

ALLERGIC CONTACT DERMATITIS DUE TO CAMPHOR AND MENTHOL IN PAIN BALM: A CASE REPORT

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ABSTRACT

Allergic contact dermatitis to topical medications is commonly encountered in day to day practice. Though various prescribed medications can cause allergic contact dermatitis, the use of over-the-counter topical agents must also be taken cognizant. Herein, we report about a case of allergic contact dermatitis which resulted after the use of the topical agent which had camphor and menthol as its major constituents.

KEYWORDS: Camphor, menthol, allergic contact dermatitis, hypersensitivity reaction, topical medication.

INTRODUCTION

Topical agents containing camphor and menthol have been used in medicine for its antiseptic and vasodilatory properties.^[1] It has also emerged as a promising alternative to conventional therapies for treatment of pain over time.

Though the use of these topical agents have been fostered since ancient times, allergic contact dermatitis which occurs as a complication with the use of these products is comparatively under reported. Herein, we report about a middle aged female who developed allergic contact dermatitis after the use of the pain balm, which mainly had camphor and menthol in it.

CASE REPORT

On December 3, 2023, a 40-year-old female came to the OPD with complaints of redness and itching over both the sides of the forehead for the past 3 days, which is progressively worsening. On eliciting the history further,

she told that she applied a local topical preparation on both the sides of the forehead for her headache for the first time. The topical preparation had camphor and menthol as its major constituents [Figure 1]. Examination showed pulse rate at 84/min and blood pressure at 100/80 mmHg with redness and scratch marks over both the sides of the forehead [Figure 2].

Blood investigations on the day of OPD visit revealed normal complete blood count, renal and liver parameters. She was diagnosed with allergic contact dermatitis most probably with the use of the topical application. She was advised to withhold the use of that topical application and was started on topical glucocorticoids and antihistamines for symptomatic relief.

5 days after the removal of offending agent and treatment, patient was completely symptom free and skin lesions also resolved [Figure 3].



[Figure 1] : Topical preparation with camphor and menthol



[Figure 2] : Erythematous itchy lesion over the sides of the forehead



[Figure 3] : After removal of offending agent and treatment

DISCUSSION

Allergic contact dermatitis (ACD) is an inflammatory phenomenon which occurs due to type IV delayed hypersensitivity.^[2] Previous studies have showed that the prevalence of ACD to topical medicaments varied from 14% to 40%.^[3,4]

The prevalence and the order of allergens in topical medications may differ across the world due to various local prescribing and self-medication habits.

Common allergens in the medications that tops the list include antimicrobials, local anaesthetics, corticosteroids, antihistamines, nonsteroidal anti-inflammatory drugs (NSAIDs), and various natural topical preparations that have camphor and menthol in them.^[4]

Camphor and menthol-containing agents, in particular, have been used in most of the topical preparations in the form of pain balm, vaporubs and oils.^[5] They are in practice for the treatment of pain, pruritus and cold symptoms.

The analgesic effects are due to the activation of TRPV1 and inhibition of TRPA1 by camphor and a bimodal action by the menthol.^[6] The pharmacological effect behind its use for URI symptoms is the activation of the inhibiting transient receptor potential (TRP) channel M8. This is believed to inhibit the respiratory reflexes to suppress irritation and cough. Though it has an array of uses, various side effects have also been documented such as contact dermatitis, allergic reactions, and seizures.

The crux of reporting this case is to create awareness to

the physicians, to manage this temporary phenomenon with simple measures such as removal of the offending agent, and use of short course of steroids and antihistamines.

CONCLUSION

As camphor and menthol containing topical medications is on the rise, allergic contact dermatitis which occurs as a transient side effect of these compounds, must be comprehended by the physicians and educated to the patients.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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