

From excoriated acne to delusional infestation: a case report of a psychodermatologic continuum

Da acne escoriada à infestação delirante: relato de caso de um continuum psicodermatológico

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Abstract

Delusional infestation is a rare psychodermatologic disorder characterized by a fixed false belief of infestation despite the absence of objective evidence. Its development from excoriated acne has rarely been documented. We report the case of a 38-year-old female who developed progressive facial lesions following adult-onset acne. Recurrent skin picking associated with obsessive-compulsive behaviors led to multiple facial excoriations and post-inflammatory pigmentary changes. Dermoscopic examination revealed linear erosions with hypo- and hyper-pigmented areas without evidence of an underlying dermatosis or parasitic infestation. Over time, the patient developed formication and a persistent belief of infestation, consistent with secondary delusional infestation. This case highlights a psychodermatologic continuum linking excoriated acne and delusional infestation, emphasizing the role of psychological vulnerability in disease progression. Early recognition of excoriated acne and multidisciplinary management are essential to prevent the development of more severe psychiatric manifestations.

Keywords: Excoriated acne. Delusional infestation. Self-medication. Obsessive-compulsive disorder. Psychodermatology.

Resumo

A infestação delirante é uma rara perturbação psicodermatológica caracterizada por uma crença falsa e persistente de infestação, apesar da ausência de evidências objetivas. A sua evolução a partir da acne escoriada raramente foi descrita na literatura. Relatamos o caso de uma mulher de 38 anos que desenvolveu lesões progressivas após o aparecimento de acne na idade adulta. A manipulação repetitiva da pele, associada a comportamentos obsessivo-compulsivos, resultou em escoriações faciais e alterações pigmentares pós-inflamatórias. A dermatoscopia revelou erosões lineares associadas a áreas hipo e hiperpigmentadas, sem evidência de dermatose subjacente ou infestação parasitária. Com o tempo, a paciente desenvolveu formicação e uma crença de infestação, compatível com infestação delirante secundária. Este caso evidencia um continuum psicodermatológico entre acne escoriada e infestação delirante, destacando o papel da vulnerabilidade psicológica na progressão da doença. O reconhecimento precoce da acne escoriada e uma abordagem multidisciplinar são essenciais para prevenir manifestações psiquiátricas mais graves.

Palavras-chave: Acne escoriada; Infestação delirante. Automedicação. Perturbação obsessivo-compulsiva. Psicodermatologia.

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Introduction

Excoriated acne is a psychodermatologic condition characterized by repetitive manipulation and picking of acne lesions, often associated with psychiatric comorbidities such as anxiety and obsessive-compulsive disorder (OCD).¹ Acne may act as a triggering factor, particularly in psychologically vulnerable individuals, leading to persistent skin picking and chronic cutaneous damage.²

In some cases, abnormal cutaneous sensations and excessive pre-occupation with the skin may result in loss of insight and progression to fixed false beliefs, such as delusional infestation.³ This condition is defined by a persistent conviction of parasitic infestation in the absence of objective evidence and represents a major diagnostic and therapeutic challenge.³

We report a case illustrating a psychodermatologic continuum from excoriated acne associated with obsessive-compulsive features to secondary delusional infestation.

Case report

A 38-year-old single female presented to our dermatology department with a 4-year history of progressive facial skin lesions. The condition initially began with late-onset adult female acne. The patient reported no history of medication use, substance abuse, or similar conditions in the family. However, she reported repeatedly applying various treatments to her acne lesions, including traditional remedies such as diluted bleach, lemon juice, and clay, in addition to several over-the-counter topical products obtained through self-medication, particularly antiseptic preparations used on the face. The presence of acne lesions, particularly papules and pustules, triggered recurrent daily episodes of compulsive skin picking, lasting approximately 30 min, and followed by a transient sense of relief. These behaviors were exacerbated by psychological stress and family conflicts.

On examination, the patient had phototype V skin and presented with multiple linear erosions involving the cheeks, chin, and forehead at different stages of healing, some covered with hemorrhagic crusts and others undergoing re-epithelialization, suggesting ongoing and repeated manipulation (Fig. 1). Dermoscopy revealed linear erosions associated with hypo- and hyper-pigmented areas consistent with post-inflammatory changes (Fig. 2).

Examination of the hands showed whitish exogenous deposits in the interdigital spaces. On further questioning, the patient reported excessive hand washing several times daily using household cleaning products, including bleach, consistent with obsessive-compulsive behavior (Fig. 3). The remainder of the dermatological examination, including the mucosae and adnexal structures, was unremarkable. Importantly, there was no clinical or dermoscopic evidence of parasitic infestation or other primary dermatoses.

An initial psychodermatologic assessment was performed by the dermatology team in a calm, private setting using a supportive, empathetic, and non-judgmental approach to establish a trusting physician–patient relationship and facilitate discussion of the patient's thoughts and emotional state. The evaluation revealed a depressive mood without suicidal ideation, with initially partial insight. The patient was educated about the risk of permanent pigmented scarring associated with repeated manipulation. Dermatological treatment included a gentle facial cleanser, topical azelaic acid, and strict photoprotection. Psychiatric referral was proposed, but the patient initially declined specialized psychiatric evaluation.

At the 3-month follow-up, the patient's cutaneous condition remained relatively stable. However, she reported new symptoms of formication, describing persistent sensations of crawling and movement beneath the facial skin, accompanied by a fixed belief of parasitic infestation despite the absence of objective evidence. Her mood remained depressive without suicidal ideation. Given the progression of symptoms, a psychiatric consultation was eventually accepted and performed.

Following psychiatric assessment, the patient was diagnosed with secondary delusional infestation associated with depressive symptoms and obsessive-compulsive behaviors. Treatment was initiated with risperidone 1 mg daily, gradually increased to 2 mg/day after 2 weeks, and sertraline 50 mg daily, titrated to 100 mg/day according to clinical response and tolerability. Medication adherence, particularly to risperidone, was closely monitored and supported by the patient's mother. In addition, she was referred for weekly cognitive behavioral therapy sessions.

At the 3-month follow-up after initiation of psychiatric treatment, the patient showed a progressive improvement in mood and a marked reduction in infestation-related beliefs. However, obsessive-compulsive behaviors persisted, particularly repetitive manipulation



Figure 1. Clinical images. **A-C:** frontal and lateral (right and left) views of the face showing multiple linear excoriations involving the cheeks, chin, and forehead, at different stages of healing. Some lesions are covered with hemorrhagic crusts, whereas others are in the process of re-epithelialization, reflecting ongoing and repetitive manipulation.

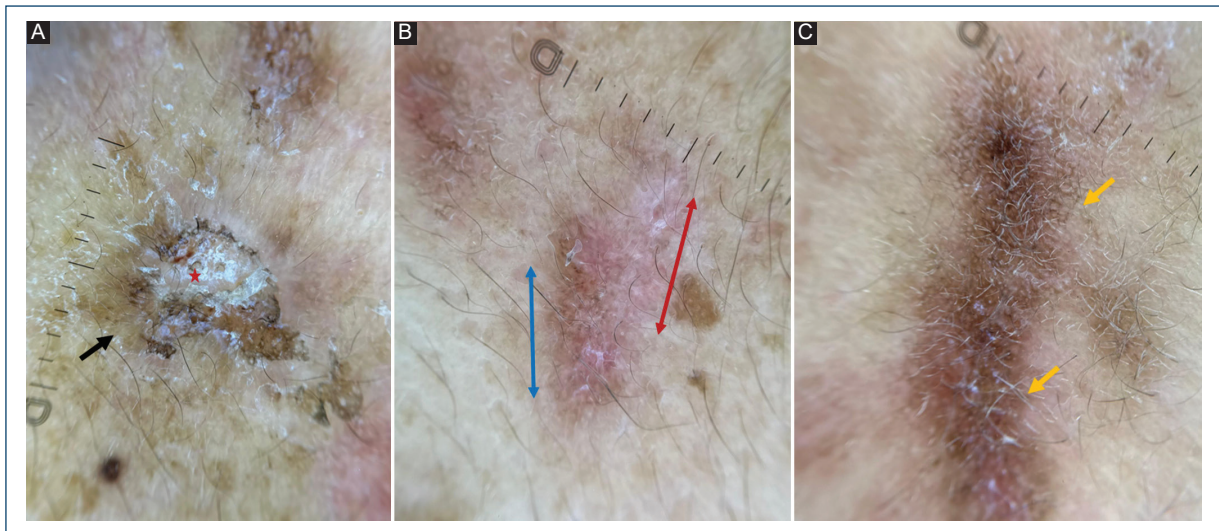


Figure 2. Dermoscopic images illustrating different stages of lesion evolution. **A:** central erosion with hemorrhagic crust surrounded by a peripheral pseudo-pigment network. **B:** linear hypo- and hyper-pigmented areas on an erythematous background. **C:** linear pseudo-pigment network with a linear distribution.

and excoriation of facial lesions, although their frequency had decreased compared with baseline. Continued psychiatric treatment and cognitive behavioral therapy were therefore maintained as part of a multidisciplinary psychodermatologic approach.

Discussion

Neurotic excoriations, also referred to as skin picking disorder, belong to the spectrum of psychodermatologic disorders characterized by repetitive self-inflicted

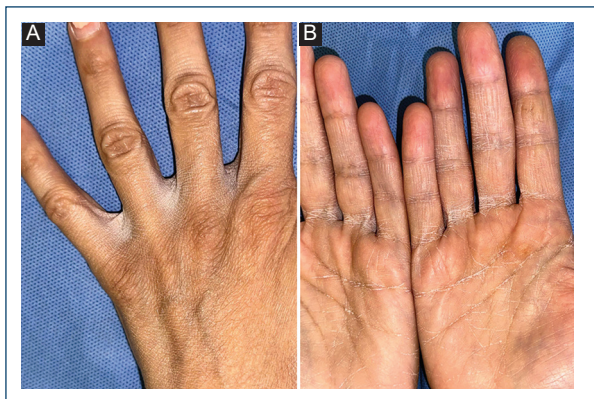


Figure 3. Clinical images. **A** and **B**: dorsal and palmar views of the hands showing whitish exogenous deposits predominantly involving the interdigital spaces.

skin lesions in the absence of an underlying primary dermatosis. They are frequently associated with psychiatric comorbidities, particularly OCD, anxiety, and depressive disorders. They are currently classified within obsessive-compulsive and related disorders according to modern psychiatric classifications.^{4,5}

In our patient, acne represented the initial triggering factor. Acne has been widely recognized not only as a dermatological condition but also as a psychophysiological disorder with significant psychological impact. In predisposed individuals, acne lesions may induce maladaptive behaviors such as repetitive manipulation and skin picking, which can evolve into chronic excoriations.⁶ This phenomenon highlights the bidirectional relationship between dermatologic conditions and psychiatric vulnerability.

A key feature of this case is the compulsive nature of the excoriation behavior, characterized by repetitive episodes associated with internal tension followed by transient relief. This pattern is typical of obsessive-compulsive spectrum disorders and supports the classification of neurotic excoriations within this framework.^{5,7} The coexistence of excessive hand washing using cleaning agents in our patient further reinforces the presence of underlying obsessive-compulsive traits.

Dermoscopy may provide additional diagnostic clues in cases of self-inflicted dermatoses and helps support the clinical suspicion of neurotic excoriations. In our patient, dermoscopy revealed linear erosions associated with hypo- and hyper-pigmented areas, reflecting lesions at different stages of evolution. Similar findings have been described in factitious dermatoses, such as dermatitis artefacta, where dermoscopy typically shows

central crusting surrounded by a whitish or erythematous halo and peripheral hyperpigmentation, corresponding to tissue injury, serum exudation, and post-inflammatory changes.⁸ The presence of red blotches within crusted areas has been attributed to capillary leakage secondary to repeated trauma. Although these dermoscopic features are not specific, their polymorphic appearance, linear distribution, and coexistence of lesions at different healing stages strongly suggest repeated external manipulation rather than a primary dermatosis. These findings were consistent with the repetitive mechanical trauma observed in our patient.

Differential diagnoses include dermatitis artefacta and other factitious disorders; however, the compulsive nature of the behavior and the associated relief following excoriation support the diagnosis of neurotic excoriations in our patient.

Over time, the patient exhibited a progressive deterioration of insight, with the emergence of abnormal cutaneous sensations described as crawling or movement (formication), eventually leading to a fixed belief of infestation. This evolution illustrates the transition from a compulsive disorder to a psychotic disorder, culminating in delusional infestation. Delusional infestation is defined by a persistent and unshakeable belief of being infested by parasites despite the absence of medical evidence and is considered a rare but severe psychodermatologic condition.⁹

Delusional infestation can be classified as primary (monosymptomatic hypochondriacal psychosis) or secondary to underlying psychiatric or medical conditions. In our case, the condition is best interpreted as secondary, given the pre-existing obsessive-compulsive features and depressive mood, supporting the hypothesis of a psychodermatologic continuum.

This case emphasizes the importance of early recognition of psychodermatologic disorders, particularly in patients with acne who exhibit excessive manipulation behaviors. Early intervention may prevent progression toward more severe psychiatric conditions. Management requires a multidisciplinary approach combining dermatological care and psychiatric intervention. While dermatological treatment aims to control triggering factors such as acne and prevent scarring, psychiatric management is essential. It may include cognitive behavioral therapy and pharmacological treatment, such as selective serotonin reuptake inhibitors for compulsive behaviors and antipsychotics (e.g., risperidone or olanzapine) in cases of delusional infestation.^{9,10}

Conclusion

This case highlights the complex interplay between dermatological and psychiatric disorders, illustrating a psychodermatologic continuum from acne-triggered neurotic excoriations to secondary delusional infestation. It underscores the importance of early recognition of compulsive skin-picking behaviors, particularly in patients with underlying psychiatric vulnerability, to prevent progression to more severe conditions. A multidisciplinary approach combining dermatological care and psychiatric management remains essential to achieve optimal outcomes.

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Conflict of interest

The authors declare no conflicts of interest.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments on humans or animals were performed for this research.

Confidentiality, informed consent, and ethical approval. The authors have obtained approval from the Ethics Committee for the analysis of routinely collected and anonymized clinical data; Clinical data were

collected from routine medical records and were fully anonymized before analysis. Written informed consent for publication of the clinical photographs and medical information was obtained from the patient. All procedures were conducted in accordance with relevant ethical standards and recommendations to ensure patient confidentiality and privacy.

Declaration on the use of artificial intelligence.

The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

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