



Irritant Contact Dermatitis Caused by Arab Soap: A Case Report

Arap Sabununun Neden Olduğu İrritan Kontakt Dermatit: Bir Olgu Sunumu

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ABSTRACT

Irritant contact dermatitis (ICD) is a condition caused by chemicals that damage skin structures in a direct non-allergic way. Dermatologic findings may present in a broad spectrum due to frequency and route of exposure and individual susceptibility. The most critical point in the diagnosis and treatment of ICD is to determine the irritant since its cessation is the best treatment. Specifically, in geriatric patients, questioning about any irritant exposure should be done carefully. In this report, we present a 71-year-old woman with ICD that was caused by exposure to potassium hydrochloride in Arab soap and exaggerated amid the coronavirus pandemic.

Keywords: Irritant dermatitis, geriatrics, soap, coronavirus

ÖZET

İrritan kontakt dermatit (İKD), cilt yapılarına zarar veren kimyasalların direkt neden olduğu non-allerjik bir durumdur. Dermatolojik bulgular, maruziyetin sıklığı, şekli ve bireysel duyarlılık nedeniyle geniş bir yelpazede karşımıza çıkabilir. İKD'nin tanı ve tedavisinde en kritik nokta iritanın belirlenmesidir. Çünkü, iritan ile temasın önlenmesi en iyi tedavi yöntemidir. Özellikle geriyatrik hastalarda herhangi bir iritan ile maruziyet hakkında sorgulama çok dikkatli yapılmalıdır. Bu vaka sunumunda, koronavirüs pandemisi sırasında abartılı kullanılmış Arap sabununun potasyum hidrokloride maruz kalmanın neden olduğu 71 yaşında İKD'li bir kadın hastayı sunuyoruz.

Anahtar Kelimeler: İrritan dermatit, geriatri, sabun, koronavirüs

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INTRODUCTION

Irritant contact dermatitis (ICD) accounts for the vast majority of cases of contact dermatitis and is caused by chemicals that damage skin structures in a non-allergic way. ICD can be caused by exposure to numerous irritants, such as water, alkalis, acids, and organic solvents.¹ The clinic spectrum of disease is broad and changes with the irritant, route, frequency of exposure, and individual susceptibility.² Traditional soaps are often high in alkali with an anionic surfactant. The alkali commonly used in soap making is sodium hydroxide, and in the case of Arab soap, it is potassium hydroxide.³ This is a case report of an elderly patient with a contact allergy to potassium hydroxide in a soap. The patient has provided written consent for the publication of this case report.

CASE

A 71-year-old woman presented with scales, redness, and swelling of her face and hands. Pruritus and stinging were also present. She stated that she has had sensitive and dry skin for as long as she could remember and had been diagnosed with atopic dermatitis (AD). However, her complaints had increased in the last year and had become the worst throughout the past month, when oozing and crusting were also added to her symptoms. She had been treated with potent topical steroids and topical calcineurin inhibitors repeatedly without any response. Likewise, systemic steroids have been used with limited success, and dermatitis recurred upon cessation. In our examination, we observed marked edema, especially in the periorbital areas; this was accompanied by erythema and xerosis (**Figure 1a**). The dorsum of the hands and extensor surface of the arms were also erythematous, oedematous, and scaly with fissures and serous crusting (**Figure 1b**).

When the patient was questioned about changes in daily routine, she stated that she had been washing her hands more frequently than she had in the past and bathing daily, according to the recommendations she had heard on television for combatting the coronavirus. She emphasized that she was using only “natural soap” as a cleaning product, which she had not changed for years. Detailed questioning revealed that she had been preparing the natural soap by a 1/1 dilution of Arab soap and using the preparation as both shampoo and hand soap. During her bath, she had been using hot water and a hammam glove for better hygiene. A biopsy was performed, which confirmed the prediagnosis of ICD and described dermatitis characterized by the development of a neutrophilic pustule, indicating that the changes were most likely caused by an irritant. No further testing was performed.

The patient was advised to stop using Arab soap and use only synthetic detergent for personal hygiene, and additionally to abandon the use of hot water and hammam gloves. An emollient cream and a barrier cream were also recommended. One week later, her complaints had disappeared almost completely in her face (**Figure 1c**) and hands (**Figure 1d**).

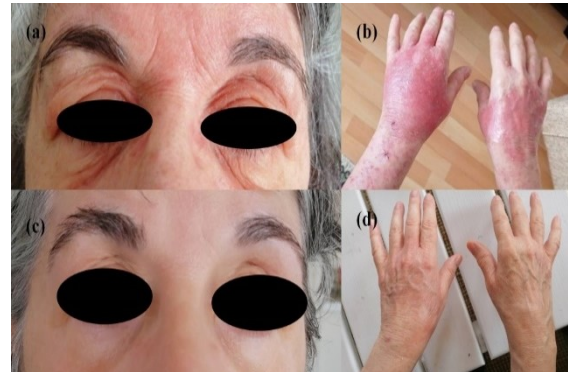


Figure 1. Irritant contact dermatitis in face (a) and hands (b) after using Arab soap. The condition of the face (c) and hands (d) in the first week after taking the irritant.

DISCUSSION

ICD is caused by skin injury, direct cytotoxic effects, or cutaneous inflammation from contact with an irritant. Symptoms may occur immediately and may persist if the irritant is unrecognized.^{1,4} In particular, ICD may result from exposure to chemicals in personal care products. The resulting skin lesions may vary with the type and frequency of exposure, body region, coexisting irritation (hot water, friction), and individual susceptibility. Atopic patients may have a lower inflammatory threshold, which may promote the development of ICD from irritants in patients with AD.¹ AD, which was also present in our patient, facilitated the emergence of the disease, and complaints may have been exacerbated by increased frequency of use of the irritant and by the hammam glove.

The first step in treating ICD correctly is identifying the irritant, since avoidance of the causative substance may relieve complaints. It can be difficult to determine the irritant unless the patient is questioned in detail, as demonstrated in this particular case. Although sodium hydroxide is the main ingredient in regular hand soap, it is replaced with potassium hydroxide in Arab soap. Potassium hydroxide, as a corrosive chemical and a strong alkali.⁵ Arab soap is the traditional name of a gel-like product that includes 5-15% potassium hydroxide and is designed for dishwashing and cleaning floors. Traditionally in Turkey, Arab soap is accepted as a natural product and has been advertised as healthy and safe for years.

Another contributing factor is inappropriate hygiene perceptions, which result in extensive usage of soaps and cleansing products, hot water, and exfoliative procedures. Toxic chemicals (irritants) are the primary cause, but mechanical, thermal, and climatic effects are contributory cofactors in chronic ICD cases ²; the patient must be questioned and informed about them as well.

It is crucial to evaluate the patient's detailed history about these matters since most patients do not mention them. A detailed history may guide the clinician to the appropriate diagnosis and treatment and protect the patient from the side effects of unnecessary treatments. It is especially important to be more careful in geriatric patients. The Coronavirus pandemic caused millions of people to become infected all over the world and many people to die. Due to the high rates of morbidity and mortality observed among older adults, hygienic behaviors, which are important in reducing and preventing transmission, began to be excessively applied in the elderly during the pandemic period. It is seen that as family physicians, it is necessary to

explain these practices correctly in elderly individuals and to be more careful in their control.

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