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# Secukinumab-induced pompholyx in a psoriasis patient

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## Abstract

With a prevalence of up to 20%, eczematous lesions are the most common skin adverse events of tumor necrosis factor alpha inhibitors. Eczematous lesions triggered by more modern biologics such as the IL17A antagonist secukinumab have been rarely reported. Herein, a case of secukinumab-induced pompholyx in a psoriasis patient is presented.

*Keywords: biologic, psoriasis, eczema, pompholyx*

## Introduction

Tumor necrosis factor (TNF) inhibitors are well known for their potential to trigger or induce dermatitis, including pompholyx or dyshidrotic eczema [1]. Even though new biologic therapies are emerging for the treatment of psoriasis, the knowledge about their impact on the pathogenesis of atopic dermatitis is limited. The IL17A antagonist, secukinumab, generally has a favorable side effect profile and is more effective for treating psoriasis than TNF inhibitors [2].

## Case Synopsis

A 35-year-old man was started on secukinumab for chronic plaque psoriasis. Secukinumab replaced cyclosporine, administered at a daily dose of 3mg/kg, which controlled the patient's psoriasis insufficiently and caused hypertension. Before the initiation of secukinumab, the patient's psoriasis area and severity index (PASI) was 4, including psoriasis on hands (**Figure 1**). The patient had a complex history of plaque psoriasis and his further previous systemic treatments included acitretin, methotrexate, etanercept, and adalimumab. He developed a biopsy-proven TNF inhibitor induced pulmonary sarcoid-like reaction with significant clinical symptoms and therefore, this drug class was contraindicated. The patient's other medical history included atopy with previous allergic rhinitis but no atopic dermatitis. Laboratory analyses underscored

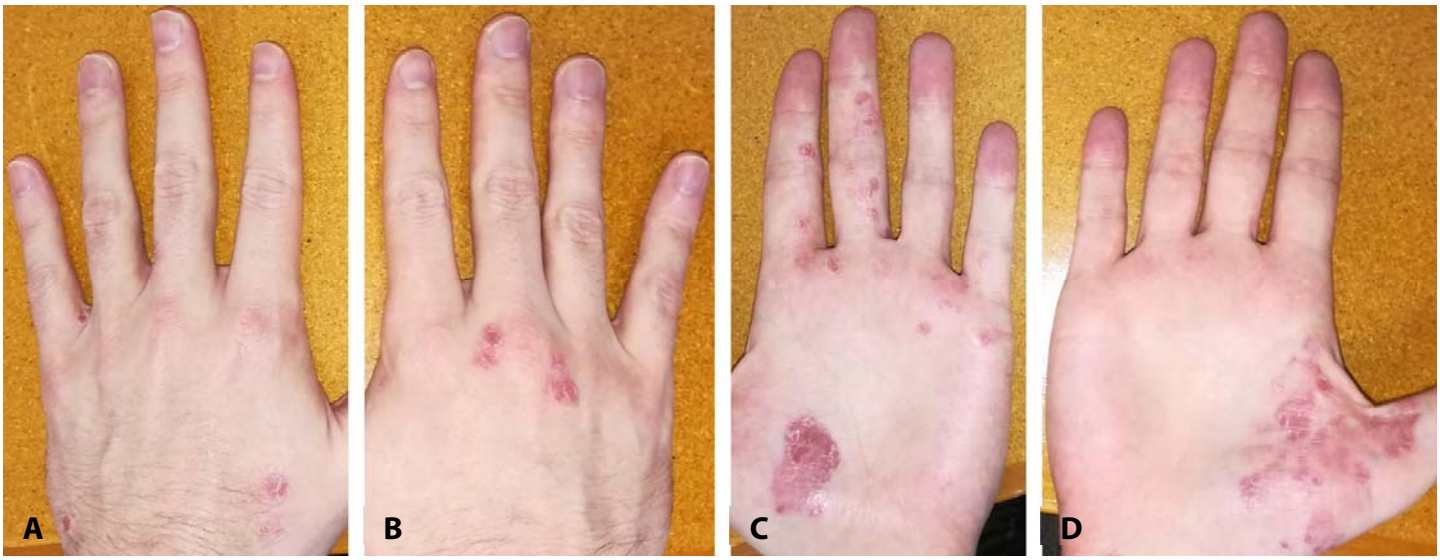


**Figure 1**. *Psoriatic lesions on **A**, **B)** both dorsum of hands, and **C, D)** palms prior to treatment with secukinumab.*

the atopy of the patient with an elevated grass-specific IgE (15.20kUA/L).

The patient had been treated with 300mg secukinumab at weeks 0, 1, 2, 3, and 4, followed by 300mg every four weeks, which resulted in rapid remission of the psoriatic plaques. On three-month follow-up, the patient reached PASI 100 but presented with a new itchy vesicular rash on both hands (**Figure 2**). The patient continued his office job and denied contact with new chemicals or relevant lifestyle changes. Pompholyx was diagnosed and topical treatment with clobetasol propionate 0.05% cream was initiated, along with the continuation of secukinumab. At six-month follow-up, the patient's pompholyx was well manageable with bi-weekly clobetasol propionate 0.05% cream application.

## Case Discussion

It is believed that TNF inhibitors reduce Th1 mediated immune mechanisms and thereby, switch immune responses to a more Th2 dominated reactivity prevailing in atopic dermatitis [1]. IL17 inhibitors impact the Th1 pathway and therefore could have a similar effect [2]. A personal history of atopy is an established risk factor of developing dermatitis during TNF inhibitor therapy [1].

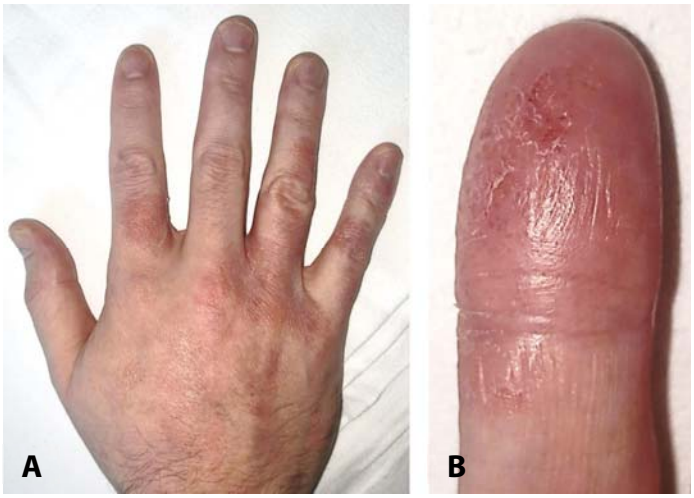


**Figure 2**. *Eczematous lesions on **A)** the dorsum of the right hand, and **B)** vesicles on the right fifth finger three months after secukinumab initiation.*

The herein presented patient was treated with cyclosporine, used for both psoriasis and atopic dermatitis, before the initiation of secukinumab. The fact that the patient never had dermatitis before commencement of cyclosporine argues for secukinumab-induced pompholyx and against pre-existing pompholyx, unmasked by cyclosporine cessation. Blackcloud et al. recently described a case of bullous acral eruption related to secukinumab, which was considered a hypersensitivity reaction rather than pompholyx [5].

Both IL17A inhibitors, secukinumab and ixekizumab, were associated with the onset of dermatitis of the face, with a predilection for periocular skin in all described patients [3, 4]. On the other hand, increased levels of IL17A in the peripheral blood of patients with atopic dermatitis were found and a phase II placebo-controlled randomized control trial is being conducted assessing the efficacy and safety of secukinumab for adults with atopic dermatitis [6].

## Conclusion

Whereas it remains to be seen whether secukinumab will play a role as a therapeutic agent in atopic dermatitis, the presented case shows that secukinumab can be associated with development of pompholyx in a predisposed patient.

## Potential conflicts of interest

The author declares no conflicts of interests.

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