

Concomitant allergic contact dermatitis due to *Rosmarinus officinalis* (rosemary) and *Thymus vulgaris* (thyme)

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M. Covadonga Martínez-González, J. Jaime Goday Buján, Walter Martínez Gómez and Eduardo Fonseca Capdevila

Department of Dermatology, Hospital Juan Canalejo, La Coruña, Spain

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Introduction

Rosmarinus officinalis (rosemary) and *Thymus vulgaris* (thyme) are ever-green plants of the Lamiaceae or Labiatae family, which also includes other plants such as *Mentha piperita* (mint), *Origanum vulgare* (oregano), *Lavandula officinalis* (lavender), *Hyssopus officinalis* (hyssop), *Ocimum basilicum* (basil), *Origanum majorana* (marjoram), and *Salvia officinalis* (sage). All these plants have antioxidant and antimicrobial effects (1, 2) and flavouring properties (2). They are commonly used as preservatives in cosmetics and as spices in stews (2). Rosemary (Fig. 1a) and thyme (Fig. 1b) are native to Mediterranean regions. Because of their anti-inflammatory properties, they have been used to treat local injuries by applying their leaves in plasters. Up to date, there are a few cases of contact dermatitis due to rosemary and thyme (1–10).

We describe a case of allergic contact dermatitis from rosemary and thyme, which was presented with the concomitant use of both plants into a poultice, in a patient without previous sensitization to plants of the Labiatae family.

Case Report

A 45-year-old man, without medical history, was referred to our department because of an acute, cutaneous, eczematous, severely itching lesion on the right thigh. The lesion had a ten-

dency to form vesicles and blisters (Fig. 2). He developed the lesion few hours after a 24-hr application of herbs poultice, which was prescribed by his physiotherapist for muscular pain. The poultice was applied only once, and it was prepared by his physiotherapist. He was then treated with topical and oral corticosteroids for 2 weeks, and was healed completely. The poultice contained a mix of rosemary (*Rosmarinus officinalis*), thyme (*Thymus vulgaris*), arnica (*Arnica montana*), chamomile (*Anthemis arvensis*), and horsetails (*Equisetum arvense*). The patient denied any previous contact with other plants of the Labiatae family.

Epicutaneous patch tests were performed using the Standard Spanish Series of the Spanish Contact Dermatitis Research Group (29 allergens), the Chemotechnique Diagnosis[®] plant series, the poultice 'as is', and the flowers and leaves of the natural plants individually 'as is', provided by the patient, following the Inter-

national Contact Dermatitis Research Group criteria. The results were read on day 2 and day 4, with positive results to colophony in standard series (+ on day 2 and day 4), the poultice 'as is' (++) on day 2 and day 4), rosemary (++) on day 2 and day 4), and thyme (– on day 2 and ++ on day 4), and negative results to arnica, chamomile, and horsetails. Chemotechnique Diagnosis[®] plant series were negative. Healthy control studies were performed with rosemary and thyme 'as is' in 12 subjects, with negative results.

Discussion

Due to its anti-inflammatory and antioxidant properties, rosemary is used in many cases of local injuries, as in our reported case, applied in poultices. In Moroccan traditional medicine, a preparation of the leaf is applied externally for muscular pain, rheumatism, wrinkles, and wound



Fig. 1. (a) Rosemary plant. (b) Thyme plant.



Fig. 2. Acute cutaneous eczematous lesion on the right thigh, with the tendency to form vesicles and blisters.

healing (11). Thyme is less frequently used for this target, but it is more used for its flavoured properties. Both the plants have been used in many other traditional medicines (such as in Galicia traditional medicine), and with many other objectives, until our days. Recently, a proven activity inhibiting skin tumorigenesis by rosemary and its constituents has been reported (12). Contact dermatitis due to plants applied topically for medical purposes has often been described.

We found only 8 references of contact dermatitis related to rosemary (1–8) and 2 of contact dermatitis related to thyme (9, 10). In addition, 2 of these references described contact dermatitis related to rosemary with cross-reaction to thyme (2, 8). In 1 of these 2 published cases, Armisen et al. reported a case of photoaggravated contact dermatitis on exposed areas after collecting rosemary on sunny days, with a cross-reaction to thyme (2). In the other one, more recently, González-Mahave et al. described a case of allergic contact dermatitis from rosemary alcohol, and cross-reactivity with other plants of the same family, including thyme (8).

It is known that oil of rosemary, when applied to skin, under occlusion, can moderately irritate skin and eyes. Bath preparations containing the oil can cause erythema, and perfumes, colognes, and toilet waters containing the oil can cause dermatitis in hypersensitive persons (14). The oil is also described to produce photosensitivity (14) and is a suspected agent of contact dermatitis. One of the most important constituents of rosemary is carnosol (a naturally occurring diterpene), and it has been reported as the cause of allergic contact dermatitis too (1).

Oil of thyme yield thymol, which can produce irritation of the skin (13); furthermore, we found 2 references of contact dermatitis related to thyme. One of these is an investigation of contact allergies in cases of ulcer cruris, where thyme oil was one of the allergens most frequently encountered (9), and the other one is an airborne contact dermatitis caused by thyme dust (10). Moreover, there are systemic reactions related to thyme (14).

Up to date, there are a few reported cases of allergic contact dermatitis due to rosemary or thyme, and these are individual forms or cross-reaction

forms. In Galicia (in the north-west of Spain), traditional medicine is present nowadays, and the use of herbal poultices is relatively frequent. In our case, the clinical history suggested that there was no previous sensitization to plants of the Labiatae family, the time of development of the lesion was less than 2 days and, differing with previous cases, the poultice in our case contained both plants; so, to our knowledge, this could be the first reported case of concomitant contact dermatitis from rosemary and thyme, although we cannot rule out a cross-reaction between both the plants.

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Address:

M. Covadonga Martínez-González
Servicio de Dermatología
Hospital Abente y Lago
(CHU Juan Canalejo)
C/Sir John Moore, s/n
15001- A Coruña
ESPAÑA
Tel: 981178000
Fax: 981205375
e-mail: covadie@yahoo.es