

CASE REPORT

DOI: 10.5336/caserep.2019-73087

A Case of Garlic Induced Irritant Contact Dermatitis

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ABSTRACT Garlic (*Allium sativum*) is a member of the Alliaceae family. People have used it for the treatment of dermatological and rheumatological diseases since ancient times. There are publications about the therapeutic use of garlic in literature, but many dermatological side effects, such as allergic and irritant contact dermatitis, generalized urticaria, angioedema, pemphigus, anaphylaxis and photoallergy, can occur after using it as an alternative herbal remedy. The allergenic components of garlic have been recognized as diallyl disulfide, allyl propyl sulfide and alliin. In this case report, we present a 67-year-old man with irritant contact dermatitis following the application of garlic on his sacral region. We are presenting our case because garlic has been used frequently by some patients for treatment.

Keywords: Garlic; irritant contact dermatitis; dermatitis

In spite of the development of modern medical methods, patients have still frequently used alternative herbal remedies in recent years. We frequently encounter cases of allergic and irritant contact dermatitis in dermatology clinics as a result of the topical use of folk medicine, especially for dermatological and rheumatological diseases.^{1,2} Despite the many side effects from using garlic, patients use it because of its many beneficial effects for centuries. In this case report, we will present a case of irritant contact dermatitis due to the application of garlic.

CASE REPORT

A 67-year-old male patient was admitted to our clinic because of redness, swelling and blistering on his sacral region (Figure 1). He had applied garlic under occlusion for about 10 hours on his sacral region. He mentioned that he had used garlic for the first time because of leg pain. He had diabetes mellitus, gout disease and a lumbar herniated disc. His current treat-

ment included antidiabetic drugs and colchicum. During the dermatological examination, we discovered demarcated erythematous, edematous plaques and eroded bullous lesions with a sharp margin on the right side of the sacral region. His laboratory results were within normal limits, except for WBC: 12,100/mm³ (neutrophils: 65%, lymphocytes: 21%), CRP: 6 mg/L (0-3 mg/dL), glucose: 121 mg/d, HbA1c: 7% (4-6%). No microorganism was detected in the cultures obtained from the fluid in the blisters. We could not perform a patch test because the patient did not accept it. The patient was diagnosed with irritant contact dermatitis caused by garlic. Treatment was started with systemic methylprednisolone (1 mg/kg, one dose), systemic antibiotic, topical wet dressing and topical corticosteroid. After one week, treatment was continued with a topical antibiotic and epithelial ointment for three weeks. The lesions resolved completely with post-inflammatory hyperpigmentation (Figure 2). The patient has given written consent for this case report.

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Peer review under responsibility of Türkiye Klinikleri Journal of Case Reports.

Received: 24 Dec 2019

Received in revised form: 06 Feb 2020

Accepted: 11 Feb 2020

Available online: 13 Feb 2020

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FIGURE 1: Redness, swelling and blistering with a sharp margin on the sacral region.



FIGURE 2: Post inflammatory hyperpigmentation after treatment.

DISCUSSION

Garlic (*Allium sativum*) is a member of the Alliaceae family. People have used it for some dermatological diseases because of its antifungal, antiparasitic, antiviral, antimicrobial and hair-growth effects, and also for rheumatological and internal diseases because of its analgesic, anti-arthritic, hypolipidemic, antithrombotic, hypoglycemic, anti-tumor and immunomodulatory effects.¹⁻⁴

Alternative herbal remedies are becoming more widespread among patients, so we are seeing clinical side effects associated with these methods more often in Turkey. Most patients deny using these methods. In order to determine the methods, we need to ask patients careful questions about their history and experience with folk medicine. Some authors have reported garlic causing allergic or irritant contact dermatitis, generalized urticaria, angioedema, pemphigus, anaphylaxis and photoallergy.⁵⁻⁸ It is thought that diallyl disulfide, allyl propyl sulfide and allicin-which

are the allergenic components of garlic-cause coagulation necrosis.⁹ However, the skin must be exposed to these components for at least two hours for these effects to occur. Therefore, garlic is a potent irritant under occlusive dressings seen in our patient. Also, some authors reported cases of garlic-induced irritant contact dermatitis as a chemical burn.^{10,11}

Garlic is a well-known cause of allergic contact dermatitis. Cases of allergic contact dermatitis due to oral or topical treatment with garlic have been reported. Diallyl disulfide is thought to be the primary allergen. Reports recommend administering a patch test including this allergen to patients suspected to have a garlic allergy.¹²

A few cases of irritant contact dermatitis have been reported after topically using garlic; therefore, we present our case to emphasize this side effect of garlic. In the case reports, most of the lesions were localized in the upper and lower extremities. We should remember that irritant contact dermatitis induced by garlic or other alternative herbal remedies may occur in atypical localizations, such as in this case.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Ümran Öner; **Design:** Ümran Öner; **Control/Supervision:** Handan Bilen, Mehmet Melikoğlu, Ümran Öner; **Data Collection and/or Processing:** Ümran Öner; **Analysis and/or Interpretation:** Mehmet Melikoğlu, Handan Bilen, Ümran Öner; **Literature Review:** Ümran Öner; **Writing the Article:** Ümran Öner; **Critical Review:** Mehmet Melikoğlu, Şevki Özdemir, Ümran Öner; **References and Fundings:** Ümran Öner; **Materials:** Ümran Öner.

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