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(CASE REPORT)

Misdiagnoses and Psychosocial Implications in Patient with Crusted Scabies: A Case Report

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Abstract

Background: Misdiagnoses in crusted scabies frequently arise from its overlapping clinical features with other dermatologic conditions, which often result in inappropriate corticosteroid administration that exacerbates disease progression. Prolonged delayed correct diagnoses and treatment further contribute to substantial psychosocial distress in affected patients.

Case Presentation: A 22-year-old female with a six-month history of widespread pruritic erythematous papules and plaques, initially misdiagnosed and treated with multiple courses of corticosteroids. Prolonged immunosuppressive therapy for 6 months facilitated disease progression. She also had a history of depression. Dermoscopic and microscopic evaluation confirmed the diagnosis of crusted scabies. The patient exhibited significant psychosocial burden, with moderate depression, anxiety, and social withdrawal. Psychiatric evaluation revealed bipolar affective disorder, current episode severe depression with psychotic features, and borderline personality disorder which considered related to the previous history of depression and prolonged corticosteroid medications.

Conclusion: Delayed diagnosis of crusted scabies not only exacerbates physical disease but also imposes significant psychological and social burdens. Early recognition, appropriate scabicidal therapy, and multidisciplinary management, including psychiatric support, are essential to improve outcomes and quality of life in affected patients.

Keywords: Corticosteroid; Depression; Misdiagnosis; Pruritus; Scabies

1. Introduction

Crusted scabies (Norwegian scabies) is a variant of Sarcoptes scabiei that most often develops in hosts with impaired cellular immunity where failure of effective T-cell–mediated control permits unchecked mite proliferation and hyperkeratosis [1]. The 2021 global incidence was 62.2 cases per 100.000 people. Indonesia is one of the endemic country of scabies that nominated as first leading scabies burden with DALY score of 153.86 per 100.000 people [2]. A recent systematic review analyzing 683 patients with crusted scabies worldwide (1999–2023) demonstrated that 76.6% had an identifiable risk factor, with corticosteroid use reported in 27.7% of cases, followed by HIV infection (11.7%) and other immunosuppressive conditions (8.8%) [3].

Crusted scabies represents a significant diagnostic challenge, particularly in its early stages when clinical features are often nonspecific and overlap with other dermatologic conditions. Evidence from contemporary reviews and case series published between 2021 and 2025 indicates that the disease is frequently misdiagnosed as eczema, psoriasis,

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seborrheic dermatitis, or drug eruptions, with diagnostic delays reported in up to 43.1% of cases [4-6]. Analysis of 95 reported cases of misdiagnosed crusted scabies revealed that 40% of patients had been treated with corticosteroids prior to the correct diagnosis [7]. Corticosteroid use, whether topical or systemic, is particularly problematic because it may alter the typical clinical presentation, suppress local cell-mediated immune responses, and obscure key diagnostic features such as burrows. This inappropriate immunosuppressive effect facilitates proliferation of mites and accelerates progression to the severe crusted form of the disease, thereby compounding both diagnostic complexity and patient morbidity [3,8].

Crusted scabies presents a considerable burden for affected individuals, encompassing both physical and psychological dimensions. On the physical side, the condition is characterized by extensive hyperkeratotic lesions that cause intense itching, significant sleep disturbances, and susceptibility to secondary bacterial infections [9,10]. Beyond the physical impact, patients with scabies and other chronic, visibly disfiguring skin diseases frequently report reduced quality of life, along with higher levels of anxiety, depression, embarrassment, and social isolation. Stigma from visible symptoms can further aggravate psychological distress and disrupt social relationships. Delayed or incorrect diagnosis intensifies these problems, as patients may undergo prolonged ineffective treatments, endure persistent symptoms, and face escalating medical and financial challenges and side effect of the drugs [9,11].

2. Case presentation

A 22-year-old woman presented to the hospital with generalized erythematous, scaly, and intensely pruritic skin lesions involving nearly the entire body, with predominant involvement of the hands and feet. The symptoms had progressively worsened over the preceding month and were more severe at night. The condition initially began six months earlier as pruritic erythematous papules affecting the interdigital spaces, wrists, axillae, abdomen, and buttocks. The patient also had a history of depression. During the course of her illness, she received repeated courses of systemic corticosteroids, including dexamethasone followed by methylprednisolone in varying doses, for a presumed diagnosis of drug allergy. These treatments resulted only in transient symptomatic improvement. She was also prescribed a high-potency topical corticosteroid, which partially suppressed inflammation and pruritus without addressing the underlying cause. In addition to prescribed therapies, the patient reported applying turmeric leaves to the scaling lesions.

Dermatological examination demonstrated generalized cutaneous involvement characterized by papules, pustules, plaques, scales, lichenification, and crusts, predominantly on the hands and feet (Figure 1A and 1B). Dermoscopy revealed burrows and a delta wing jet sign (Figure 1C), strongly suggestive of scabies infestation. Potassium hydroxide (KOH) examination of skin scrapings confirmed the presence of *Sarcoptes scabiei* mites (Figure 1F), and histopathological findings further supported the diagnosis. Based on the combined clinical, dermoscopic, parasitological, and histopathological evidence, the patient was diagnosed with crusted scabies.

At the time of presentation, the patient's Dermatology Life Quality Index (DLQI) score was 10, indicating moderate impairment, and the pruritic Visual Analogue Scale (pVAS) score was 5. Management consisted of comprehensive patient education and strict environmental decontamination measures, including washing clothing and bedding in hot water, isolating non-washable items, and maintaining short, clean fingernails. Pharmacological therapy included topical permethrin 5% applied to the entire body for seven consecutive days and repeated after two weeks, urea 10% cream to aid crust removal, and antihistamines as needed for symptomatic relief of pruritus (Figure 1D and 1E).

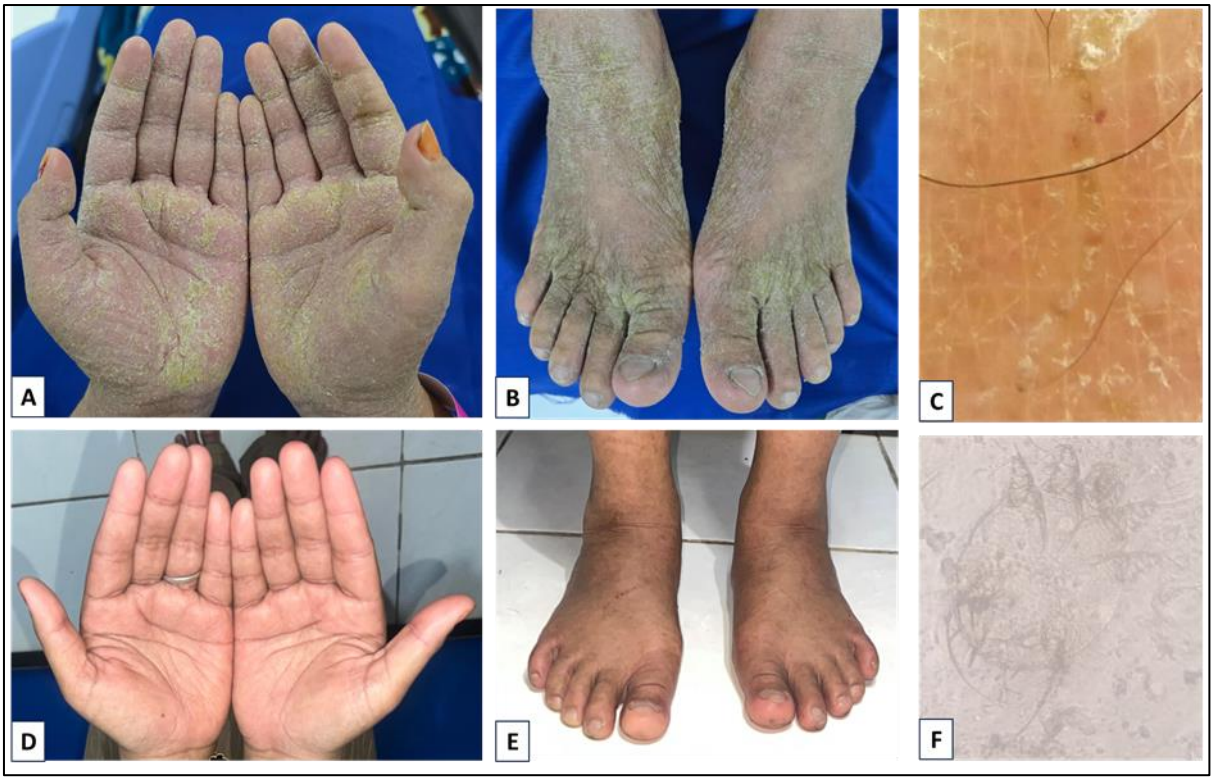

Figure 1 Clinical, dermoscopic, and microscopic findings in a patient with crusted scabies. (A) Palmar hyperkeratosis with thick yellowish scales and fissures before treatment. (B) Dorsal feet showing diffuse hyperkeratosis, scaling, and crusting prior to therapy. (C) Dermoscopic appearance with diffuse scaling on an erythematous background, suggestive of scabies infestation. (D) Palms after treatment demonstrating marked resolution of hyperkeratosis and scaling. (E) Feet after treatment showing significant clinical improvement with residual post-inflammatory hyperpigmentation. (F) Microscopic examination of skin scrapings confirming *Sarcoptes scabiei*

The overall prognosis was favorable, with marked clinical improvement observed during follow-up. Residual findings included post-inflammatory hyperpigmentation and minimal pruritus (pVAS 1), accompanied by an improvement in DLQI to 5. However, the patient exhibited severe psychiatric morbidity, as reflected by extremely severe scores on the DASS-21. Subsequent psychiatric evaluation led to diagnoses of bipolar affective disorder, current episode severe depression with psychotic features, and borderline personality disorder, which were likely pre-existing conditions exacerbated by prolonged systemic corticosteroid use.

3. Discussion

Scabies, including crusted scabies, is frequently misdiagnosed, leading to substantial diagnostic delays ranging from one week to as long as 22 months and is commonly mistaken for drug eruptions [4,7]. Studies have shown that 66.3% of patients consult multiple healthcare providers, sometimes up to eight times, before an accurate diagnosis is established, with persistent or recurrent symptoms prompting referral for comprehensive evaluation [7]. In this case, the patient experienced a six-month delay in diagnosis, during which she was repeatedly treated with corticosteroids under the assumption of a drug allergy.

Prolonged corticosteroid therapy plays a critical role in exacerbating scabies infestation by inducing immunosuppression. Corticosteroids suppress T-cell–mediated immunity and downregulate the NFκB and AP-1 signaling pathways, resulting in reduced cytokine production, impaired local immune defense, and attenuated inflammatory responses. This immunosuppressive state facilitates uncontrolled mite proliferation while simultaneously masking clinical signs, thereby contributing to delayed diagnosis. Crusted scabies is associated with a Th2-skewed immune response, characterized by elevated IgE and IgG levels and increased IL-4 and IL-13 production, which are ineffective for parasite clearance and instead promote hyperinfestation [1]. In this patient, the initial presentation lacked thick hyperkeratotic scaling; however, after six months of inappropriate corticosteroid exposure, ordinary scabies progressed to crusted scabies. Supporting evidence from a large cohort demonstrated that 27.7% of crusted scabies cases were iatrogenic and associated with corticosteroid use [3].

Beyond the physical manifestations, the patient experienced significant psychological distress, including frustration, depression, and anxiety related to body image changes caused by chronic skin lesions. Quality-of-life assessment revealed marked impairment, consistent with reports that 72.2% of scabies patients experience moderate to extremely large quality-of-life impairment [12-14]. Chronic dermatological conditions are known to impose a greater psychosocial burden than acute diseases [15]. Misdiagnosis, which can prolong an acute condition into a chronic course, has been associated with diminished confidence in healthcare providers, with nearly 20% of patients discontinuing prescribed treatments [16].

In this case, both burrows and mites were identified, confirming the diagnosis of crusted scabies. Although the condition is typically associated with millions of mites and marked hyperkeratosis, dermoscopic and microscopic evaluation revealed only a limited number of mites and burrows [9]. This atypical presentation may be explained by partial scabicidal effects from prior therapies, which can substantially reduce mite density without immediately resolving hyperkeratotic crusts, thereby complicating diagnosis. Additionally, the patient's history of twice-daily turmeric application for one week may have contributed to the reduced mite burden, as turmeric has been traditionally reported to achieve cure rates of up to 97% within 3–15 days [17-18].

The patient was treated with topical permethrin 5% applied daily for seven days, with reapplication every two weeks until complete symptom resolution [19]. At follow-up, no active lesions were observed, although intermittent nocturnal pruritus persisted. Thick scales on the palms and soles had resolved, and repeated microscopic examinations revealed no mites, eggs, or feces. Residual post-inflammatory hyperpigmentation (PIH) was noted in previously inflamed areas. PIH occurs due to increased melanin production following inflammation or skin injury, often exacerbated by scratching [20-21]. Management of PIH remains challenging, and effective treatment requires resolution of the primary dermatosis before addressing pigmentary changes [22].

In general, significant improvement in mean DLQI scores has been reported after successful scabies treatment compared with baseline [23]. However, in this case, follow-up evaluation using the DLQI and DASS-21 demonstrated increased scores, reflecting the persistent psychosocial impact of the disease. These findings underscore that scabies is not only a dermatological concern but also a significant public health issue with emotional and psychological consequences. Therefore, patients diagnosed with scabies should be managed holistically, and referral to psychiatric services should be considered when indicated [13].

The patient was subsequently referred to psychiatry and diagnosed with bipolar affective disorder, current episode severe depression with psychotic features, along with comorbid borderline personality disorder. Evidence suggests that individuals with scabies have a higher risk of developing subsequent bipolar disorder, supporting the association between scabies and increased psychiatric burden [24]. Moreover, patients with borderline personality disorder are particularly vulnerable to self-harming behaviors, emphasizing the importance of careful psychiatric evaluation. Management of psychocutaneous disorders in such cases requires an integrated approach combining dermatological care with psychotropic therapy [15].

Another contributing factor in this case was the prolonged use of corticosteroids, which are commonly prescribed for inflammatory skin diseases. The psychiatric effects of corticosteroids are influenced by treatment duration, cumulative dose, and individual susceptibility, and include cognitive impairment, mood disorders, depression, delirium, and psychosis [15]. In a cohort study of patients receiving oral corticosteroids for more than 28 days, a substantial proportion developed new-onset psychiatric disorders, most commonly anxiety followed by depression, with females being more susceptible to anxiety [25]. Prolonged glucocorticoid exposure disrupts the hypothalamic–pituitary–adrenal axis, resulting in persistently elevated cortisol levels, a mechanism similar to that observed in Cushing's syndrome and strongly associated with depression. Corticosteroids may also impair serotonergic activity and alter dopaminergic pathways, further contributing to mood disturbances and emotional instability [26].

4. Conclusion

Prolonged misdiagnosis of scabies, particularly with inappropriate corticosteroid use, can mask clinical features, worsen infestation, and lead to progression into crusted scabies. Diagnostic delay contributed to chronic disease, reduced quality of life, and significant psychological and psychiatric burden. This highlights the need for accurate early diagnosis, proper scabicidal therapy, cautious use of corticosteroids in undifferentiated pruritic dermatoses, and a holistic, multidisciplinary approach addressing both cutaneous and psychosocial aspects of scabies.

Compliance with ethical standards

Disclosure of conflict of interest

No conflicts of interest declared.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study

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