

CASE REPORT

NORWEGIAN SCABIES IN HIV INFECTED MALE WITH EXCELLENT RESPONSE TO ANTI-SCABIETIC TREATMENT: A CASE REPORT

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ABSTRACT: Norwegian scabies also known as crusted scabies or hyperkeratotic scabies is characterized by hyperkeratosis and crusting of the skin due to the profuse proliferation of mites resulting from an altered host response to the infestation. Various cutaneous, neurologic and immunologic diseases like AIDS have been described to predispose to crusted scabies. The defining clinical features of scabies in HIV infected persons are determined by the degree of immunosuppression. We report a case of crusted scabies in a young male with very low CD4 count that showed excellent response to antiscabietic treatment.

KEYWORDS: Norwegian scabies, HIV infection, Permethrin, Ivermectin.

INTRODUCTION: Crusted scabies was first described among lepers in Norway in 1848 by Boeck and Danielssen.¹ Von Hebra in 1862 named it "Scabies Norvegi Boeki". It is characterized by hyperkeratosis and crusting of the skin due to the profuse proliferation of mites resulting from an altered host response to the infestation. Various cutaneous, neurologic and immunologic diseases like AIDS, T cell leukemia, lymphoma, leprosy, parkinson's disease, critical illness, Down's syndrome, topical potent steroids, Diabetes mellitus have been described to predispose to crusted scabies.²

The defining clinical features of scabies in HIV infected persons are determined by the degree of immunosuppression. More fulminant and contagious forms of scabies appear with greater degree of immunosuppression. Crusted (Norwegian) scabies usually occurs in patients with advanced HIV disease. In patients with AIDS, crusted scabies can act as a portal of entry for the bacteria and lead to sepsis and death.³ We report a case of crusted scabies in a young male with very low CD4 count that showed excellent response to antiscabietic treatment.

CASE REPORT: A 25 years old male was admitted with fever and productive cough for the past 2 months. He complained of itching all over the body since 6 months and crusting over hands and feet for the past 2 months. He was diagnosed as HIV infected 2 months prior to admission but is not on any antiretroviral drugs. On examination, the patient had hyperkeratotic scaly plaques over interdigital spaces, palmar creases, volar aspect of both wrists (Figure 1a), both feet and soles (Figure 2a). Eczematous scaly lesions were present over axillae, anterior aspect of elbows, waist, popliteal fossae. Multiple papules with excoriations were seen on genitalia. Diffuse scaling was present on the scalp and toe nails showed subungual hyperkeratosis. General examination revealed gross pallor and generalized lymphadenopathy. Laboratory investigations disclosed CD4 count of 21/mm³, Hemoglobin 9gm%, ESR- 45mm/1st hour with rest of the haematological test being normal. 10% KOH mount of the scrapings from the interdigital space showed many *Sarcoptes scabiei* mites with eggs (Figure 3). Histopathological examination of the biopsy specimen from the hyperkeratotic plaque over left sole showed parakeratotic stratum corneum, acanthosis along with mite body parts in the epidermis and mild infiltrate in the upper dermis. The patient was diagnosed as a case of crusted

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scabies with retroviral disease and was started on oral ampicillin 500mg thrice a day and metronidazole 400mg twice a day for a week. He was given Whitefield's ointment (3% salicylic acid and 6% benzoic acid) for topical application twice daily, 5% permethrin cream application for 24 hours at weekly intervals for 3 weeks along with oral ivermectin 12mg weekly for 3 weeks. The patient showed an excellent response with the above treatment with resolution of crusted lesion and subungual hyperkeratosis (Figures 1b, 2b). His family members were given a single dose of ivermectin and none of them developed lesions.

DISCUSSION: Human scabies is a contagious cutaneous infestation caused by the ectoparasite *Sarcoptes scabiei* var. *hominis*.⁴ Norwegian scabies also known as crusted scabies or hyperkeratotic scabies is a highly contagious form of scabies characterized by hyperkeratosis and crusting of the skin due to profuse proliferation of mites resulting from an impaired response to the infestation.⁵ These individuals harbour millions of mites in their scales or crusts and thus are highly contagious to contacts.

Patients with defective T-cell immune response, decreased cutaneous sensation and reduced ability to mechanically debride the mites are prone to develop crusted scabies. Skin homing cytotoxic T cells in combination with the lack of B cells contribute to imbalanced immune response resulting in uncontrolled growth of the parasite. Australian aborigines with normal immunity also develop crusted scabies and the reason for the occurrence of crusted scabies in this community is unclear.⁶ Certain studies have shown an association between scabies and HLA-A11.^{7,8} Increased levels of interleukin-4 are responsible for hyperkeratosis seen in crusted scabies.⁸

Immunocompetent patients rarely develop crusted scabies. In immunocompromised hosts, the weak immune response fails to contain the disease and results in fulminant hyper-infestation and the number of mites in these patients may exceed a million. Norwegian scabies may not be associated with pruritus due to an altered immune response in these patients. Palms, soles and face may be affected and nails may be thickened and dystrophic in crusted scabies in contrast to the usual form of scabies. Secondary bacterial infection may result in pyoderma, septicaemia, erythroderma and even death in crusted scabies.⁹

Differential diagnosis includes drug reactions, systemic lupus erythematosus, pityriasis rosea, pediculosis corporis, Reiter's disease, plaque psoriasis¹⁰. Crusted scabies is a highly contagious disease easily transmitted through fomites in addition to direct contact and thus capable of triggering an epidemic of scabies. Increased parasitic load, hyperkeratotic skin, and involvement of the nails make the treatment of Norwegian scabies difficult. The mainstay of treatment is the application of topical keratolytic agent, topical scabicide agents, or oral Ivermectin given at one- to two-week intervals for two to three weeks at a dose of 200-250 mcg/kg. The patient should be isolated and the environment disinfected.

A high index of suspicion and early diagnosis help in successfully curing and containing the spread of this highly contagious and deceptive form of scabies.

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Figure 1a: Crusted scabies of palms, before treatment.

Figure 1b: After treatment.



Figure 1a and 1b

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Figure 2a: Crusted scabies at axilla, before treatment.

Figure 2b: After treatment.



Figure 2a and 2b

Figure 3a: Crusted scabies of soles, before treatment.

Figure 3b: After treatment.



Figure 3a and 3b

Figure 4a: Crusted scabies at dorsum of feet, before treatment.

Figure 4b: After treatment.



Figure 4a and 4b

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Figure 5: Scapings with, 10% KOH mount,micoscopy shows numerous sarcoptes scabiei.

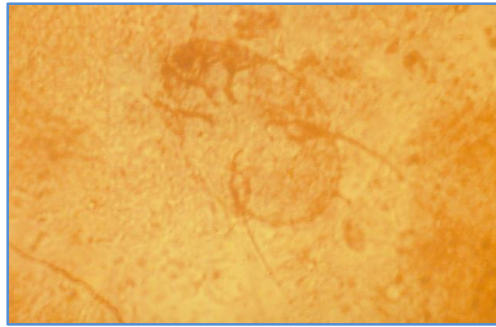


Figure 5

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