

A new method for extracting flower antigen in “as is” form

Problem

Ever since we have been using patch tests, extracting the etiological agent or the allergen in “as is” form for diagnosing various allergic contact dermatitides has been the biggest challenge. A female flower vendor presented to the Dermatology outpatient department with complaints of facial swelling, itching, and oozy lesions over the face and both hands. She had a history of using different types of seasonal flowers in summer for making garlands and also mentioned frequent use of a local flower called Navrang (*Tagetes erecta*). To test for the allergen, there was no ready-made kit available.

Solution

The usual method of extracting flower antigens is by freeze drying and grinding to obtain a homogenous sample, or by using a solvent system to extract the bioactive component. It is a prolonged and expensive process and requires solvent

systems and skilled professional experts. Our method is simple, quick, and does not sensitise healthcare professionals to antigen, uses controlled dosing of antigens, and simulates the conventional method of a patch test kit. We came up with the idea of extracting flower antigens in “as is” form by referring to Hassan *et al.*^{1,2} We carefully plucked a few petals separately from each variety of flowers that the patient had been working with. The petals were partially crushed manually and inserted into a sterile syringe after removing the plunger. The plunger was then strongly pressed until a fluid extract came out of the nozzle (allergen) [Figure 1a, Video 1a]. This extract was used as an allergen for the patch test [Video 1b]. The patch test showed 2+ (strong positive) results after 48 h [Figure 1b], 72 h and 96 h only against the allergen extracted from *Tagetes erecta* (Navrang flower). It did not show any reactions to other flower extracts. There is a note of caution: strong allergens like parthenium flowers may not be used as such, as they may sensitise the patient.



Figure 1a: Patch test strip with allergen extract.



Figure 1b: Patch test result after 48 h.

How to cite this article: Kushwaha RK, Rakshitha V, Jain SK, Yadav DK. A new method for extracting flower antigen in “as is” form. Indian J Dermatol Venereol Leprol. 2024;90:416–7. doi: 10.25259/IJDVL_805_2023

Received: August, 2023 **Accepted:** November, 2023 **EPub Ahead of Print:** March, 2024 **Published:** April, 2024

DOI: 10.25259/IJDVL_805_2023 **PMID:** 38595001 **Video available on:** https://doi.org/10.25259/IJDVL_805_2023

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)- assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

Video 1a: Video of extracting allergen from the rose.

Video 1b: Video of transferring allergen into patch test strip.

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