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Case Report

An Unusual Case of Human Scabies with Systemic Lupus Erythematosus: Diagnostic and Management Challenges in a Resource-Constrained Setting: Case Report

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Abstract: Scabies is a contagious skin infestation caused by *Sarcoptes scabiei* var. *hominis*. Human contamination occurs mainly through prolonged skin-to-skin contact with an infected person. The diagnosis of human scabies in case of co-morbidity with another chronic skin disease could be a real challenge. Here, we report an unusual and rare case of co-morbidity of crusted scabies with systemic lupus erythematosus in resource-limited setting treated successfully with a combination of medical treatments with lifestyle and dietary measures. This case also showed the diagnostic and management challenges in a setting where the health system presents some weaknesses.

Keywords: Case report, crusted scabies, systemic lupus erythematosus.

INTRODUCTION

Scabies is a contagious skin infestation caused by *Sarcoptes scabiei* var. *hominis*. Human contamination occurs mainly through prolonged skin-to-skin contact with an infected person [1]. In 2017, the worldwide prevalence of scabies was estimated at 175.4 million [2]. The clinical manifestations and evolution of scabies in a patient are highly dependent on the immunological conditions of the host [3]. If for the classic and nodular forms of scabies, the evolution is usually towards healing, crusted scabies often evolves towards life-threatening complications [4, 5]. Various pathologies (cutaneous, neurological and immunological) have been reported as risk factors for crusted scabies [6]. Scabies leads to high morbidity, in particular sleep disorders, with the consequence of reduced productivity [7]. The diagnosis of human scabies could be a real challenge when associated with chronic skin disease. Here, we report a case of crusted scabies with systemic lupus erythematosus (SLE) in resource-limited setting with a focus on diagnostic and management challenges.

CASE PRESENTATION

Patient information

A 23-year-old housewife with no known personal or family medical history consulted the dermatology department of the regional university hospital center of Ouahigouya (RUHCO) in Burkina Faso, for diffuse pruritic erythematous-crusted dermatosis. The symptoms began five years ago when the patient was resident in Ivory Coast Republic with hypersensitivity to the sun that worsened by the onset of asthenia and vespertilio erythema, erythematous-crusted rashes on the trunk and progressive hair loss. This episode prompted her to consult during three years

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period and to receive unsuccessful various treatments. The clinical condition of the patient worsened two years ago with the onset of predominantly nocturnal pruritus and weight loss. This situation prompted her to return to her country (Burkina Faso) in order to be treated by a traditional healer without any improvement. This new failure motivated the patient to consult in a health facility from where she was transferred for better care to the RUHCO.

Clinical findings

Clinical examination performed at admission to RUHCO found poor hygiene, body-mass index (BMI) at 17.04, erythematous and atrophic skin lesions covered with thick scales-crusts and floury. Scratch lesions were also noted. The skin lesions were mainly located in the concha of the ear, on the breasts, the outer faces of the arms, the abdomen, the knees, the middle third of the back, and the buttocks. The hair was thin, sparse, on a scalp with diffuse erythematous and atrophic lesions, also located on the neck (Figure 1).

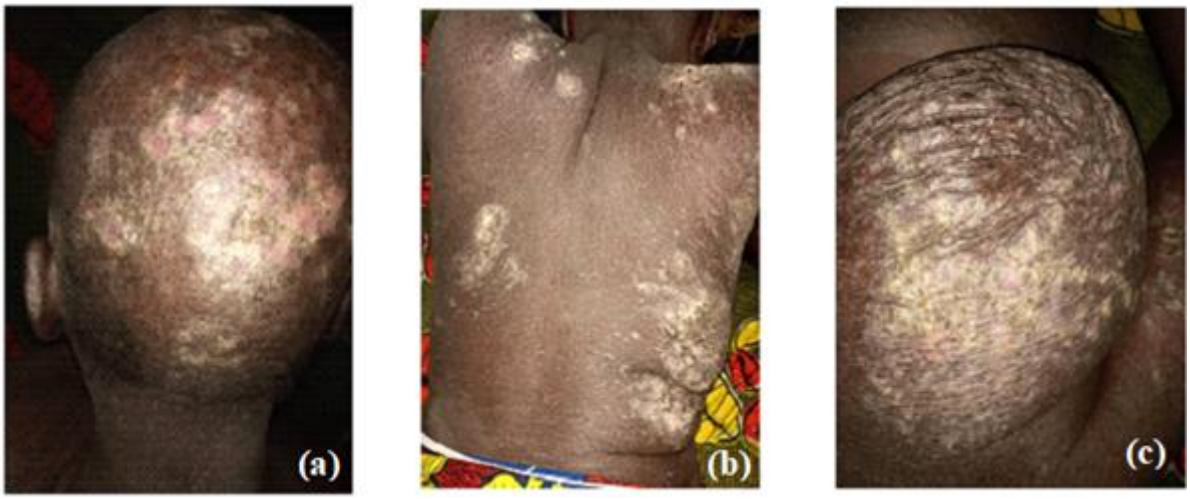

Figure 1: Erythematous-crusted lesions before anti-scabious treatment. Lesions are localized on the head (a), on the back (b) and on the breast(c)

Diagnostic Assessment

The main laboratory test results were as following: white blood cells at 7.8 10^3/mm^3, creatinine at 45.9 µmol/L, glycemia at 5.06 mmol/L. HIV retroviral serology and HBS antigen testing were negatives. A positive result for anti-Smith antibody consistent with a diagnosis of SLE was also identified. Light microscopy of skin scraping specimens isolated adult *Sarcoptes scabiei* mites (Figure 2).

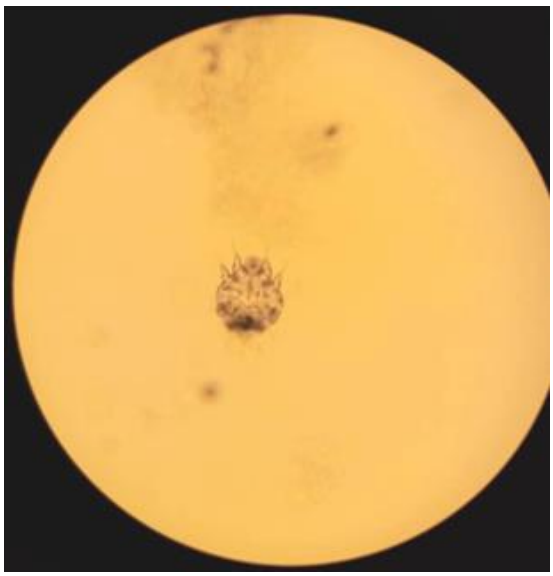

Figure 2: Visualization of *Sarcoptes scabiei* adult by light microscopy

Diagnosis: The diagnosis of crusted scabies with SLE was formally concluded.

Therapeutic interventions: Undertaken treatment against scabies included:

- Chlorhexidine solution for bubble bath mornings and evenings
- Salicylic vaseline 10%, application mornings and evenings on the crusts
- Azithromycin tablet 500 mg: 01 tablet per day for three days
- Mequitazine tablet 10 mg: one tablet per day for five days
- Benzyl benzoate 10%: one application all over the body to be repeated after 24 hours
- Ivermectin tablet 3 mg: 03 tablets in single dose

The therapeutic regimen (ivermectin + benzyl benzoate 10%) was repeated two weeks and then one month later. General hygiene and laundry decontamination measures were provided to the patient. High-protein diet was also recommended to the patient to improve her nutritional condition. However, an investigation of the patient family members in order to detect contact cases was not performed due to the patient's fear of being stigmatized and rejected within her community.

Treatment of SLE included:

- Prednisone 20 mg tablet: 1 mg/kg/day for one month then 20 mg/day
- Hydroxychloroquine 200 mg tablet: 6.5 mg/kg/day (i.e. 400 mg/day).

Follow-up and outcome of interventions

The complete resolution of pruritus, scales and crusts has been observed one month after the start of anti-scabious treatment. The patient reported no adverse effects related to the administration of the drugs. Based on dermatological criteria the patient was declared cured of scabies (Figure 3). The clinical examination four months after her admission to the RUHCO, noted a good general condition and a weight gain of 7 kg.

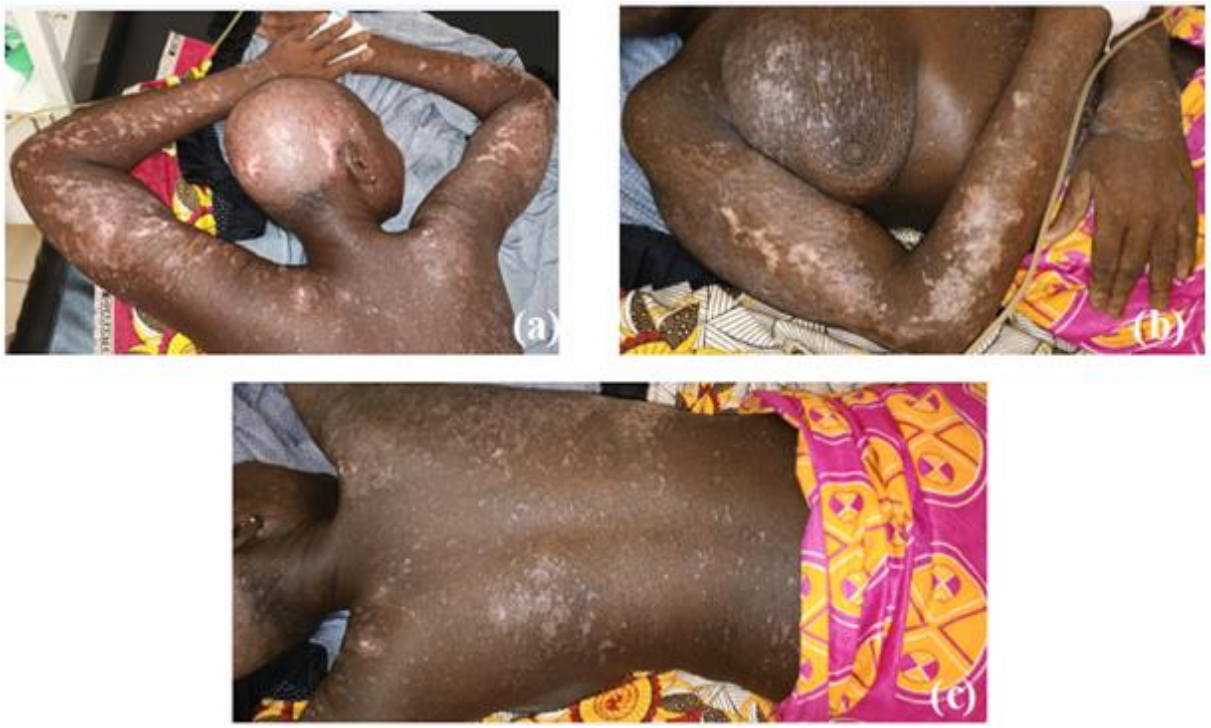

Figure 3: Evolution of lesions after anti-scabious treatment. Lesions are localized on the head, the arms and forearms and the back (a), on the breast and right arm and forearms (b) and on the back (c)

Patient perspective: The good evolution of the patient's health condition allowed her to consider a return to the Ivory Coast Republic. A reference note was then written by the dermatologist for her medical follow-up in this country.

DISCUSSION

Crusted scabies in patient with SLE is an unusual and rare case of co-morbidity [8]. The existence of such a comorbidity in humans favors the evolution towards crusted scabies but also towards potentially fatal outcomes [8]. The poor outcomes observed with scabies and SLE co-morbidity are likely

due to the association of immune deficiency with skin lesions [8]. Crusted scabies is the result of the inability of the host's immune system to control the proliferation of scabies mites in the skin [9]. Diagnosis of scabies is usually limited to clinical assessment, raising the problem of differential diagnosis particularly in case of co-morbidity with other skin disease. Confirmed scabies requires microscopic or dermoscopic observation of either eggs or adult forms of *S. scabiei* mites. Accurate diagnosis of scabies infection is important for patient treatment and for public health control [10]. In our case report, the patient's diagnostic and therapeutic itinerary showed the challenges of diagnosing and treating scabies in a setting where the health system presents some weaknesses. Indeed, in such context, the first consultation for a patient is often traditional medicine with its diagnostic and therapeutic shortcomings. In addition, the first level in the classic health system in resource-limited countries is often performed by non-medical personnel. The strong contribution of this non-medical staff in the management of various pathologies including scabies justifies the importance of continuous training of these health workers in the diagnosis and management of specific pathologies. In the case reported here, a community investigation could not be performed due to the patient's fear of being stigmatized or even rejected by her community.

CONCLUSION

The present case report highlights the challenges of establishing accurate diagnosis and management of human scabies associated with a chronic skin disease, in resource-limited setting. This can lead to misdiagnosis and delays in providing adequate treatment. It also highlighted the possible existence of undiagnosed scabies cases in the community. This situation challenges us on the need to conduct surveys in the community in order to track down scabies cases that escape the conventional health system.

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Conflict of Interest: No conflict of interest.

Authors' Contributions

François Quiswindésida Koala did sample collections and laboratory analyzes. Fagnima Traoré and Isidore W. Yerbanga, wrote the manuscript. All authors revised the final version of manuscript. All authors read and approved the final manuscript.

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