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Scabies – one more lesson learned

Abstract

During the course an outbreak of scabies in a nursing home, singular was the case of an elderly woman whose scabietic eruption was limited to her right hand and forearm. She had suffered a cerebral hemorrhage, was left aphasic with right hemiplegia. Her non-paralyzed left hand, restricted with a protective glove to prevent the patient drawing on the tracheostomy cannula, was not affected byeruption. This is what makes this case unusual and informative: while symptoms of scabies are mediated through inflammatory and allergy-like reactions, the scabietic eruption may remain limited to the site of direct contact with the source, dissimilar to hypersensitivity reactions.

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Scabies is an infestation of the skin by the mite Sarcoptes scabiei resulting in an intensely pruritic eruption with a characteristic distribution pattern. The disease is usually transmitted by direct skin-to-skin contact, with higher risk on prolonged contact. The symptoms are mediated through inflammatory and allergy-like reactions that result in severely pruritic rashes involving the wrists, elbows, back, buttocks, external genitalia, and the webbing between the fingers. The pathology results from sensitization of the host to the mites and to their excretions. For this reason, the incubation period before symptoms occur is 3–6 weeks in cases of primary infestation. The similarity between symptoms of scabies and symptoms of pruritic conditions of non infectious origin represents a source of error in the clinical diagnosis.[1]

The diagnosis of scabies is made largely on clinical grounds. An intensely itchy rash often worsening at night and a history of contact with known cases are supportive. Physical examination may reveal skin lesions in a typical distribution and sometimes the characteristic serpiginous burrows. The trails of the burrowing mites appear as linear or S-shaped tracks in the skin, often accompanied by what resemble rows of small insect bites. Patients with classic scabies present with characteristic burrows often located on the web spaces of the fingers and toes. Scabies surrepticius refers to the non-classic atypical presentation of scabies; establishing the diagnosis of scabies in these individuals can be difficult.[2] A recent Delphi consensus of experts proposed criteria for the diagnosis of scabies. The diagnosis "confirmed scabies" requires direct visualization of the mite or mite products (eggs, feces) by at least one method, e.g. microscopy, dermoscopy or video dermoscopy. The diagnosis "clinical scabies" requires at least one of the following: scabies burrows, typical lesions affecting male genitalia, typical lesions in a typical distribution and two history features. History features are itch, close contact with a person who has itch or typical lesions in a typical distribution. The diagnosis of "suspected scabies" relies on the detection of one of the following: typical lesions in a typical distribution and one history feature, atypical lesions in atypical distribution and two history features.[3] Scabies should be considered in any nursing home resident with a generalized rash that is unexplained.[4,5] Diagnosis should be attempted by light microscopy, demonstrating mites, eggs, or mite feces on mineral oil preparations of several scrapings. If proper diagnostic equipment is not available consultation with a dermatologist may be indicated to inspect the patient or obtain scrapings. A therapeutic trial for diagnostic purposes can be made in situations where an alternative is not available. Interpretation of results of a therapeutic trial for scabies is ambiguous because persistence of symptoms does not necessarily signify a negative diagnostic result.

An outbreak of scabies in our ward reiterated the features of scabies outbreaks described in the developed world[6] it started insidiously, involving large numbers of residents and their families, healthcare workers, and lasted months. In all cases, the clinical presentation of scabies differed from the classic descriptions. According to reports in the literature, paralleling observation in this outbreak, the clinical presentation of scabies in elderly residents of care homes differed from classic descriptions of scabies[6] 31 of the 61 people diagnosed with scabies were asymptomatic, only 25 had burrows, mites were visualized with dermatoscopy in only 7 patients. Dermatoscopy and microscopy were of little value.

Case history

Singular was the case of an 82-year-old female who developed a maculopapular eruption on the right hand and forearm, with the left hand remained unaffected. She had suffered a nontraumatic cerebral hemorrhage, evacuated under craniotomy, but remained aphasic with right hemiplegia, could not be weaned from tracheostomy, was bedridden, and needed assistance in activities of daily living. During an outbreak of scabies in March 2018, eight residents in our ward and seven caregivers were diagnosed with scabies. The patient's right hand and forearm were affected by a maculopapular eruption. There was no eruption outside the right upper limb, including the non-paralyzed left hand, that needed to be restricted with a protective glove to prevent the patient drawing on the tracheostomy cannula (Figure 1). The diagnosisof scabies according to Delhi criteria relied on the presence of typical lesions in a typical distribution and close contact with a caregiver who had typical lesions. The patient was treated with permethrin. Two weeks later the eruption disappeared. In the followings there was no recurrence of scabies.

One year later, a maculo-papullar eruption developed on both of the patient's calves and thighs, occurring on the 9th day of treatment with piperacillin-tazobactam for urosepsis. Discontinuation of the antibiotic was followed within 4 days by clearance of the eruption. This eruption was consistent with a delayed hypersensitivity reaction to the antibiotic, by the appropriate time sequence of the rash onset after initiation of the drug and the appropriate time to remission after discontinuation of the culprit drug. It differed from the earlier maculo-papullar eruption of scabies in this patient by the clinical context, bilateral distribution, and time to resolution.[7]

Discussion

The symptoms of scabies result from sensitization of the host to the mites and to their excretions, so the intense pruritus and the inflammatory papules may be disseminated.[1-4] Autoeczematization might also be involved in the pathophysiology of scabies, i.e. the symmetric diffuse spread of a previously localized dermatitis.[8,9] The similarity between symptoms of scabies and symptoms of pruritic

conditions of noninfectious origin represents a source of error in the clinical diagnosis.

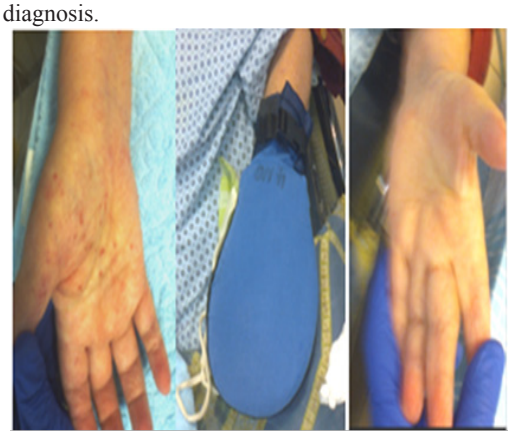

Figure 1 The patient's exposed right palm and wrist showing a maculopapular eruption. The brace-protected left hand was free of eruption.

Unusual in the presentation of scabies in the propositowas involvement of one palm and forearm but sparing the other. The diagnosis of scabies was obvious to the clinician in the context of an ongoing epidemic in the geriatric ward, verification of the history of direct contact with a nurse who turned out to have active scabies, and involvement of the patient's hand exposed to direct contact, while her other hand which was protected by glove was spared from eruption. Remission under permethrin treatment was consistent with the diagnosis. Concerning the differential diagnosis, palmar eruptions due to systemic disease, either infectious or other, are bilateral. Unilateral palmar eruption may be contact dermatitis,[10] but this was not the case in the proposito. When a year later the patient developed a hypersensitivity reaction to piperacillin-tazobactam, the eruption had a different pattern, distribution, and time to resolution.

Lessons were reiterated by this patient's history: First, that scabies begins at the site of direct contact with the source and may remain restricted to the site of direct contact. Second, there may be eczematisation in the areas adjacent to inoculation site which are not following the rules of autosensitization, by which the eruption is symmetrical orgeneralized. Third, a palmar eruption may occur in scabies as well as in hypersensitivity reactions; the appearance of the eruption may be similar in both conditions, but the clinical context differs, the time sequence differs, and the extent of the eruption may differ also.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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