
CASE PRESENTATION

Sarna noruega en una paciente con trasplante renal, reporte de caso Norwegian Scabies in a Renal Transplant Patient, a Case Report

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RESUMEN

La sarna, causada por *Sarcoptes scabiei*, es una dermatosis común, en países en desarrollo y grupos vulnerables. Si bien, su presentación clásica es conocida, la sarna noruega, costrosa, representa una forma grave asociada a la inmunosupresión. El objetivo de este artículo es describir un caso de sarna noruega en una paciente con trasplante renal. Se presenta una paciente con trasplante renal, de 71 años, con inmunosupresión, que muestra sarna noruega con prurito intenso y lesiones rugosas, escamosas. De forma previa, había usado permethrina con reacción alérgica. La citología exfoliativa y biopsia, confirmaron la infestación por *Sarcoptes scabiei*. El tratamiento con ivermectina y jabón de azufre, resulta efectivo. A la paciente se le dio el alta con mejoría significativa. La sarna noruega, impacta de forma grave a individuos vulnerables y al sistema sanitario. Prevención, diagnóstico preciso y tratamiento oportuno, son cruciales para su control.

Palabras clave: escabiosis, huésped inmunocomprometido, *sarcoptes scabiei*, trasplante de riñón

Descriptores: escabiosis; huésped inmunocomprometido; *sarcoptes scabiei*; trasplante de riñón

ABSTRACT

Scabies, caused by *Sarcoptes scabiei*, is a common dermatosis in developing countries and among vulnerable groups. Although its classic presentation is well-known, Norwegian (crusted) scabies represents a severe form associated with immunosuppression. The objective of this article is to describe a case of Norwegian scabies in a renal transplant patient. A 71-year-old female renal transplant patient with immunosuppression presented with Norwegian scabies, exhibiting intense pruritus and rough, scaly lesions. She had previously used permethrin with an allergic reaction. Exfoliative cytology and biopsy confirmed the infestation by *Sarcoptes scabiei*. Treatment with ivermectin and sulfur soap was effective. The patient was discharged with significant improvement. Norwegian scabies severely impacts vulnerable individuals and the healthcare system. Prevention, accurate diagnosis, and timely treatment are crucial for its control.

Keywords: scabies, immunocompromised host, *sarcoptes scabiei*, kidney transplantation

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INTRODUCTION

Scabies is a dermatosis caused by the mite *Sarcoptes scabiei* var. *hominis*; its method of transmission is primarily direct through skin-to-skin contact and, less frequently, via fomites. Certain risk factors increase the likelihood of contracting the infestation, such as overcrowding in the usual place of residence, poor ventilation, and prolonged direct contact with individuals infected by the mite. Its main clinical characteristic is pruritus, an antigenic response to the saliva, eggs, and feces of the agent or due to its direct effect.⁽¹⁾

Scabies is one of the most frequent dermatological diseases and represents a considerable portion of skin diseases in developing countries. It is estimated that the cumulative number of affected individuals is 400 million per year worldwide. It is more common in tropical zones and where socioeconomic resources are scarce. It is important to highlight that it has a higher prevalence among vulnerable groups, such as children and the elderly. In Cuba, there are no exact statistics on the frequency of this disease, let alone of the crusted form.^(2,3)

Clinical manifestations can occur between three and six weeks in cases of primary infestation; but in cases of reinfestation, they can arise within one to two days.⁽⁴⁾

Immunosuppressed individuals, including those infected with the human immunodeficiency virus (HIV) and post-transplant patients, can present a crusted and severe form of the disease currently known as Norwegian, crusted, or hyperkeratotic scabies. It is characterized by the formation of vesicles and thick crusts on the skin that contain millions of mites of the genus *Sarcoptes scabiei*. It was first described in Norway in 1848 in leprosy patients. The name 'Norwegian' was given by Von Hebra in 1862, and it later received other denominations such as: barn itch, Michigan itch, Navy itch, and camp itch.⁽⁵⁻⁷⁾

The importance of this article lies in the detailed description of an uncommon case, which contributes to expanding clinical and epidemiological knowledge about this disease and its variants, presented in a post-transplant patient. This report provides local evidence that strengthens epidemiological surveillance and improves diagnostic and treatment strategies. Therefore, the objective of this report is to

describe a case of Norwegian scabies in a ren transplant patient.

CASE PRESENTATION

Patient Information

This is a 71-year-old white female patient, retired, with a personal pathological history of polycystic kidney disease. She is regularly treated with prednisone (5 mg) one tablet daily and cyclosporine (25 mg) two tablets daily. Due to this condition, she underwent a right renal transplant seven years ago.

History of Present Illness

The patient presented to the Admission Center of the Pedro Kourí Institute of Tropical Medicine (IPK) due to experiencing, for the past month, generalized pruritus predominantly at night and skin lesions. The lesions initially appeared as pinpoint spots that would blanch with pressure, located on her arms and shoulders. These progressed to a rough, plaque-like, and scaly appearance, see Figure 1.



Fig. 1: Image of the dorsum of the foot (A) and the anterior aspect of the leg (B), showing rough, plaque-like, scaly lesions

She presents with a fine, pruritic rash across the entire abdomen, which appeared after self-medication with topical permethrin. She has been treated with antihistamine regimens such as diphenhydramine (25 mg) one tablet every eight hours and loratadina (10 mg) one tablet daily without improvement. She shows a compromised general condition and anxiety exacerbated by intense burning.

She was admitted with a presumptive diagnosis of Norwegian scabies and an adverse reaction to permethrin. Complementary tests were performed during admission, all within normal ranges.

Therapeutic Management and Follow-up

In the ward, treatment was initiated with diphenhydramine (20 mg) one intravenous am-

pule every eight hours, while maintaining her baseline therapy. Exfoliative cytology of the lesions revealed extensive infestation by *Sarcoptes scabiei*. Additionally, two skin biopsies were performed, reporting hyperkeratosis and parakeratosis with an inflammatory infiltrate of eosinophils and histiocytes, confirming the presumptive diagnosis.

Pharmacological therapy was started with ivermectina (6 mg) at a dosage of 0.2 mg/kg on days zero, two, seven, fourteen, and twenty-one. After the second administration, the patient experienced notable improvement in pruritus, and the lesions began to resolve. Therapy with sulfur soap for personal hygiene and daily changes of clothing and bed linens was implemented. Following her improvement, she was referred back to the specialists managing her underlying conditions at the Center for Medical and Surgical Research for check-up and follow-up of her polycystic kidney disease, and to the Dermatology department.

Ethical Considerations

The research was conducted in accordance with the principles of medical ethics and the Declaration of Helsinki.⁽⁸⁾ Data were obtained solely for research purposes. The results do not specifically identify the patient.

DISCUSSION

Norwegian scabies is typically associated with systemic immunosuppression (HIV, lymphoproliferative disorders, post-transplant patients, and long-term corticosteroid use), as well as severe systemic diseases like autoimmune or neurological conditions. This is due to these patients' inadequate response to the proliferation of mites.⁽⁹⁾

Some authors⁽¹⁰⁾ describe a case with desquamative lesions on the palms of the hands and soles of the feet, in a patient with a history of Down syndrome—aspects that do not align with the lesion characteristics, location, and personal history of the presented case. Other research^(6,11) identifies additional risk factors such as residence in nursing homes and dementia. However, all these patients, along with transplant recipients, constitute at-risk populations for severe forms of scabies presentation, as has been established.

The immunosuppression required to prevent transplant rejection weakens the body's immune response, making the patient more susceptible to infections, including parasitic ones like scabies. This allows the infestation to be-

come more extensive and severe, facilitating the development of Norwegian scabies with its characteristic hyperkeratosis and high mite burden.

Timely diagnosis is crucial for preventing epidemic outbreaks and is based on clinical presentation, history, and skin lesions. It is confirmed through laboratory tests that directly visualize the mite, its eggs, or feces. The sample is placed on a glass slide, and 20 % or 30 % potassium hydroxide (KOH) is added. This dissolves excess keratin, thereby allowing for better visualization of the mites and their by products.^(12,13) In this case, this exfoliative cytology technique was used and supplemented with two skin biopsies to ensure the highest diagnostic accuracy.

Researchers present a case⁽¹⁴⁾ of a patient with advanced dementia and other associated chronic diseases, diagnosed with Norwegian scabies. The treatment used was a topical ointment containing permethrin, crotamiton, lindane, benzyl benzoate, and sulfur. However, topical treatments often fail to penetrate the thickened, crusted skin, leading to therapeutic failure. An oral ivermectin dose of 200 µg/kg on days one, two, and eight is a safe and effective first-line treatment⁽¹⁵⁾. This was the only treatment used in the present case; no topical drugs were applied, as only permethrin was available, but the patient reported an allergy.

The presented case highlights the importance of constant vigilance, adherence to infection control protocols, and multidisciplinary collaboration to optimize the management of this disease in vulnerable populations. This reaffirms the need for comprehensive, patient-centered care.

Norwegian scabies, by affecting debilitated patients and compromising their quality of life, imposes a significant burden both on the individual and on the healthcare system, including resource expenditure. Prevention, the appropriate use of diagnostic tools, and the administration of treatment are crucial strategies for controlling this condition in vulnerable populations. The implementation of these strategies is fundamental to minimizing the impact of this preventable disease.

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Conflict of Interest:

The authors declare that there are no conflicts of interest regarding the publication of this article.

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