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### Authors

Cortes, Julian

Oldenburg, Reid



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Julian Cortes

Reid Oldenburg



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CASE REPORT

# Acute Self-Harm Ideation as Presenting Adverse Event Associated with Adalimumab Treatment of Severe Scalp Psoriasis

**Julian Cortes** [a,*], **Reid Oldenburg** [a,b]

[a] Department of Dermatology, University of California San Diego Health, La Jolla, USA
[b] Department of Dermatology, VA San Diego Healthcare System, San Diego, USA

## ABSTRACT

We report a 34-year-old woman with severe scalp psoriasis presented to a dermatology clinic in San Diego, USA, in 2023. She developed acute self-harm ideations and major depressive symptoms shortly after initiating adalimumab treatment. The patient had a history of major depressive disorder, post-traumatic stress disorder and anxiety, all well-controlled with multiple medications. Following the administration of adalimumab, she experienced intrusive thoughts of self-harm and exacerbation of depressive symptoms, prompting immediate discontinuation of the drug. The patient's symptoms resolved completely 3 weeks after discontinuation. This case highlights the potential psychiatric risks associated with adalimumab therapy for psoriasis, especially in patients with pre-existing mental health conditions. Dermatologists should carefully evaluate patients for psychiatric disorders and suicide risk factors before initiating treatment and be vigilant in monitoring for adverse psychiatric events during therapy. Proper counselling and prompt identification of adverse events are crucial to prevent serious outcomes.

**Keywords:** Adalimumab; Systemic Lupus Erythematosus; Adverse Drug Event; Case Report; United States

## 1. Introduction

Psoriasis is a chronic, inflammatory skin disease with an estimated prevalence of 3% in the United States.[1] It has been associated with elevated rates of depression, anxiety and suicidality, especially in patients with severe psoriatic disease.[2] Here we report a case of acute self-harm ideation and major depressive symptoms as a presenting complaint related to recent adalimumab treatment initiation for psoriasis.

## 2. Case report

A 34-year-old woman presented to the dermatology clinic in San Diego, USA, in 2023 for follow-up of chronic, severe scalp psoriasis, with approximately 60% involvement of her scalp and approximately 10% body surface area involvement. She had nearly a decade-long history of progressively worsening cutaneous psoriasis and was previously treated with topical high potency corticosteroids and intralesional triamcinolone injections. The patient also had a prior history of major depressive disorder (MDD) complicated by suicidal ideation with no suicide attempts, post-traumatic stress disorder (PTSD), and anxiety well-controlled with multiple neurotropic medications (escitalopram 15 mg daily, lamotrigine 75 mg daily, gabapentin 300 mg daily and clonazepam 0.5 mg daily). In addition to her topical regimen, treatment with adalimumab was started (80 mg loading dose, followed by maintenance dosing of 40 mg every 2 weeks). At the time of adalimumab administration, the patient was not on any additional concurrent oral medications (e.g., apremilast) for treatment of her scalp psoriasis.

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* Corresponding author.
E-mail address: jcortes21311@gmail.com (J. Cortes).

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Approximately 1 week after administration of 80 mg of adalimumab, the patient developed deeply intrusive thoughts of self-harm and exacerbation of depressive symptoms. She described constant, intrusive thoughts of detailed images of her hurting herself. She denied active suicidal ideation or an active plan for suicide. Upon examination she had onset of generalised fatigue, arthralgias and aphthous ulcer-like lesions in her mouth. Adalimumab was discontinued immediately and she was advised to immediately seek urgent psychiatric care. Given the absence of suicidal intent, high insight into her condition and close follow-up with mental health staff, her psychiatry team did not recommend hospitalisation and no specific severity scores for depression or suicidality were given. Return precautions were provided to the patient to report to the emergency department if she developed any active suicidal ideation. Her acute depressive symptoms and suicidal ideations completely resolved 3 weeks after discontinuation of adalimumab. Given the abrupt onset of generalised fatigue, arthralgias and oral aphthous ulcers following administration of adalimumab, a diagnosis of drug-induced lupus erythematosus (DILE) was considered. Laboratory testing of C-reactive protein and thyroid stimulating hormone levels were within normal limits. Antinuclear and anti-histone antibody serum testing were negative. Complete blood count with differential was unremarkable and without leukopenia or lymphopenia. Adalimumab was added to her list of allergy/adverse events list to prevent future administration of adalimumab and other tumour necrosis factor (TNF) blocking agents. She was continued on topical and intralesional treatment of her scalp psoriasis and Tyk2 inhibitor therapy was initiated due to its favourable side-effect profile and relatively short half-life.

## 3. Discussion

To the best of the authors' knowledge, this is the second case of suicidality reported in association with adalimumab therapy for psoriasis.[3] While the previous patient reported a history of multiple suicide attempts and completed suicide following a several-month course of adalimumab, the current patient presented with acute transient self-harm ideation following a single 80 mg injection. Interestingly, the resolution of psychiatric symptoms within 3 weeks of adalimumab discontinuation is concordant with the drug's half-life (approximately 2 weeks).[4] This case report further supports the association between adalimumab and the development of psychiatric adverse events, specifically addressing the unique clinical scenario of drug-induced lupus erythematosus following treatment of psoriasis.

DILE should be considered in patients with abrupt onset of systemic symptoms, including arthralgias, myalgias, fever, rash, fatigue, aphthous ulcers or others, following an initial trial of medication.[5] TNF-blockade has been associated with DILE, which has been found to be associated with acute exacerbation of psychiatric symptoms, including acute onset suicidal ideation.[6,7] Although the prevalence of psychiatric symptoms in DILE is unclear, approximately 21% of patients with systemic lupus erythematosus suffer from comorbid mood disorders.[8] In patients prescribed anti-TNF medications, a recent systematic review by Jain *et al.* found the incidence of psychiatric and anxiety disorders to be less than 1% in most studies with some variation between specific agents. In fact, this study did not find a significant association between TNF blockade and depressive adverse events.[9] Surprisingly, increased levels of TNF-alpha and other pro-inflammatory cytokines have been associated with the development of MDD via a potential reduction in serotonergic activity, and blockade of these markers has been proposed as a treatment for MDD.[10] Overall, immunopathogenesis of TNF blockade associated DILE and acute exacerbation of psychiatric disorders is poorly understood, but may involve the formation of autoantibodies.[11]

Given adalimumab's association with DILE, a thorough evaluation for psychiatric illness and suicide completion risk factors may be indicated while considering its use for patients with moderate to severe psoriasis, especially if the patient presents with a pertinent prior history of suicidality. The risk of suicide with MDD and PTSD has been well-established and patients with such comorbidities should be appropriately monitored.[12,13] This is doubly true for patients who concurrently suffer from psoriasis given its association with an increased risk for completed suicide.[2] Moreover, psoriasis patients frequently see dermatologists, putting dermatologists in a strategic position to promptly identify patients during crises. Proper counselling prior to medication initiation and prompt identification of adverse events related to medication use are critical to prevent catastrophic adverse events.

## 4. Conclusion

Adalimumab therapy for psoriasis may be associated with severe acute self-harm that may pose an immediate threat to patients. As dermatologists consider pursuing TNF-blockade, they should be aware of rare adverse events of drug-induced lupus

erythematosus and acute self-harm and suicidal ideations to permit rapid identification, medication discontinuation and treatment.

## Ethics Statement

The patient provided informed consent for the publication of her case.

## Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## Authors' Contribution

RO was directly involved in the management and care of the patient. Both authors contributed equally towards the literature review, manuscript preparation and revisions. Both authors approved the final version of the manuscript.

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We'd like to thank our patient for agreeing to the publication of her case.

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