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Irritant contact dermatitis after topical application of an unverified ayurvedic oil: A case report

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Abstract
Contact dermatitis is known to be caused by several contact allergens. In this report, we have described a case where an elderly male patient not known to be atopic to any known allergens developed irritant contact dermatitis after application of an ayurvedic oil whose composition was found to be unknown. However, the patient was successfully treated with systemic corticosteroid and antihistamine. This case report also reflects the importance of patient knowledge towards expert consultation before use or application of products of any unknown composition that might lead to such unforeseen consequences.

Keywords: Irritant contact dermatitis, ayurvedic oil, systemic corticosteroid, xerosis

Introduction
Contact dermatitis (CD) is still a widespread issue that impacts people of all ages and has a major impact on both work and quality of life. Qualified dermatological workups continue to identify new causes of CD [1] Depending on the pathophysiology, either direct skin injury (non-allergic reaction) or an allergic reaction following specific recognition of an allergen is the cause of CD. When allergens penetrate the skin, the immune system adapts by producing an allergic reaction [2]. This article details a successful treatment for irritating contact dermatitis brought on by the application of an unidentified ayurvedic oil.

Case Report
he patient, a 73-year-old male, complains of itching on both lower and upper limbs for 15 days. Over the course of 5 days, the itching spread to the upper limb, torso, and face, becoming more intense at night and lacking any aggravating or alleviating factors. Five months ago, the patient claimed to be functioning well. However, he started to have swelling across bilateral lower limbs, which eventually spread to both lower thirds of the leg. In the past week, complaints of red, scaly lesions began across the bilateral lower limb and progressively spread to the bilateral upper limb and back. For the past two days, there have been complaints of a scanty, non-foul-smelling, watery discharge from the lower limb that is not associated with blood discharge. He is a known case of Bilateral knee osteoarthritis for 3 years and is on medication. Due to bilateral pedal oedema from a former hospital stay, the patient was treated with tablets of 10 mg of Torsemide and 50 mg of Spironolactone, 15 days before to the beginning of lesions. The patient disputes any prior history of such issues and states that these dermatological changes occurred after applying an ayurvedic topical oil to relieve knee discomfort, 15 days ago at which point itching began. The patient also denies any prior insect bites or injuries prior to the onset of the lesions. Low hemoglobin, red blood corpuscles, serum albumin, an increased eosinophil count, and slightly elevated serum creatinine and serum uric acid were all observed in routine laboratory investigations.
Table 1 summarizes the results of the cutaneous examination. Between 60 and 70 percent of the body's surface was affected.

Table 1: Results of Cutaneous Examination

Region Examined	Results
Head and neck	Xerosis noted
Trunk	Xerosis with well-defined scaly plaques noted over the back with central sparing
Upper and Lower Limbs	Generalized xerosis with ichthyotic changes and diffuse sheets of scaling were noted mostly over the extensor aspects. Ill-defined erythematous scaly plaques were noted along with mild oozing over the left lower limb. Bilateral grade 2 pedal oedema was observed over the bilateral lower limbs
Oral Mucosa	Normal
Nails	Onychorrhexis noted over fingernails Dystrophic changes seen over toe nails
Palms and Soles	Hyperpigmentation over the soles Scaling and hyperkeratotic plaques were observed on both palms and soles.
Scalp	Diffuse scaling noted over the scalp

Fig 1: Generalized xerosis with ichthyotic changes and diffuse sheets of scaling noted mostly over extensor aspects

Treatment Given

For five days, the patient received intravenous doses of the systemic corticosteroid Dexamethasone 2 cc to address inflammation and allergies. Amoxicillin and clavulanic acid was administered intravenously to prevent the region from getting infected. Further, Tablet Hydroxyzine 25 mg was prescribed to reduce manifestations such as itching. Additionally, saline compression and Framycetin Cream treatment were used to treat the afflicted area. To treat ichthyosis, the patient was instructed to apply liquid paraffin to damp skin three times a day.

The patient's condition improved after the course of treatment. He was counselled adequately not to apply unknown oil or any other creams and lotions without consulting a practicing doctor or seeking expert advice.

Discussion

Irritant contact dermatitis (ICD) is an inflammatory cutaneous disorder induced by skin barrier deterioration in conjunction with the activation of the innate immune response. Properties such as molecule size, ionization state, and fat solubility reflect a chemical irritant's potency and skin penetration capabilities. Various irritants target specific epidermal components [3].

Here, we perceive that ICD was triggered due to the application of an ayurvedic oil that was available locally. Numerous case studies in the literature demonstrate the prevalence of contact dermatitis brought on by various Ayurveda and essential oils. Since the exact composition of the causative agent was unknown, we were unable to perform a patch test to identify the actual irritant. The consequences of using an unknown topical oil can vary depending on its ingredients and how the body reacts to it.

ICD is caused by skin irritants that harm the epidermal layer of skin, which leads to keratinocyte destruction [4]. The inherent character of the irritant also affects the mechanisms that cause damage to the epidermal barrier [5].

IL-1 and TNF-α are probably the main cytokines involved after irritant contact, even though the exact cytokine/chemokine activation pathway in ICD is still unknown. These two cytokines work in concert to further activate and release secondary cytokines and chemokines. The complexity of the skin's reaction to irritants and interindividual differences in the number of cytokines produced or present in the skin are likely to be the cause of the type of irritant and the severity of the irritation reaction, as evidenced by the numerous cytokines and cell types involved in ICD [5].

Consumer behavior with unknown products is frequently influenced by cultural ideas, accessibility, and trust. Some people might use unknown products—like lesser-known oils—without fully comprehending their composition because they rely on word-of-mouth, traditions, or label promises.

Conclusion

Consumer behavior with unknown products is frequently influenced by cultural ideas, accessibility, and trust. Some people might use unknown products—like lesser-known oils—without fully comprehending their composition because they rely on word-of-mouth, traditions, or label promises.

Conflict of Interest

None declared

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Declaration of Patient Consent

The authors confirm to having acquired all necessary patient consent documents.

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References

1. Johansen JD, Bonefeld CM, Schwensen JFB, Thyssen JP, Uter W. Novel insights into contact dermatitis. J Allergy Clin Immunol. 2022;149(4):1162–1171.

2. Li Y, Li L. Contact dermatitis: classifications and management. Clin Rev Allergy Immunol. 2021;61:245–281.
3. Patel K, Nixon R. Irritant contact dermatitis: a review. Curr Dermatol Rep. 2022;11:41–51.
4. Brar KK. A review of contact dermatitis. Ann Allergy Asthma Immunol. 2021;126:32–39.
5. Lee HY, Stieger M, Yawalkar N, Kakeda M. Cytokines and chemokines in irritant contact dermatitis. Mediat Inflamm. 2013;2013:916497.