstrated that short-term co-medication in combination with etanercept may optimize treatment options and improve long-term survival in patients with psoriasis.[12] However, it was not the same in the study conducted by Bruzzese et al, who evaluated new onset or worsening of the disease following biologic therapy. Six patients were receiving a biologic monotherapy, while four patients were in combination treatment with MTX. Psoriasis remission was observed in two patients who discontinued biologic therapy. In the six patients in whom biologic therapy was not discontinued, a complete disappearance or a partial improvement of skin lesions was achieved following topical steroid therapy in two patients and three patients, respectively. In the remaining patient, psoriasis developed during adalimumab monotherapy, which completely disappeared when the infliximab and MTX combination was started.[13] Babalola et al[14] demonstrated a great reduction in both the signs and symptoms of psoriatic disease with concomitant ustekinumab and etanercept treatment and further stated that ustekinumab effectively cleared skin lesions, whereas etanercept treated the symptoms of psoriatic arthritis, but we could not demonstrate any relationship between the type of biologic agent and psoriatic disease. Their case experienced a cardiovascular event, which they proposed that it could not be definitively attributed to the therapies in contrast to our case, where no major side effects were observed. The question of the cost-effectiveness of biologic agents versus pharmacotherapy has not been resolved to date. The past few years has been marked by the introduction of new biologic agents for the induction and maintenance of response in patients with psoriasis. Although widely heralded for their efficacy, these agents have also stirred controversy over the potential economic impact that they will have upon the world's health-care systems.[15] Previous studies have shown that the cost of psoriasis medication contributed minimally towards the overall cost associated with the disease; however, these studies were all conducted before the introduction of biologic therapies. Incorporation of data on indirect cost-savings and quality of life improvements into ongoing and future analyses is required to allow for more accurate analyses of overall costs and cost-savings.[16] Cost-effectiveness information on biologic use can assist decision makers in evaluating the overall value of a new treatment or new technology.[17]

CONCLUSION

Poorly controlled, therapy-resistant psoriasis negatively impacts quality of life and health care costs. Medication adherence, socioeconomics, and other factors complicate biologic treatments in psoriasis. There is limited data on combination of biological agents in the management of psoriasis and psoriatic arthritis. In patients who do not respond to multiple approaches for the treatment of psoriasis, combination therapy with biological agents may lead to dramatic disease control; however, combination of biologic agents is not considered standard of care in dermatology for safety reasons and currently not recommended. The risk and benefits of combination therapy needs to be carefully examined and further larger studies need to be conducted to establish safety and validate the findings.

DISCLOSURE

Paul S. Yamauchi: Investigator, consultant, and speaker for Amgen, Abbvie, Janssen, Lilly, Novartis, Ortho Dermatologics, Sun Pharma and UCB.

The remaining authors have reported no conflicts.

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