Acta Clin Croat 2022; 61:349-353

doi: 10.20471/acc.2022.61.02.22

Professional Paper

SCABIES CASES MISDIAGNOSED AND TREATED AS ALLERGIC DISEASES: ITCH AS ALARM

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SUMMARY – The lack of scabies recognition by physicians is often caused by its similarity with other dermatoses and allergies such as eczema, urticaria, atopic dermatitis, allergic contact dermatitis, etc. The aim of this study was to present the most common misdiagnoses of scabies in physician's work. With the aim of preventing future misdiagnoses in physicians' work, we present 6 cases of patients (1 woman and 5 men, aged 23-82) who had been misdiagnosed prior to admission to our ward (tertiary care unit). In our patients, scabies was unrecognized for months during which time the patients were treated for allergic/immune diseases (nummular eczema, drug-induced reaction, allergic contact dermatitis, autoimmune skin disease). Additionally, none of our patients had lived in unhygienic conditions or were close to infected persons, but all had concomitant itch. Because of the similarity between scabies and pruritic allergic disorders, it is important to exclude scabies before diagnosing an allergy, based on patient history and skin examination. Early scabies recognition in practice is crucial for minimizing the disease societal impacts.

Key words: *Scabies; Allergy; Diagnostics; Differential diagnosis; Itch; Skin; Eczema; Exanthema*

Introduction

Scabies affects over 200 million people worldwide, and in recent years its prevalence has increased, being highest in the Pacific region and Latin America[1-3]. Scabies has a variety of clinical manifestations but typically presents with multiple small, erythematous papules, excoriations, burrows, hives, vesicles, pustules, and blisters, usually on multiple localizations, e.g., sides and webs of the fingers, flexor aspects of the wrists, extensor aspects of the elbows, axillary folds, periareolar and periumbilical skin, genitalia, knees, buttocks and thighs, feet, etc.[1]. It usually manifests 2-6 weeks after contact with mites (primary infestation) while reinfestation can trigger a swift allergic reaction[1,4]. Scabies is particularly common in resource-limited regions and crowded conditions; outbreaks are common in institutional settings (e.g., childcare facilities and schools, psychiatric hospitals, prisons, etc.), but it can also occur among people who live in low risk conditions[1,5,6].

A diagnosis is confirmed by microscopic examination; dermoscopic evaluation can also be useful (negative results do not exclude the diagnosis), whereas skin biopsies only help exclude other disorders[1]. Unfortunately, in practice, scabies is largely diagnosed based only on the clinical picture, which may lead to a misdiagnosis. A broad differential diagnosis of scabies can include atopic dermatitis (AD), allergic contact dermatitis, nummular eczema, arthropod bites, dermatitis herpetiformis, etc.[1,7]. It is crucial here to consider patient history (e.g., itch mostly at night, proximity to unhygienic conditions) and conduct physical examination (localization/distribution, morphology of lesions).

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Received February 3, 2020, accepted March 27, 2020

Patients and Methods

With the aim of preventing future misdiagnoses in physician's work, we present 6 case reports of patients (one woman and five men, aged 23-82) who had been misdiagnosed, but received accurate diagnosis at our tertiary care unit (Sestre milosrdnice University Hospital Center). Their scabies was unrecognized for months during which time they were treated for allergic/immune diseases (nummular eczema, drug-induced reaction, allergic contact dermatitis, autoimmune skin disease) (Table 1, Fig. 1).

Results

Case 1

A 61-year-old male presented with multiple erythematous papules and areas on the limbs and trunk with concomitant itch. He was diagnosed with nummular eczema and administered antihistamines and systemic and topical corticosteroids. Since his lesions then persisted for 7 months, he was referred to our outpatient clinic (tertiary care unit) where we performed microscopic examination, which confirmed scabies. Scabies treatment involved permethrin cream or benzyl benzoate in all our cases.

Table 1. Data on patients misdiagnosed with scabies (presented in Figure 1)

Gender/age (yrs)	Occupation	Misdiagnosis	Therapy for misdiagnosis	Duration of symptoms before first appointment at dermatologist-allergologist	Possible cause of scabies	Previous allergies
1 M/61 (Fig. 1a)	Clerk	Nummular eczema	Antihistamines, systemic corticosteroids, topical corticosteroids	7 months	Temporary stay in unhygienic conditions	None
2 M/82 (Fig. 1b)	Retired	Drug-induced atopic dermatitis	Antihistamines, systemic corticosteroids, topical corticosteroids	4 months	Unknown	None
3 M/33 (Fig. 1c)	Unemployed	Pruritus with anogenital warts *(condylomata acuminata)*	Antihistamines, topical corticosteroids	3 months	Unknown	Possibly propolis
4 M/45 (Fig. 1d)	Worker	Drug reaction (carboplatin and paclitaxel) for metastatic pulmonary cancer	Antihistamines, systemic corticosteroids, topical corticosteroids	1 month	Unknown	None
5 M/23 (Fig. 1e)	Dental student	Contact dermatitis	Antihistamines, topical corticosteroids	10 months	Temporary stay in unhygienic conditions	None
6 F/30 (Fig. 1f)	Clerk	Autoimmune skin disorder	Antihistamines, systemic corticosteroids, topical corticosteroids	2 months	Previous visit to potentially unhygienic areas – beauty parlor	None

M = male; F = female

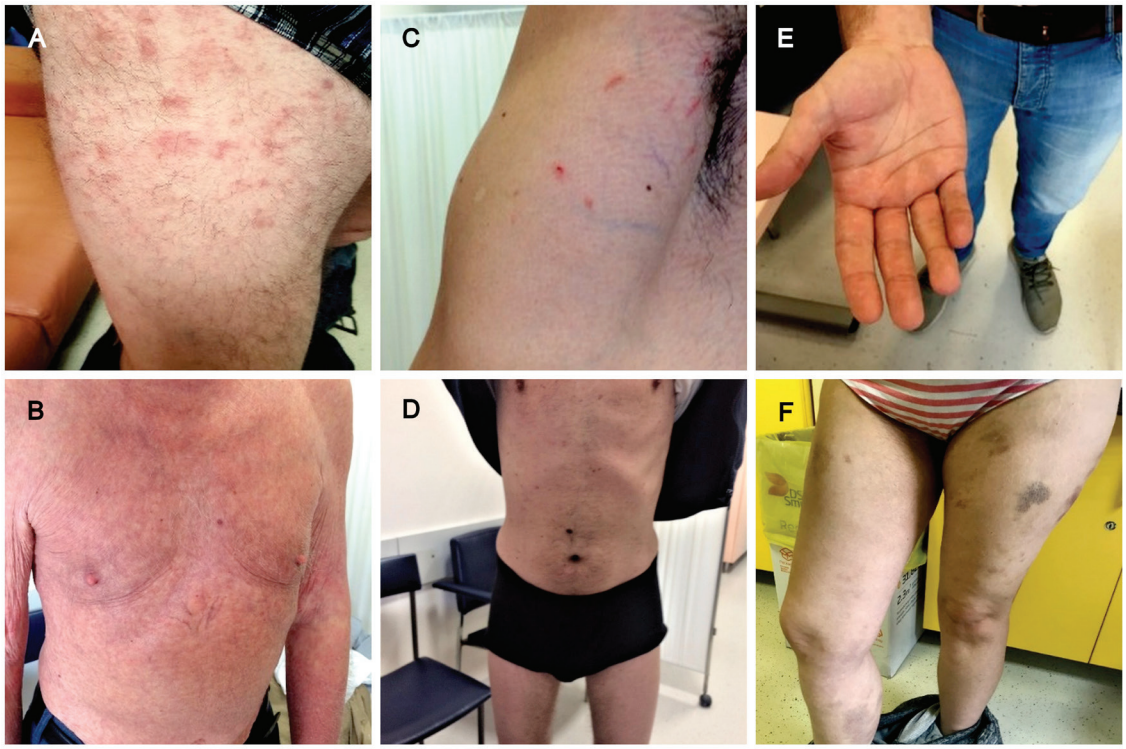

Fig. 1. Misdiagnosed scabies previously treated as allergic diseases: nummular eczema (a); drug-induced reaction (b, d); pruritus (c); allergic contact dermatitis (e); and autoimmune skin disease (f).

Case 2

An 82-year-old male presented with large erythematous areas and concomitant itch. He was treated with antihistamines and systemic and topical corticosteroids for a drug-induced reaction. Since his lesions persisted, the patient was referred to our outpatient allergy clinic. Microscopic examination confirmed scabies.

Case 3

A 33-year-old male presented with itch and multiple small, erythematous papules on the limbs, predominantly on axillary folds; and he was treated for pruritus with antihistamines and topical corticosteroids. He had also been treated for human papillomavirus infection (condylomata acuminata). His symptoms persisted, so he was referred to our outpatient clinic where we confirmed scabies *via* microscopic examination.

Case 4

A 45-year-old male had been hospitalized at an oncology ward for pulmonary cancer before arriving to our outpatient clinic. He had been misdiagnosed with a drug-induced eruption of multiple small, erythematous papules coalescing into larger red areas on the trunk. He was administered antihistamines and systemic and topical corticosteroids, but his lesions persisted. Upon his arrival to our outpatient clinic, we performed microscopic examination and confirmed scabies. Since he was going directly back to the inpatient oncology ward, the accurate diagnosis of scabies may have well prevented an outbreak in that setting.

Case 5

A 23-year-old male presented with mild recurrent hand eczema and had previously been treated for contact dermatitis for a suspected latex allergy. He was a dental student who had recently begun working at a dental practice. He had previously been treated with antihistamines and topical corticosteroids, but his lesions persisted (10 months), and he was referred to our outpatient clinic where we confirmed scabies *via* microscopic examination.

Case 6

A 30-year-old female presented with persistent skin erythematous-livid areas with a number of papules and hematomas on the limbs and trunk, with concomitant itch and laboratory-confirmed thrombocytopenia

(mild). She had been diagnosed with a suspected autoimmune skin disorder, but subsequent laboratory findings showed the platelets to be within the reference range. She was treated with antihistamines, systemic and topical corticosteroids but without success, and she was referred to our outpatient clinic. We confirmed scabies *via* microscopic examination; the patient underwent repeated treatment before her symptoms cleared up.

Discussion

For physicians, dermatologists and allergologists who examine patients with itch and/or non-specific lesions, an initial, useful diagnostic method is microscopic analysis of skin swab samples to look for fungal and parasitic infections. Unfortunately, many dermatologists skip this test and directly begin anti-allergy treatment[8]. Consequently, scabies mites persist in the skin and the disease spreads[4]. In our practical experience, patients with unrecognized scabies commonly unnecessarily suffer persistent discomfort until the true diagnosis is established. This lack of recognition by physicians is often caused by scabies similarity to other dermatoses and allergies, thus it is necessary to consider the possibility of scabies, especially in the light of the recent increase in the rate of scabies worldwide.

Concerning differential diagnosis of scabies, many skin diseases may have similar pictures (eczema, AD, contact dermatitis, drug-induced reactions, etc.). Thus, the lesions of eczema (including AD) sometimes have similar clinical pictures and for such patients it is necessary to check for possible scabies by microscopic examination[9]. Also, our patient who was a dental student had connected his lesions with his recent clinical practice in dentistry; there was a high possibility of wrong conclusion on the occurrence of occupational contact dermatitis. Therefore, in patients with occupational dermatitis, it is also necessary to think of the possible associated co-infections such as scabies, which is especially crucial for healthcare workers[10]. Also, drug-induced skin reactions are sometimes similar to lesions of scabies, as was found in our oncologic patient who was on a biologic.

In practice, particular attention must be paid to older patients without a previous history of allergies, those who report itching at night, and patients who have travelled recently including asylum seekers arriving from countries with a high prevalence[3,8]. However, none of our patients had lived in unhygienic conditions or were close to infected persons. Since scabies transmission demands direct and prolonged skin-to-skin contact, a possible cause of infection in our patients was latent/recent scabies in family members or sexual partners. In all six cases, anti-scabies therapy caused symptom regression.

Although scabies is easily treatable, it presents a significant financial burden to healthcare systems and carries a psychosocial impact on patients, their families and communities[11]. Considering that scabies is a common communicable disease worldwide and is under-represented in relation to the associated disease burden, early scabies recognition in practice is crucial for minimizing the disease societal impacts. Appropriate diagnostic approach and correct therapy is the only way to decrease the prevalence of scabies[1,5,8,12]. Thorough examinations and timely diagnoses prevent misdiagnoses, epidemics and unnecessary treatments such as urgent care visits and overprescribing of antihistamines and corticosteroids.

Conclusions

Because of the similarity between scabies and pruritic allergic disorders, it is important to exclude scabies before diagnosing an allergy, based on patient history and skin examination. Early scabies recognition in practice is crucial to minimize the disease societal impacts.

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Sažetak

SLUČAJEVI BOLESNIKA SA SVRABOM POGREŠNO DIJAGNOSTICIRANIH I LIJEČENIH KAO ALERGIJSKE BOLESTI: SVRBEŽ KAO ALARM

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Nedostatak prepoznavanja svraba od strane liječnika često je uzrokovan njegovom sličnošću s drugim dermatozama i alergijama poput ekcema, urtikarije, atopijskog dermatitisa, alergijskog kontaktnog dermatitisa itd. Cilj ove studije bio je prikazati najčešće pogreške u prepoznavanju svraba tijekom rada liječnika. Radi sprječavanja budućih pogrešnih dijagnoza u radu liječnika prikazujemo 6 slučajeva bolesnika (jedna žena i pet muškaraca u dobi od 23 do 82 godine) koji su bili pogrešno dijagnosticirani prije dolaska u našu kliniku (ustanovu tercijarne skrbi). U bolesnika koji su došli k nama svrab je prethodno mjesecima bio neprepoznat, a kožne promjene liječene su kao alergijske/imunosne bolesti (numularni ekcem, reakcija kože izazvana lijekovima, alergijski kontaktni dermatitis, autoimuna kožna bolest). Pritom nijedan od bolesnika s dokazanim svrabom nije živio u nehigijenskim uvjetima niti je bio u blizini zaraženih osoba, ali se u svih javljao izražen svrbež. Zbog sličnosti svraba i pruritičnih alergijskih bolesti važno je isključiti svrab prije dijagnosticiranja alergije temeljem anamneze i pregleda kože bolesnika. Rano prepoznavanje svraba u radu liječnika ključno je za minimiziranje negativnog utjecaja bolesti.

Ključne riječi: *Svrab; Alergija; Dijagnostika; Diferencijalna dijagnoza; Svrbež kože; Ekcem; Osip*