

## Contact Dermatitis Associated with Mandragora Plant

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### Abstract

Mandragora plant contains 80 different substances including alkaloids such as mandragorine, hyosiyamine, and skapolamine. It presents sedative, aphrodisiac, emetic, analgesic, and anesthetic effects. In our presentation, we studied the case of a 58-year-old female patient who developed allergic contact dermatitis following the application of Mandragora roots to the skin for the treatment of leg pains. Plants such as Mandragora, which contain many chemicals, must be used carefully. Further, emergency physicians must be aware of the side effects of plants used in traditional medicine and show great accuracy at the diagnosis-treatment point.

**Keywords:** Mandragora, emergency medicine, allergic contact dermatitis.

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### Introduction

Herbalism is a traditional treatment method based on the utilization of plants and plant extracts in a manner different from modern medicine (1). Plants are still widely used for treatment in our country and worldwide. Mandragora belongs to the family of solanaceae and grows in the Mediterranean region as well as south and central Europe (2). Mandragora plant contains 80 different substances including alkaloids such as mandragorine, hyosiyamine, and skapolamine. It presents sedative, aphrodisiac, emetic, analgesic, and anesthetic effects (3). Though the literature includes studies about intoxication related to the oral administration of Mandragora, there are no data regarding topical application (4). In our presentation, we studied the case of a patient who developed allergic contact dermatitis following the application of Mandragora root to the skin for the treatment of leg pains.

### Case

A 58-year-old female patient applied to our emergency clinic for erythema, swelling, and burning at the knee region (Figure 1). In her history, it was determined that she applied Mandragora root extract obtained from an herbalist every evening for two weeks on her knees in order to treat her knee pains. Moreover, she admitted that for the last six days she noticed the formation of erythema for 20 minutes after the application, though she did not stop the treatment, believing this to be a sign of recovery. She declared that she was worried when she noticed that the erythema and swelling did not disappear and she then applied to the emergency unit. The patient had no prior contact with this plant and has no history of

allergies or contact dermatitis. In her examination, irregular restricted lesions like erythematous, edematous surfaces were observed around the knee. The patient was diagnosed as presenting allergic contact dermatitis associated with Mandragora root. A topical steroid treatment was begun and it was recommended that the current herbal treatment should stop. The lesions healed completely within two days after the cessation of the application, and with the utilization of the treatment.



**Figure 1.** Irregular bordered and edematous erythema on the lower extremity.

### Discussion

When used in a crude state, these products include many bioactive metabolites in their structure. Many dangerous and lethal side effects have been reported in association with the use of herbal products. These side effects may develop as a result of the direct toxic effect of the herbal product, allergic reactions, and

contaminated substances, or due to the various mechanisms that include the interaction with other herbal products or drugs (5).

Mandragora root has been used since ancient times as a source of healing. It is usually used orally. People generally use this plant accidentally, without being conscious of its side effects, or as a medical plant (3). Anticholinergic symptoms such as blurred vision, dryness of the mouth, difficulty in miction, headache, vomiting, stomachache, and swallowing difficulty have been reported (4). Helbling A et al. (2002) reported a case of a 32-year-old female patient with no atopia or allergy history who experienced Type 1 anaphylactic shock due to the subcutaneous injection of Mandragora D3(6). Only one paper exists in the literature regarding the topical side effects of Mandragora root. Gönül et al. observed an erythematous, itchy lesion in the forearm of a 32-year-old male patient in 2013 and they diagnosed an allergic contact dermatitis. The patient's history revealed that 10 to 12 days earlier the patient had started to use Mandragora root extract for arthralgia treatment. The patient declared that he noticed the erythema and the itching after the first application but that he continued to use it in order to observe its

effect (7). In our case, unlike the studies of Helbling A et al. and Gönül et al., the patient does not have any known allergy against Mandragora root extract. As in the case of Gönül et al., Type 4 allergy was observed after repetitive applications. While the dermatitis appeared immediately after the first application in the study of Gönül et al., in our study there was no serious reaction during the first six days. Erythematous plates appeared from the sixth day onward. In our case, there was a latent period for Type 4 allergy while it was not mentioned in the study of Gönül et al. As far as we know, this is the second case of allergic contact dermatitis associated with the topical utilization of Mandragora root extract in literature.

## Conclusion

Nowadays, alternative medicine methods are very popular. However, it must be remembered that these alternative methods are not always safe. Plants such as Mandragora, which contain many chemicals, should be used carefully. Emergency medicine physicians must know the side-effects of plants used in traditional medicine and show great accuracy at the diagnosis-treatment point.

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