

Norwegian scabies in a patient with HIV

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Abstract

Introduction: Norwegian scabies is a skin disease caused by the *Sarcoptes scabiei* mite. Its global incidence is estimated at 200 to 300 million cases per year, mainly affecting prison populations and homeless and immunocompromised people. It is a highly contagious disease transmitted by direct physical contact. It is diagnosed by physical exam and microscopic identification of the mite, its eggs or feces. Treatment is aimed at eradicating the mite population using acaricides and ovicides.

Clinical case: we present the case of a female patient with a history of human immunodeficiency virus (HIV) infection, classified as acquired immune deficiency syndrome (AIDS), who was being treated with antiretrovirals. She presented to Hospital de Kennedy with a one-month history of disseminated whitish, scaly, hyperkeratotic plaques, associated with itching and localized burning. Norwegian scabies was suspected, and treatment was started with ivermectin and permethrin, with a positive clinical course. (*Acta Med Colomb* 2025; 50. DOI: <https://doi.org/10.36104/amc.2024.4676>).

Keywords: *Norwegian scabies, Sarcoptes scabiei, HIV, mites, scabies.*

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Introduction

Norwegian scabies is a rare skin disease caused by the *Sarcoptes scabiei* mite. It mainly affects immunosuppressed individuals, while in immunocompetent people it generally presents in its classic (nodular) form (1, 2). It is a highly contagious condition, transmitted through direct physical contact or contaminated fomites, making an evaluation of the patient's surroundings essential (3). It is characterized by intense pruritus and skin papules, vesicles or nodules (1). Immunosuppressed patients, especially those with HIV and CD4 lymphocyte counts of less than 150 cells/ μ L, may have different clinical presentations, including Norwegian scabies (4).

The diagnosis is made through clinical assessment and microscopy (5), although it may be challenging due to differential diagnoses like psoriasis, eczema, contact dermatitis, insect bites, seborrheic dermatitis, lichen planus, systemic infections, palmoplantar keratoderma, and cutaneous lymphoma (6). Treatment is aimed at eradicating the mites using acaricidal and ovicidal drugs, complemented with local measures to reduce symptoms (3).

Case report

This was a female teenage patient with an HIV diagnosis since 2017, in stage C3 according to the CDC classification. She had used four antiretroviral therapy (ART) regimens, with the most recent being abacavir/lamivudine/dolutegravir, which she had started a year prior. She had poor adherence to treatment, with severe immunosuppression (43 cells/ μ L; 9.78%) and elevated viral replication (viral load: 527,471 copies/mL; log 5.72).

She was admitted to the emergency room at Hospital de Kennedy due to a one-month history of irritative urinary tract symptoms, along with skin involvement characterized by disseminated scaly, hyperkeratotic lesions, predominantly in both axillae, the outer ear, groin, areolas and periumbilicus, together with xerosis, fissures and excoriations (Figure 1).

Initial tests showed leukocytosis with lymphopenia (3,480 leukocytes/ mm^3 ; 20% eosinophils [1,300 eosinophils/ mm^3]), a CD4 count of 43 cells/ mm^3 (7.2%), elevated creatinine (2.17 mg/dL) and electrolytes within normal limits.

She was initially thought to have a *Cryptococcus* skin infection, but the latex test was negative. The infectious disease specialist proposed Norwegian scabies as a differential diagnosis. She began treatment with oral ivermectin, topical permethrin on the scalp and pure Vaseline. After 13 days of treatment, the patient reported clinical improvement (Figure 2).

Other opportunistic infections (in line with her immunological status) were ruled out, and the patient was discharged with instructions to follow up with dermatology and infectious disease.

Discussion

Scabies affects 200 to 300 million people per year (3). The estimated incidence in Colombia is 5.3 cases per 100,000 inhabitants (1). The most affected groups include the elderly, prisoners, homeless people, and immunosuppressed patients. Although it is a rare disease, its incidence has increased in the last few years, mainly related to immunosuppression,



Figure 1. Skin lesions on admission.

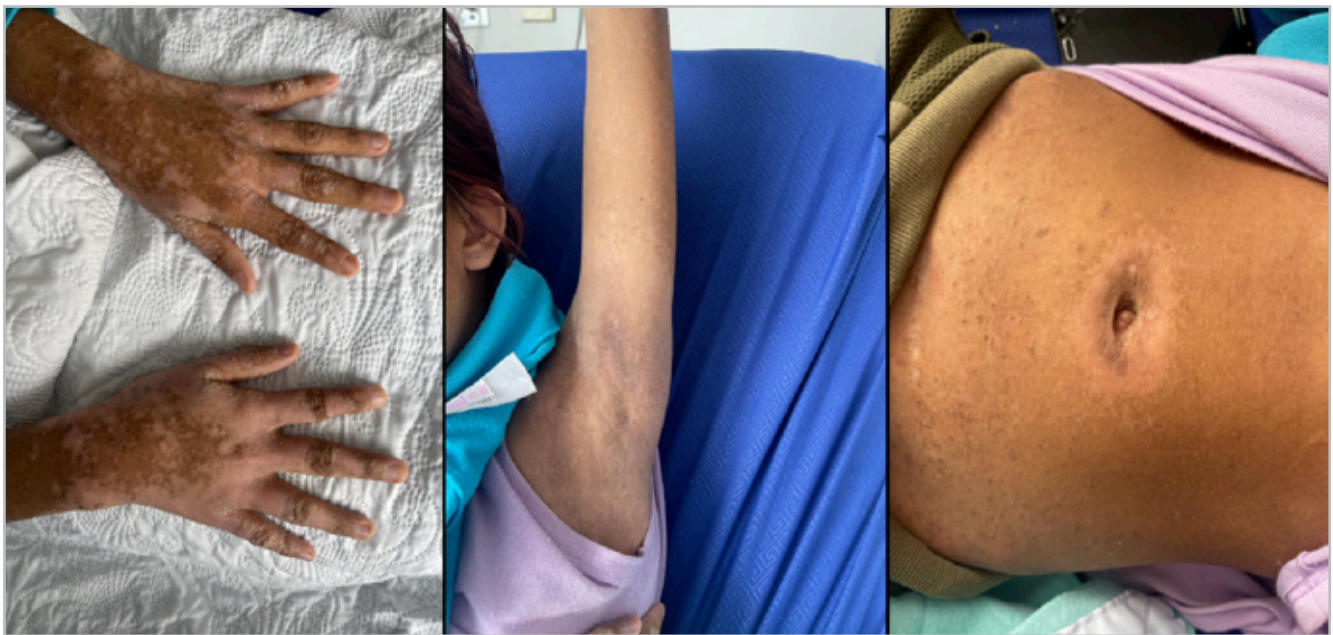


Figure 2. Skin lesions after treatment.

such as in HIV patients with CD4 lymphocyte counts of less than $150/\text{mm}^3$ (2, 7).

It is highly contagious and is transmitted by direct contact or sharing clothes, blankets, pillows, towels or furniture that have the mite (3, 6). Its life cycle begins when the female burrows into the stratum corneum, where she deposits 2–3 eggs per day. These develop into larvae, then nymphs and, finally, adults. Transmission occurs when pregnant females contact the skin of a new host (1, 3).

Signs and symptoms may vary in immunosuppressed patients but generally include intense pruritus and characteristic lesions (papules, vesicles, nodules or mite tunnels), with an incubation period of 2–6 weeks after the initial infestation (1, 8). Figure 3 shows the most common anatomical locations.

The diagnosis is made by performing a clinical exam and finding the mite or its products in skin samples (1, 8). However, it may be delayed by mistaken differential diag-

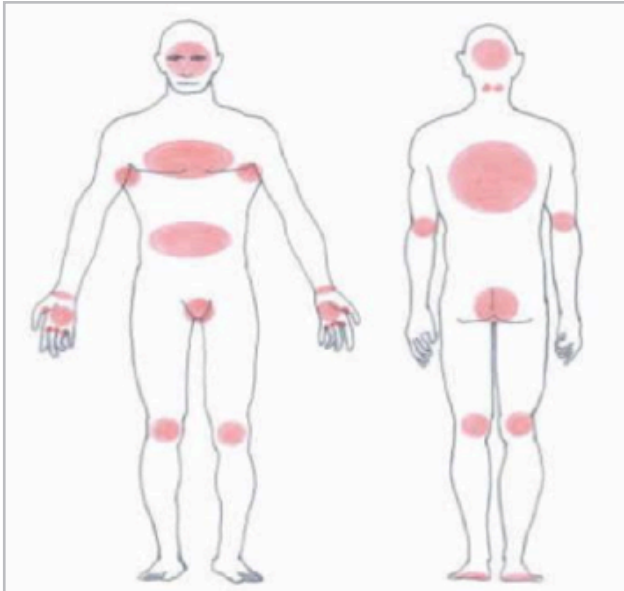


Figure 3. Typical location of the anatomical lesions.

noses, affecting the patient's treatment (6). Table 1 presents the 2019 IACS criteria for diagnosis.

Treatment includes acaricidal and ovicidal drugs. Oral ivermectin, administered at a dose of 200 µg/kg and repeated seven days later, has an efficacy of 63 to 92.8% (1, 8). Topical 5% permethrin, with 93% efficacy at the end of treatment, is also widely used. Local measures are also recommended, like Vaseline with 2.5-10% sulfur, daily baths, and constant disinfection of the environment (6).

Although the diagnosis is simple, it may be delayed in patients with HIV/AIDS, due to atypical clinical presentations. Lack of access to treatment in vulnerable populations, like migrants, increases the risk of this disease, highlighting the need to consider its impact on public health.

Ethics Committee Approval

This study was approved by the research ethics committee at Subred Sur Occidente E.S.E. Occidente, Hospital de Kennedy, Bogotá.

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Table 1. International Alliance for the Control of Scabies (IACS) 2019 criteria.

2019 IACS CRITERIA	
A: Confirmed scabies (parasitological confirmation)	At least one of the following criteria: A1: mites, eggs or feces on light microscopy of skin samples. A2: mites, eggs or feces using a high-power imaging device. A3: mite found on the patient using dermoscopy.
B: Clinical scabies	At least one of the following criteria: B1: presence of scabies burrows. B2: typical lesions affecting male genitalia. B3: typical lesions in a typical distribution and two history features: one clinical and one epidemiological.
C: Suspected scabies	At least one of the following criteria: C1: typical lesions in a typical distribution and one history feature. C2: atypical lesions or distribution and two history features.
Clinical scabies	Clinical symptoms suggestive of scabies, including hyperkeratotic scabs and skin fissures from severe infestation
History	H1: pruritus. H2: close contact with a person with pruritus or typical lesions with a typical distribution.

2024. Disponible en: <https://www.minsalud.gov.co/salud/publica/PET/Paginas/Escabiosis.aspx>

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