CLINICAL CASE

Dermoscopy of Norwegian scabies in a patient with acquired immunodeficiency syndrome

Dermoscopia da sarna crostosa associada à síndrome da imunodeficiência adquirida

Loan Towersey [1]
Cecilia A. Feldman [3]
Timothy G. Berger [5]
Marina X. da Cunha [2]
Carlos Gustavo C. de Castro [4]

Abstract: The authors report here on the case of a female patient with Norwegian (crusted) scabies and acquired immunodeficiency syndrome whose compliance with antiretroviral therapy was poor. Definitive diagnosis was confirmed by direct microscopic examination, which revealed numerous Sarcoptes scabei. Dermoscopy showed pathognomonic scabetic burrows and brownish structures in the shape of a hand-glider with a millipede-like appearance. The latter constitutes a diagnostic feature in the pathology of Norwegian scabies that has not yet been described. The patient responded well to oral ivermectin and topical vaseline with sulphur at a proportion of 10%. There was a simultaneous improvement in dermoscopic parameters.
Keywords: dermoscopy; Sarcoptes scabiei; acquired immunodeficiency syndrome.

Resumo: Os autores relatam o caso de uma paciente com sarna norueguesa e síndrome da imunodeficiência adquirida com baixa aderência à terapia antirretroviral. O diagnóstico definitivo foi confirmado pelo exame parasitológico direto. A dermatoscopia mostrou sulcos escabióticos e estruturas acastanhadas em asa-delta já descritas, além de uma estrutura morfologicamente semelhante a um gongolo (diplopoda-símile). Esta última representa um elemento patodiagnóstico da SN não previamente descrito. Houve boa reposta clínica ao uso oral da ivermectina e ao uso tópico da vaselina com enxofre a 10%, com concomitante melhora dos parâmetros dermatoscópicos.
Palavras-chave: Dermoscopia; Sarcoptes scabiei; Síndrome de imunodeficiência adquirida

INTRODUCTION

Crusted or Norwegian scabies is a rare and severe form of infestation by the *Sarcoptes scabiei* var. *hominis*, characterized by a large number of parasites in the skin. Crusted scabies is commonly seen in immunocompromised patients with conditions such as lymphoma, leukemia, acquired immunodeficiency syndrome, graft-versus-host disease and in patients undergoing treatment with immunosuppressors or corticosteroids. Immune response failure, particularly in the case of cell-mediated immunity, has been considered in the possible pathogenesis of this disease. The condition also occurs in institutionalized patients and in those with neurological abnormalities such as hanseniasis and syringomyelia. Lesions are crusted, thick, greyish, squamatous and extend beyond the circle of Hebra, affecting the scalp, the palms of the

Received on August 11th, 2008.
Approved by the Peer Review Board and accepted for publication on October 30th, 2008.
* Study performed at the Professor Rubem David Azulay Institute of Dermatology, Santa Casa da Misericórdia, Rio de Janeiro, RJ, Brazil.
Conflict of interest: None / *Conflito de interesse: Nenhum*
Financial funding: None / *Suporte financeiro: Nenhum*

[1] Research Fellow, Department of Dermatology, University of California (UCSF), San Francisco, CA, USA; Doctorate Degree in Dermatology from the Federal University of Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil; Dermatologist, AIDS Outpatient Department, Carlos Tortelly Municipal Hospital, Niterói, RJ, Brazil; Preceptor, Postgraduate Course on Dermatology, Professor Rubem David Azulay Institute of Dermatology, Rio de Janeiro, RJ, Brazil.
[2] Masters Degree in Infectious and Parasitic Diseases, Federal University Fluminense (UFF). Physician, AIDS ward, Carlos Tortelly Municipal Hospital, Niterói, RJ, Brazil.
[3] Postgraduate specialization in Clinical Medicine at the Hospital Copa D'Or, Postgraduate School of Medicine, Pontifical Catholic University, Rio de Janeiro, Brazil. Postgraduate Medical Training, Dermatology Department, General Polyclinic, Rio de Janeiro, RJ, Brazil.
[4] Physician, Specialist in Dermatology certified by the Brazilian Society of Dermatology, Rio de Janeiro, RJ, Brazil.
[5] MD, Professor of Dermatology, University of California (UCSF), San Francisco, CA, USA.

hands, the soles of the feet and the subungual region. Dermoscopy is an extremely useful and highly sensitive method for diagnosing this parasitosis.[1,2] Dermoscopy permits diagnosis to be made based on the evidence of parasites and scabetic burrows and is also useful in monitoring the efficacy of therapy.[3,4]

CASE REPORT

A female patient, 58 years of age, an alcoholic with acquired immunodeficiency syndrome (AIDS), whose compliance with antiretroviral therapy was poor, was hospitalized in February, 2008 in the AIDS ward of this institute with diarrhea, malnutrition and crusted, pruriginous lesions disseminated all over her body and scalp, including the palms of her hands and the soles of her feet, with pruritus principally at night (Figure 1). Initially, these lesions were located predominantly on the scalp with intense desquamation and pruritus. The patient had already taken an oral dose of ivermectin. She was placed in isolation in view of the clinical suspicion of crusted scabies. Concommitantly, she had a herpes lesion on her lip and oral candidiasis. Immunological parameters showed a reduction in CD4 lymphocytes (480 cells/mm^3 in October 2007 compared to 22 cells/mm^3 in March 2008). Viral load was undetectable. As soon as she was admitted, antiretroviral therapy was reinitiated with lamivudin, efanvirenz and DDI. Dermoscopy was performed (Dermalite Pro II) at a magnification of 10x, and showed the presence of scabetic burrows and browish structures with a millipede-like appearance and the shape of a hand-glider (Figure 2). Diagnosis was confirmed by direct microscopic examination of the skin lesions using a 10% solution of potassium hydroxide, which revealed numerous parasites and eggs (Figure 3). The patient was treated with oral ivermectin and vaseline containing 10% sulphur. She responded well to treatment and a simultaneous improvement occurred in the dermoscopic parameters of the infestation (Figure 4). Azythromicin was used to treat the secondary bacterial infection, fluconazol to treat the candidiasis and acyclovir to manage the herpes infection. The patient was released from hospital 15 days later with instructions to continue therapy on a outpatient basis.

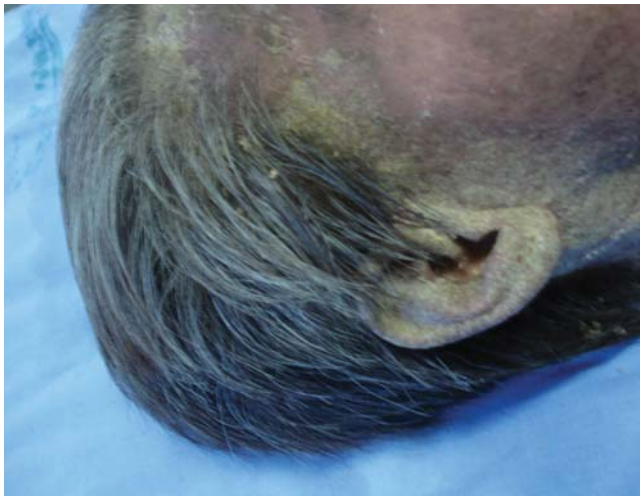

Figure 1: Appearance of the crusted lesions on the face and scalp of the patient

Figure 2: Dermoscopy showing triangular (hand-glider-shaped), brownish structures, linear lesions (burrows) and diplopod-like images

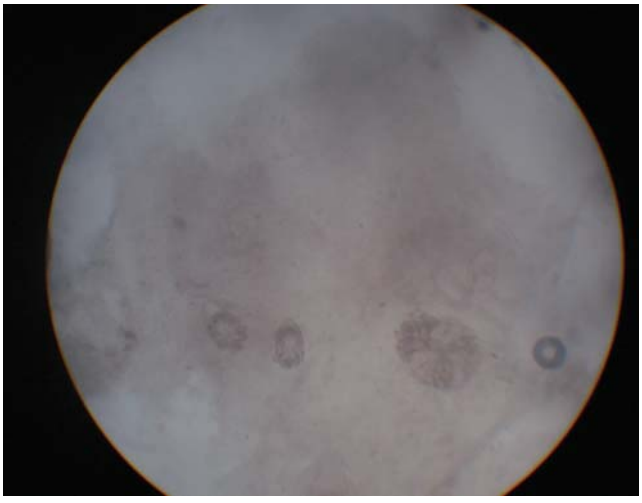

Figure 3: Direct microscopy of squamous skin lesions of Sarcoptes scabiei clarified with KOH at 10% (original magnification 20x)

DISCUSSION

The fact that the patient had abandoned antiretroviral therapy and suffered a resulting sharp fall in her immunological parameters, together with her alcoholism and malnutrition, were factors that contributed towards scabies infestation, a form of para-

Figure 4: Significant clinical improvement after 14 days of treatment

sitosis associated with immunosuppression. In the classic form of scabiosis, the patient is infested by up to 12 parasites (each tunnel being inhabited by one single parasite). Dermoscopy permitted identification of the burrows as well as detection of the parasites, which the method revealed as brownish, triangular structures in the shape of a hand-glider, these corresponding to the anterior portion of the *Sarcoptes scabiei* [1,2]. In hyperkeratotic scabies, the usefulness of dermoscopy has already been proven, both in diagnosis and in therapeutic follow-up [2]. The large number of parasites in this form of infestation makes them easily detectable by this test. In patients with AIDS, the pruritus caused by the HIV infection, the dryness of the skin and the exuberant lesions of seborrheic dermatitis may hamper the diagnosis of crusted scabies [5], emphasizing the importance of the dermoscopic finding of millipede-like structures, possibly representing a new dermoscopic standard in the diagnostic pathology of crusted scabies. Prompt isolation of the patient avoids dissemination of the infestation. In crusted scabies, thousands of parasites are present and the finding of millipede-like structures probably correlates with larger excavations than the classically described scabetic burrows. The good response of the patient to therapy coincided with an improvement in the patterns of scabiosis and a reduction in the number of parasites found at dermoscopy. ❑

REFERENCES

1. Dupuy A, Dehen L, Bourrat E, Lacroix C, Benderdouche M, Dubertret L, et al. Accuracy of standard dermoscopy for diagnosing scabies. J Am Acad Dermatol. 2007;56:53-62.
2. Erbil H, Sezer E, Kurumlu Z, Tastan HB. Norwegian scabies of the legs in a patient with paraplegia. Clin Exp Dermatol. 2007;32:347-8.
3. Prins C, Stucki L, French L, Saurat JH, Braun RP. Dermoscopy for the in vivo detection of sarcoptes scabiei. Dermatology. 2004;208:241-3.
4. Zalaudek I, Giacomel J, Cabo H, Di Stefani A, Ferrara G, Hofmann-Wellenhof R, et al. Entodermoscopy: a new tool for diagnosing skin infections and infestations. Dermatology. 2008;216:14-23.
5. Ramachandran V, Shankar EM, Devaleenal B, Pachamuthu B, Thousen SM, Sekar R, et al. Atypically distributed cutaneous lesions of Norwegian scabies in an HIV-positive man in South India: a case report. J Med Case Reports. 2008;2:82.

Endereço para correspondência / Mailing address:
Loan Towersey
Rua Cel. Moreira César 229/1112 Icaraí - Niterói
24230-052 RJ
loantowersey@gmail.com

How to cite this article/*Como citar este artigo*: Towersey L, Cunha MX, Feldman CA, Castro CGC, Berger TG. Dermoscopy of Norwegian scabies in a patient with acquired immunodeficiency syndrome. An Bras Dermatol. 2010;85(2):221-3.