Secondary Delusional Infestation in a Male With a History of Polysubstance Use

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Delusional infestation (DI) is a psychiatric disorder characterized by self-induced cutaneous lesions. Patients maintain a persistent delusional belief that their body, particularly the skin, is infested with small pathogens, either living or non-living, despite a lack of dermatological or microbiological evidence.[1–4] DI can present in various clinical forms, as classified by Le and Gonski[5] and Hinkle.[6] Table 1 outlines the 3 clinical subtypes of DI.

We present a case of secondary (organic) DI in a patient with a history of polysubstance use, including Δ9-tetrahydrocannabinol (THC), cocaine, lysergic acid diethylamide (LSD), 3,4-methylenedioxymethamphetamine (MDMA), phencyclidine (PCP), adrenochrome, and ethanol. The patient sought emergency care for a severe cutaneous lesion in the left scapular region.

Case Report

A 20-year-old man with a 5-year history of polysubstance use (THC, cocaine, LSD, MDMA, PCP, adrenochrome, and alcohol) presented to the emergency department in August 2024 with a severe pruritic lesion in the left scapular region. Examination revealed a well-demarcated ulcerated lesion with a perilesional erythematous halo measuring 30 × 30 cm, caused by excessive scratching (Figure 1). Over the past 22 days, the patient had been compulsively scratching due to delusions of "bugs eating his skin," which led to self-inflicted injuries, and he occasionally ingested the scabs.

The patient had no prior history of mental disorders. He was admitted with a diagnosis of secondary (organic) DI and was treated with olanzapine 20 mg/d. A urine toxicology screen was positive for THC and benzodiazepines. The patient exhibited severe benzodiazepine withdrawal symptoms (Clinical Institute Withdrawal Assessment Scale-Benzodiazepines[8] score: 40), and diazepam 10 mg was administered until the withdrawal symptoms were controlled.

Daily wound care with silver sulfadiazine, vitamin A, and lidocaine cream was provided as recommended by plastic surgery and dermatology consultation, with no antibiotics required per internal medicine. After detoxification and resolution of his psychotic symptoms, the patient no longer believed that he was infested with parasites and was transferred to a rehabilitation center for further care.

Discussion

DI is a complex psychiatric and dermatological disorder characterized by challenges in both diagnosis and treatment. It can present as a primary somatic-type delusional disorder or secondary to other psychiatric conditions, medical diseases, or substance abuse. The disorder typically progresses from a cutaneous sensory misinterpretation to tactile hallucinations, eventually solidifying into a fixed delusional belief. In cases of substance-induced DI, the abrupt onset and transient nature of symptoms—lasting hours, days, or weeks—complicates the clinical picture.[9–12]

This case underscores the importance of close collaboration between dermatologists and psychiatrists for accurate diagnosis and timely psychodermatologic intervention. Atypical antipsychotics, such as risperidone and olanzapine, are considered first-line treatments,[13–16] particularly because of their ability to reduce dopamine levels in the striatum, which is believed to sustain the delusional state.[17] In secondary DI, treatment should address any underlying comorbidities. Prognosis largely depends on the promptness of diagnosis and the initiation of appropriate interventions, with good outcomes observed in most cases when treated early.[18] Addressing both substance use and psychotic symptoms is crucial for improving patient outcomes, especially in cases in which symptoms may become chronic, making

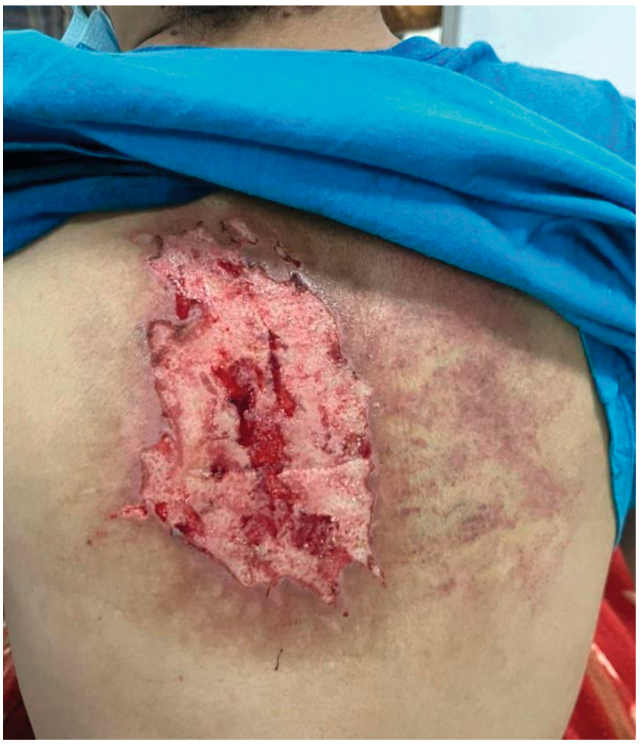
Table 1.
Clinical Subtypes of Delusional Infestation (DI)[a]

Subtype	Characteristics
Primary, autochthonous	Primary DI occurs independently of any other medical or psychiatric condition. Additionally, it is not accompanied by any significant decline in basic cognitive functioning.
Secondary (functional)	In secondary (functional) DI, the delusion is typically associated with an underlying psychiatric disorder, such as schizophrenia or mood disorders, where the primary psychiatric condition gives rise to the delusional belief of infestation.
Secondary (organic)	In secondary (organic) DI, the delusion is caused by an underlying medical condition or substance abuse. These factors contribute to the development of the delusional belief of infestation.

[a]Based on Le and Gonski,[5] Hinkle,[6] and Al-Imam.[7]

Figure 1.

Ulcerated Lesion Caused by Scratching of the Left Scapular Region



management more challenging and potentially leading to treatment resistance.

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References

1. Torales J, García O, Barrios I, et al. Delusional infestation: clinical presentations, diagnosis, and management. *J Cosmet Dermatol*. 2020;19(12):3183–3188.
2. Heller MM, Wong JW, Lee ES, et al. Delusional infestations: clinical presentation, diagnosis and treatment. *Int J Dermatol*. 2013;52(7):775–783.
3. Koo J, Lebwohl A. Psychodermatology: the mind and skin connection. *Am Fam Physician*. 2001;64(11):1873–1878.
4. Torales J, González L, Ruiz Díaz C, et al. Delirio de infestación [Delusional Infestations]. In: Torales J, Malatesta E, eds. *Psicodermatología: una actualización diagnóstica y terapéutica de las entidades clínicas más frecuentes [Psychodermatology: a diagnostic and therapeutic update of the most frequent clinical entities]*. 1st edn. EFACIM; 2019:62–79.
5. Le L, Gonski PN. Delusional parasitosis mimicking cutaneous infestation in elderly patients. *Med J Aust*. 2003;179(4):209–210.
6. Hinkle NC. Ekbom syndrome: the challenge of "invisible bug" infestations. *Annu Rev Entomol*. 2010;55:77–94.
7. Al-Imam AML. A systematic literature review on delusional parasitosis. *J Dermatol Dermatol Surg*. 2016;20:5–14.
8. Busto UE, Sykora K, Sellers EM. A clinical scale to assess benzodiazepine withdrawal. *J Clin Psychopharmacol*. 1989;9(6):412–416.
9. Revelli C, Pichon M, Cambazard F, et al. Consultation dermato-psychiatrique [Dermato-psychiatric consultation]. *Ann Dermatol Venereol*. 2002;129(5 Pt 1):742–745.
10. Freudenmann R, Lepping P. Delusional infestation. *Clin Microbiol Rev*. 2009;22(4):690–732.
11. Vulink NC. Delusional infestation: state of the art. *Acta Derm Venereol*. 2016;96(217):58–63.
12. Reich A, Kwiatkowska D, Pacan P. Delusions of parasitosis: an update. *Dermatol Ther*. 2019;9(4):631–638.
13. Freudenmann RW, Lepping P. Second-generation antipsychotics in primary and secondary delusional parasitosis: outcome and efficacy. *J Clin Psychopharmacol*. 2008;28(5):500–508.
14. Lepping P, Russell I, Freudenmann RW. Antipsychotic treatment of primary delusional parasitosis: systematic review. *Br J Psychiatry*. 2007;191:198–205.
15. Torales J, Melgarejo O, González I, et al. Psychopharmacology in dermatology: treatment of primary psychiatric conditions in dermatology. *Dermatol Ther*. 2020;33(4):e13557.
16. Campbell EH, Elston DM, Hawthorne JD, et al. Diagnosis and management of delusional parasitosis. *J Am Acad Dermatol*. 2019;80(5):1428–1434.
17. Huber M, Karner M, Kirchler E, et al. Striatal lesions in delusional parasitosis revealed by magnetic resonance imaging. *Prog Neuropsychopharmacol Biol Psychiatry*. 2008;32(8):1967–1971.
18. Torales J, Almirón-Santacruz J, Barrios I, et al. "Cocaine bugs": implications for primary care providers. *Prim Care Companion CNS Disord*. 2022;24(2):21cr03019.