

Scalp Scabies in an Older Woman: A Case Report

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Scabies is typically characterized by pruritic lesions. In immunocompetent adults, these most commonly affect the interdigital spaces, wrists, and trunk, while sparing the face and scalp. However, the incidence of atypical presentations involving the scalp may be under-reported, particularly in older adults and institutionalized patients. We report a case of a 90-year-old woman with a prolonged history of scalp pruritus. Unrecognized scalp involvement contributed to the therapeutic failure of scabies treatment. Upon examination, scabies with scalp involvement was confirmed using dermoscopy and skin scraping. The patient was treated with oral ivermectin. Topical permethrin was also applied thoroughly from head-to-toe, including the scalp. This case highlights the critical importance of a comprehensive head-to-toe examination, the use of dermoscopy for diagnostic accuracy, and complete topical treatment, particularly in high-risk populations.

Key Words: Dermoscopy, Permethrin, Scabies, Scalp

INTRODUCTION

Scabies is a common epidermal infestation of *Sarcoptes scabiei* var. *hominis* mites. It is typically transmitted through direct skin-to-skin contact, but can also be transmitted indirectly via fomites¹. Clinically, scabies manifests as pruritic lesions, excoriations, and eczematous dermatitis. It predominantly affects skinfold areas, causing intense pruritus that disrupts sleep. In immunocompetent adults, scabies generally affects the body from the neck down, sparing the face and scalp. However, in infants, older adults, and immunocompromised patients, atypical presentations involving the scalp may occur. However, these are often underdiagnosed or misdiagnosed as other dermatological conditions¹.

A diagnosis of scabies is made based on clinical symptoms

and the results of diagnostic imaging, such as microscopy or dermoscopy, which is used to identify the presence of scabies mites, eggs, or scybala. Dermatoscopy, particularly with ultraviolet dermatoscopes, enhances diagnostic accuracy by providing clearer, more detailed visualization of the characteristic findings^{2,3}. The treatment for scabies is topical permethrin or oral ivermectin, both of which eliminate the mites and their eggs. Topical treatments are generally applied from the neck down to the feet, covering all skin areas. This is left on the skin for a minimum of 8 hours⁴.

While classical scabies in adults tends to spare the scalp, an increasing number of studies have reported atypical presentations involving the scalp. In this case study, we report a case of scabies that affected the scalp in an older woman, which was inadequately treated due to the incomplete appli-

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Fig. 1. Photograph of a 90-year-old woman with scalp scabies at the initial examination. (A, B) Erythematous papules, linear excoriations, and xerotic patches on the back and left lower leg; (C) No scabietic burrows or papules on the hands and wrists

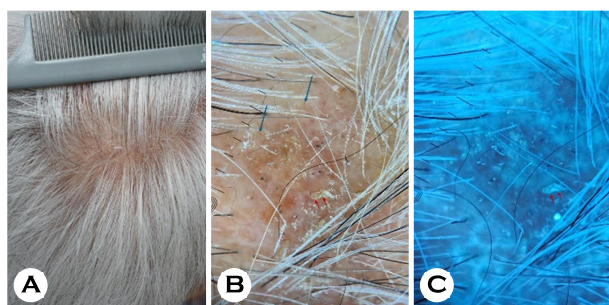


Fig. 2. A 90-year-old woman with scalp scabies. (A) Photograph of the patient's clinical features, which included erythematous papules with grayish-white crusts on the scalp; (B) Polarized dermoscopic image showing the hang-glider sign (triangular mite head) (blue arrows) and "jet with contrail" structures (red arrows); (C) Ultraviolet dermoscopic image showing a bright reflection at the edge of the tunnel (red arrow).

cation of topical therapy.

CASE REPORT

A 90-year-old woman was referred to our dermatology department with a 9-month history of severe pruritus, which began during a period of prolonged hospitalization at a nursing facility. Despite multiple treatments for suspected scabies with topical permethrin and crotamiton, the patient's symptoms persisted. Most recently, a topical corticosteroid solution had been used, but had failed to provide any relief. The patient's medical history included hypertension and dementia.

Physical examination of the patient revealed numerous erythematous papules, linear excoriations, and xerotic patches on the trunk and extremities (Fig. 1A and 1B). Notably, there were no burrows or papules between the fingers, on the wrists, or in the axilla or groin (Fig. 1C). Skin scrapings from the scaly lesions on her trunk and finger web spaces showed no scabies mites under microscopic examination. However, there were prominent erythematous papules and scaling lesions on the scalp, which were visible to the naked eye (Fig. 2A). Dermoscopy revealed interfollicular scaling, black dots, broken hairs, and diagnostic signs of scabies, including the hang-glider sign (triangular mite head) and the jet with contrail sign (Figs. 2B and 2C).

Laboratory tests were performed, including a complete blood count and a metabolic panel. Other than a mildly elevated serum IgE level of 162.0 IU/mL, the results were within normal limits. Skin scrapings from the scalp confirmed the presence of *Sarcoptes scabiei*. The prescribed treatment was oral ivermectin (3 mg/kg on days 0, 1, 7, 8, and 14) and topical 5% permethrin, which was to be applied twice a week over the entire body, including the scalp. Follow-up at 2 and 4 weeks showed complete resolution without recurrence.

DISCUSSION

The typical clinical presentation of scabies is characteristic burrows and erythematous papules, which are focused in the interdigital web spaces, on the inner wrists, the periumbilical areas, the axillae, and the genitals. These site preferences indicate that scabies mites thrive in areas with relatively higher skin temperature and a thin stratum corneum, and avoid regions with a high density of pilosebaceous units⁵.

In contrast to this standard presentation, older adults, infants, and immunodeficient patients may exhibit hyperkeratotic

scaly lesions (crusted scabies) or atypical lesion distribution. In such cases, the scalp, face, palms, and soles may be affected³. In young children and older adults, the scalp is more susceptible to infestation due to reduced inhibitory effects of sebum and age-related differences in the density of hair follicles. These atypical scabies cases may be underdiagnosed or misdiagnosed due to symptoms that overlap with those seen in other dermatological conditions, such as eczema, seborrheic dermatitis, and psoriasis^{6,7}. This case also underscores the diagnostic challenges presented by scalp scabies, which is a rare manifestation of the condition in immunocompetent adults. Our patient's scalp lesions had initially been misdiagnosed as seborrheic dermatitis and treated with corticosteroids, delaying the correct diagnosis. While scalp involvement is more commonly observed in crusted scabies or pediatric patients^{1,8}, reports of scabies with scalp involvement in older adults are becoming more frequent. Chiu and Lan have reported a case of crusted scabies with exclusive scalp involvement in an institutionalized older woman, challenging the conventional notion that the scalp is usually spared in adults⁹. Duran et al. reported cases of scabies similar to ours, which mimicked seborrheic dermatitis in immunosuppressed children. In these patients, scalp scaling was the predominant feature¹⁰. Huang et al. have described a case of crusted scabies on the scalp of an older woman that was also initially misdiagnosed as seborrheic dermatitis¹¹. Therefore, it is advisable to perform a thorough head-to-toe skin examination in patients presenting with generalized pruritus, particularly those from vulnerable patient populations. In such instances, dermoscopy can serve as a rapid and effective diagnostic tool, particularly for the confirmation of scabies in skin regions such as the scalp that are prone to overlapping secondary lesions (crust, scale, oily scale, erosions, etc.), and therefore more subject to diagnostic confusion¹². The use of ultraviolet dermoscopy with our patient facilitated the identification of classical scabietic burrows and mites by highlighting distinct fluorescent reflection patterns and aiding in the detection of otherwise difficult-to-see lesions¹³.

Topical 5% permethrin is the first-line treatment for scabies. Alternative treatments include oral ivermectin, which is typically employed when the topical treatment is unsuitable or ineffective, especially in patients with crusted lesions. Topical permethrin is generally applied from the neck down to the feet, excluding the scalp. However, in infants, young children, and older adults with scalp or facial involvement, it should be applied over the entire body, including the face and scalp^{4,14}. The primary causes of scabies treatment failure are improper treatment, the use of topical steroids, and inadequate disinfection of clothing and bedding. In our case,

repeated permethrin applications had been ineffective, possibly due to the exclusion of the scalp. In atypical cases, the scalp may harbor untreated mites, allowing recurring or ongoing infestation. This case underscores the importance of comprehensive treatment, including the scalp, to ensure complete eradication and prevent recurrence in high-risk patients.

This case highlights the need for a high index of suspicion for scabies in older patients with atypical pruritic scalp lesions, especially those with a history of institutionalization or prolonged corticosteroid use. A thorough head-to-toe skin examination, dermoscopy, and, following a positive diagnosis, comprehensive treatment that includes the scalp and neck, are crucial for effective management and recurrence prevention. Our findings suggest a need for updated scabies treatment guidelines to routinely include scalp application of topical therapies in high-risk populations.

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CONFLICT OF INTEREST

In relation to this article, we declare that there is no conflict of interest.

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PATIENT CONSENT STATEMENT

The patient provided written informed consent for the publication and the use of her images.

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