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Norwegian scabies in patients with Down syndrome: Two case reports

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Abstract

Hyperkeratotic scabies, or Norwegian scabies, are a severe form of scabies occurring in immunocompromised patients or those with a mental deficiency such as Down's syndrome. It is characterized by a clinical polymorphism posing difficulties in clinical diagnosis, hence the need for a parasitological examination allowing the detection of the parasite and, therefore, rapid treatment of this often misdiagnosed parasitosis. Through two cases of Norwegian scabies diagnosed in the Parasitology-Mycology laboratory of the Mohammed V Military Training Hospital of Rabat, we highlight the importance of discussing the diagnosis of Norwegian scabies in patients with Down syndrome.

Keywords: Norwegian scabies; Sarcoptes scabiei; Down syndrome; Parasitological examination; Case report.

Introduction

Human Scabies is an infectious disease caused by the parasite Sarcoptes scabiei. var. hominis. It presents in several forms, notably Norwegian scabies, characterized by hyperkeratotic lesions containing several million Sarcoptes, which explains its extreme contagiousness. Immunocompromised subjects or those with a mental deficiency such as Down syndrome are predisposed to developing this form of scabies. Atypical symptoms may delay its diagnosis. We present and discuss two cases of Down syndrome patients with Norwegian scabies treated successfully.

Patients and observations

Case 1

This is a 25-year-old male patient suffering from Down syndrome, of a low socio-economic level, having consulted on numerous occasions for itchy skin lesions. He was put on symptomatic treatment with antiseptics and antihistamines. A generalization of the lesions marked its evolution. On clinical examination, we noted the presence of hyperkeratotic lesions, especially on the hands and feet, and scaly lesions with yellowish scales on the trunk and thighs. We also noted a mealy appearance at the nape of the neck and the palms. A parasitological examination was carried out and revealed numerous adults of Sarcoptes scabiei, as well as eggs and droppings. The diagnosis of Norwegian scabies was made, and the patient was put on Benzyl Benzoate with daily baths without improvement. The patient was then hospitalized and put on Ivermectin and rigorous twice-daily baths with favorable outcomes.

Case 2

A 20-year-old female patient with Down syndrome, of good socio-economic level, presented with itchy skin lesions on the hands and toenail damage. On clinical examination, we noted the presence of hyperkeratotic lesions, especially on her hands and feet, which suspected fungal lesions. Mycological and parasitological examination revealed numerous adults of Sarcoptes scabiei, as well as eggs and droppings. Thus, the diagnosis of Norwegian scabies was made. The patient was hospitalized and put on Ivermectin and rigorous twice-daily baths with favorable outcomes.

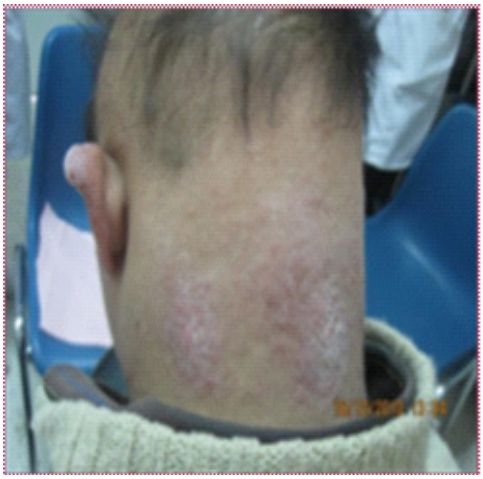

Figure 1: Mealy appearance of lesions at the nape of the neck.

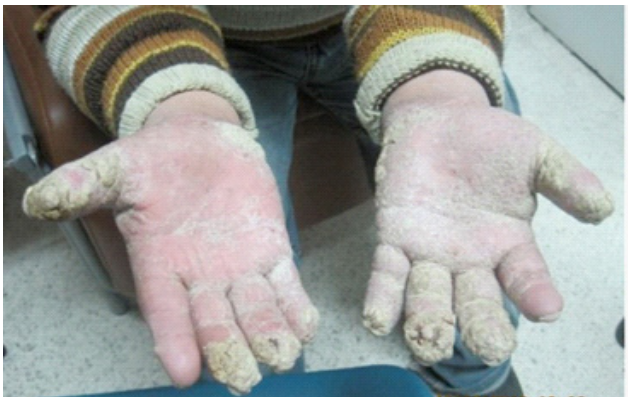

Figure 2: Hyperkeratotic appearance on the fingers and mealy appearance on the palms.

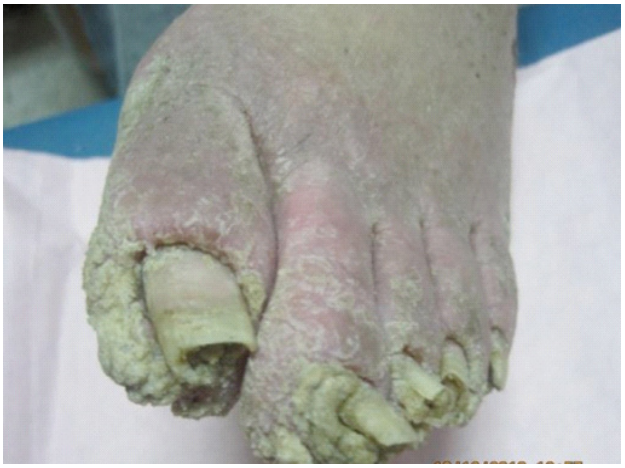

Figure 3: Hyperkeratotic appearance on the feet.

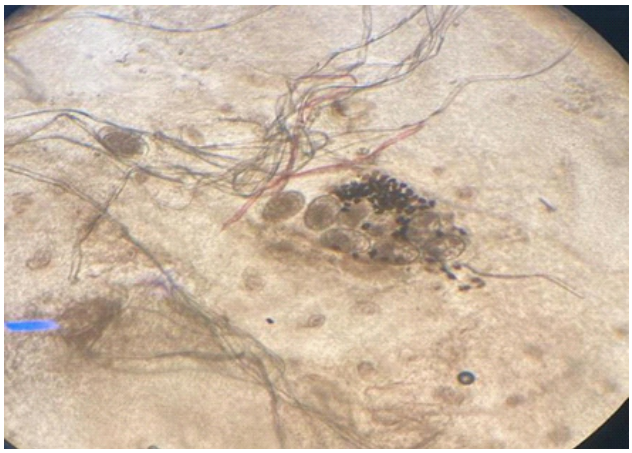

Figure 4: Microscopic examination of scales: The presence of eggs and droppings of Sarcoptes scabiei (Magnification x100).

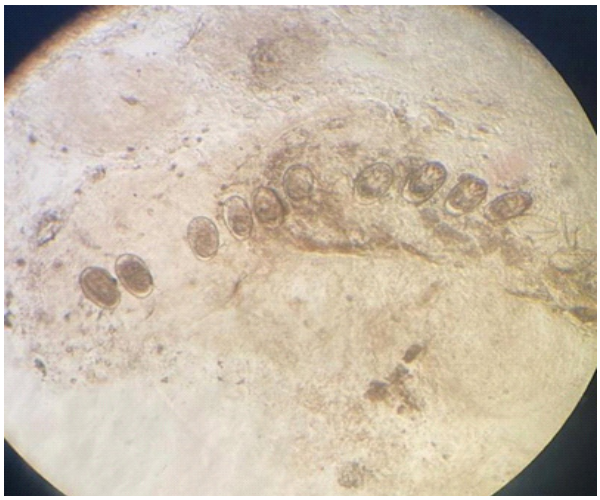

Figure 5: Microscopic examination of the scales: The presence of Sarcoptes scabiei eggs lined up in the gallery dug by the female (Magnification x100).

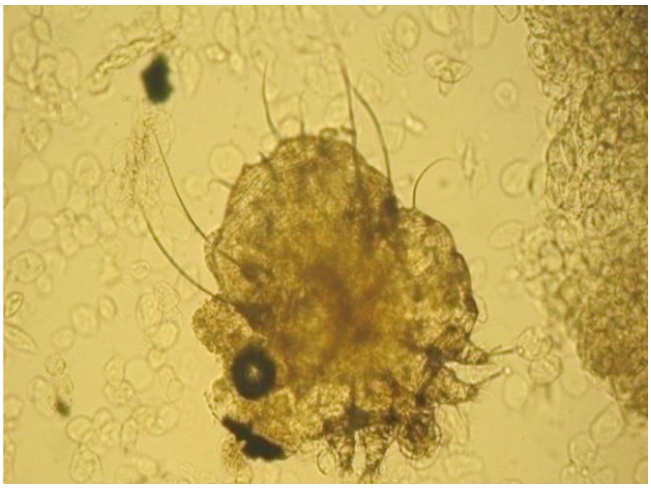

Figure 6: Microscopic examination of scales: Presence of adults of Sarcoptes scabiei (Magnification x100).

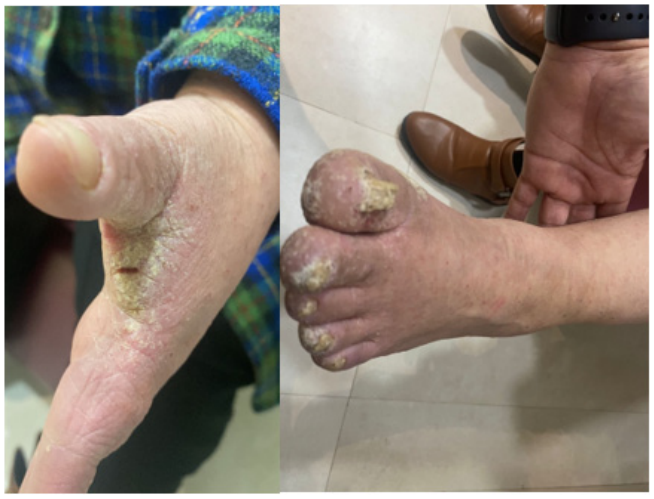

Figure 7: Interdigital and foot hyperkeratosis.

Discussion

Norwegian scabies was first described in 1848 in Norway by Danielssen and Boeck in a patient with leprosy [1]. The association of Down syndrome with Norwegian scabies in the absence of immunodeficiency is well-known but poorly understood. Two mechanisms have been proposed: cognitive delay in these patients, leading to delayed diagnosis of pruritus, and subtle immune system abnormalities, including mild to moderate T- and B-cell lymphopenia and impaired T-cell proliferation induced by mitogens [2].

The distinctive clinical sign of this variety of scabies is the widespread thick crusts on the skin. Other classic clinical features, such as vesicles and excoriations, may be absent. This sign is due to the high concentration of mites, which triggers the exaggerated keratin formation in the stratum corneum [3]. The diagnosis can be confirmed by a clinical and dermoscopic examination and by the visualization of mites and eggs on the sample of skin scrapings analyzed directly under a microscope [4].

Due to late diagnosis, there are multiple complications linked to superinfections, such as secondary impetigo, cellulitis, or even septicemia, and a risk of post-streptococcal glomerulonephritis [5].

Few observations in the form of case reports describing the association between Norwegian scabies and Down syndrome have been reported in the literature [6,7]. Those reports all highlight the diagnostic difficulty given the atypia of the clinical picture with the wide range of differential diagnoses [8].

Conclusion

Norwegian scabies must be considered in patients with Down syndrome presenting with skin lesions. An early and precise diagnosis is required to prevent the spread and complications of the disease [9]. To protect these immunocompromised patients and those around them from potentially fatal complications, effective medical management of patients and healthcare establishments is required.

Declarations

Declaration of interests: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent: Written informed consent was obtained from the patient for their anonymized information to be published in this article.

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