

Topical Triamcinolone-Induced Psychosis

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Systemic corticosteroids have long been associated with adverse psychiatric effects. Symptoms such as euphoria, insomnia, mood swings, personality changes, severe depression, and psychosis have been estimated to develop in 5%–18% of patients treated with corticosteroids (1). Mania and hypomania are the most commonly reported symptoms (35%), followed by depressive symptoms (28%) and psychotic reactions (24%) (2). Psychiatric symptoms typically arise within 1 week of starting corticosteroid therapy, although it is possible for symptoms to commence at any time, including after the corticosteroid is discontinued. Symptoms may persist for days or even weeks after discontinuation.

Corticosteroids are generally categorized as short, intermediate, or long-acting, based on their half-life. Triamcinolone is an intermediate-acting glucocorticoid administered either orally, by injection, by inhalation, or as a topical ointment or cream (3). For decades, the topical form of this corticosteroid, triamcinolone acetonide, has been the standard of care for treating eczema, a form of atopic dermatitis that usually develops in early childhood (4). Topical triamcinolone is not typically implicated in the manifestation or exacerbation of psychiatric symptoms. However, it has been theorized that long-term use of triamcinolone by an immunocompromised individual may render such an effect.

We present the case of a patient who presented to the emergency department with tactile hallucinations. In efforts to manage eczema, he misused topical triamcinolone for years. We demonstrate how corticosteroid overuse in an immunocompromised patient may result in the development of florid psychosis.

CASE

“Mr. D” is a 26-year-old African American man with a history of HIV and

chronic eczema on his face, neck, torso, and limbs. He was nonadherent to antiretroviral HIV medication. For the past 5 years, he used triamcinolone cream to treat his eczema.

The patient presented to the emergency department, brought in by an ambulance that he summoned. He was anxious, irritable, and restless upon arrival. He bled from multiple self-inflicted superficial cuts to his left arm, abdomen, and right leg. He stated, “These cuts won’t kill me, the bugs under my skin will.” He further complained that he had not slept well for days, explaining that he was too anxious to fall asleep. He declared, “Bugs are crawling all over my body! Every part, even my private area. They’re biting me, so I took a razor and tried to get them off.” He insisted that he had contracted scabies, and his stated motivation for coming to the hospital was to obtain a permethrin prescription to treat the scabies.

His psychiatric history, social history, and family history were noncontributory to the acute presentation. His mental status examination was remarkable for anxious mood, agitated affect, and ongoing tactile hallucinations. His physical examination revealed multiple superficial abrasions. Laboratory studies were unremarkable.

Out of concern that the patient’s self-injurious behavior was suggestive of suicidal intent, he was admitted to the psychiatric inpatient unit. The patient was restarted on antiretroviral medication for HIV and topical triamcinolone for chronic eczema. Risperidone was prescribed for psychosis, starting at 1 milligram twice daily.

In the days following admission, he continued to be agitated and irritable, often pacing the halls of the inpatient unit and getting into verbal altercations with staff and peers. He remained convinced that bugs were crawling under his skin, and he surreptitiously used

plastic eating utensils to cut his skin in order to “let the bugs out.”

During the first few days of his hospitalization, the patient insisted that twice-daily triamcinolone administration was inadequate. On further close questioning, he admitted to chronic and intensive steroid cream use for years as a “beauty product,” believing that it helped to “replenish” his skin. “I lather it on like sunscreen, multiple times a day,” he acknowledged. He had reportedly gone to more than six doctors in the past 6 years to request a prescription for triamcinolone. He admitted seeking a new doctor if one refused to prescribe the medication. He often went to emergency departments to obtain a prescription if he was unable to obtain an office appointment in a timely manner. In recent months, he purchased the medication from online pharmacies in foreign countries and had it shipped to him.

A dermatologic consultation was requested to determine the appropriateness of further use of triamcinolone. The consulting team determined that there was no present sign of eczema, and the medication was immediately discontinued. The patient required emergent psychiatric medication on an almost daily basis for nearly a week after triamcinolone discontinuation, because his frustration with not receiving the medication agitated him to the point of physical aggression toward hospital staff. He expressed fear that the eczema would return. However, he noticed that the feeling of bugs crawling under his skin had gradually resolved.

The patient was continued on risperidone, with the dose titrated to 3 milligrams twice daily. After 11 days on the inpatient psychiatric unit, his psychosis fully resolved. Once triamcinolone’s potential for the induction of psychosis was explained to him, he agreed to discontinue the drug. He was discharged from

the psychiatric unit with instructions to continue his antipsychotic medication and to follow up with an outpatient psychiatrist, in addition to following up with a dermatologist to devise a treatment plan for his eczema that avoided overuse of corticosteroids. The patient was unfortunately lost to follow-up after discharge.

DISCUSSION

The hypothalamic-pituitary-adrenal axis, a neuroendocrine system that regulates the body's reaction to stress of a physical or emotional nature, is the driver of endogenous glucocorticoid release. Syndromes involving excess or inadequate cortisol production may have psychiatric manifestations. Cushing's syndrome, a relative hypercortisol state, is associated with anxiety, euphoria, and psychosis. Addison's disease, a hypocortisol state, can produce fatigue, low energy, decreased appetite, and symptoms consistent with neurovegetative symptoms of depression (5).

Exogenous steroid use may also cause or exacerbate psychiatric symptoms, particularly if the steroid dose is high or the duration of treatment is extended. Topical corticosteroid induction of psychiatric symptoms is rare. The above patient applied excessive amounts of triamcinolone even after the onset of formication. It is conceivable that his use of the medication may have enabled both topical and more systemic absorption patterns, with the latter possibly occurring once the medication entered his circulation through self-inflicted cuts.

There is published evidence suggesting that prolonged use (i.e., more than 6 months) of systemic corticosteroid medication is correlated with a decrease in hippocampal size, which is then implicated in symptoms such as memory loss, hallucinations, depression, and vulnerability to psychological trauma (6). It is further believed that discontinuation of the offending medication would reverse the damage to the hippocampus, with the expectation that symptoms would also resolve. Although neuroimaging studies were not obtained during our patient's hospitalization, it is conceivable that overuse of topical corticosteroids for

KEY POINTS/CLINICAL PEARLS

- Topical corticosteroids may be implicated in psychosis or mood dysregulation if used inappropriately.
- A thorough assessment of a patient's medical history and current medications is necessary to ensure an accurate psychiatric diagnosis.
- Psychiatrists must educate and caution their patients about medication misuse, even common and seemingly innocuous ones.

years might have yielded neuroanatomical damage, which may then account for the psychotic features he exhibited.

The definitive solution for corticosteroid-induced psychosis is withdrawal of the agent, either with a gradual tapering of the medication, or, as with our patient, immediate discontinuation. Assuming that the psychosis is entirely attributable to use of corticosteroids, psychotic symptoms should resolve within days, although the time frame for return to baseline is partially dependent on the length of time and dosage in which the medication is used. Depending on the clinical presentation, an antipsychotic or mood stabilizer may be added to assist in restoration to a nonpsychotic state. The patient in the above case was started on risperidone because of its efficacy in patients naive to psychotropic medication (7).

Patients with steroid-induced psychosis should follow up with an outpatient psychiatrist. Following the resolution of psychotic symptoms, the antipsychotic medication may be tapered and safely withdrawn.

CONCLUSIONS

The present case illustrates two important lessons. First, psychiatrists should thoroughly assess patients' medical histories. On the basis of our patient's self-injurious behavior and psychotic features, it was falsely assumed that he was motivated by suicidal intent. It was not until later during his hospital stay that a multiyear pattern of topical steroid misuse became evident. Only then could a diagnosis of corticosteroid-induced psychosis be considered.

Second, patients must be educated about the medications they are prescribed and the harm that may ensue with incorrect use. Our patient underestimated the

potency of triamcinolone. It was only after years of engaging in unscrupulous activity to obtain the medication and finally ending up in the hospital for a psychiatric exacerbation that a doctor engaged him in a conversation about the misuse of triamcinolone. Indeed, good communication between health care providers and patients about the correct use of medications can prevent misuse and help patients to identify side effects before they become severe.

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The authors have confirmed that details of the case have been disguised to protect patient privacy.

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