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Journal

Dermatology Online Journal, 27(7)

Authors

Avallone, Gianluca
Mastorino, Luca
Agostini, Andrea
et al.

Publication Date

2021

DOI

10.5070/D327754382

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Peer reviewed

Ruta graveolens phytophotodermatitis

Gianluca Avallone*, Luca Mastorino*, Andrea Agostini, Martina Merli, Niccolò Siliquini, Marco Rubatto, Maria Teresa Fierro, Simone Ribero#, Pietro Quaglino#

Affiliations: Dermatology Clinic, Department of Medical Sciences, University of Turin, Turin, Italy

*Authors contributed equally

#Shared senior authors

Corresponding Author: Simone Ribero, Department of Medical Sciences, Section of Dermatology, University of Turin, IT-10126 Turin, Italy, E-mail: simone.ribero@unito.it

Keywords: photodermatitis, phototoxicity, phytophotodermatitis, Rutaceae, Ruta graveolens

To the Editor:

Ruta graveolens, also called common Rue, is a popular decorative plant with extensive world distribution. Since ancient times, its leaves, petals, and extracts have been used for multiple purposes, given its analgesic, anti-inflammatory, antiandrogenic, antihyperlipidemic, and antihyperglycemic properties [1]. All *Rutaceae* plants contain psoralens and furanocoumarins, such as 5-methoxypsoralen and 8-methoxypsoralen, which cause phototoxic eruptions when activated by sun exposure of unprotected skin. If absorbed by ultraviolet A radiation, 5-methoxypsoralen forms reactive oxygen species that forms adducts with DNA and damage epidermal, dermal, and endothelial cells. This explains why a burn injury may be observed [2] because of the phytophototoxic reactions [3,4].

An otherwise healthy 76-year-old man presented to the emergency department (ED), reporting a vesicular-bullous rash and erythema of both hands and wrists. He was a retired man with the hobby of gardening. He also reported several past episodes of itching, reddening, and stinging hands and forearms. According to the patient, these symptoms used to recur every year during the summertime and had been previously treated with topical corticosteroids and oral antihistamine. Previous prick and patch tests were negative. Four days before the arrival to our ED, the patient applied some branches of *Ruta*

graveolens (Figure 1) over the affected areas as treatment of the above-mentioned symptoms. A rapid worsening of the clinical picture was reported after sunlight exposition of the areas. Clinical examination revealed vesicular-bullous lesions with serous content, crusts, and some impetiginous areas of the hands and wrists. The lesions were superimposed on an erythematous and edematous background. A clear dividing line between the photoexposed and non-photoexposed areas could



Figure 1. Appearance of *Ruta graveolens*.

be observed. The fingers of both hands were spared (**Figure 2**). A similar clinical appearance was observable in the right temporal area. Arms were itching and stinging and flexion-extension movements were difficult. A diagnosis of phytophotodermatitis induced by *Ruta graveolens* application was made. The origin of the previous



Figure 2. A) Swelling, vesicular-bullous rash and erythema on hands and wrists. **B)** Erythematous and vesicular lesions on the back of the right hand associated with serous bullae and swelling

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recurrent dermatitis is not well defined and different diagnoses can be considered: contact dermatitis, xerosis, entomodermatosis or another manifestation of phytophotodermatitis. An oral treatment with tapering corticosteroid therapy, cetirizine, and amoxicillin/clavulanic acid was prescribed to the patient. Topical fusidic acid and betamethasone cream were recommended as well.

Herein, we report the improper use of *Ruta graveolens* as a treatment of a pre-existing skin affection, which may also have related to inadvertent contact with the same plant. Furthermore, the ability to recognize different species of plants, especially those that can cause phytophotodermatitis or allergic contact dermatitis is a relevant asset for the clinician.

Potential conflicts of interest

The authors declare no conflicts of interest.