

# OCCUPATIONAL ALLERGIC CONTACT DERMATITIS TO NEEM OIL USED IN NATURAL COSMETIC

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Neem oil (also known as Margosa oil) is a vegetable oil extracted from the fruits and seeds of the *Azadirachta indica* tree, endemic to South Asia. It is widely used in India in traditional Ayurvedic medicine and in cosmetics, pesticides, insect repellents and natural fertilizers <sup>1</sup>. Neem oil has been described as an unusual cause of allergic contact dermatitis (ACD) in relation to its use in topical treatments for boils, alopecia areata, dry skin, psoriasis and atopic dermatitis, as a fungicide, or for uses related to religious practices <sup>2-7</sup>. Leaves used for religious purposes has also been linked to a case of contact stomatitis <sup>8</sup>.

## CASE REPORT

A 45-year-old woman, without significant allergies, presented with a one-month history of papulo-erythematous pruritic skin lesions, which began in the right forearm, with subsequent extension to eyelids and rest of the face. The patient worked in manufacturing of soaps and creams with natural products. Approximately 20 hours before the appearance of the lesions, she had handled Neem oil to manufacture a cream that she subsequently applied to the areas where the lesions occurred. Treatment with oral antihistamines and oral and topical corticosteroids was begun. The lesions evolved with desquamation and resolved in approximately one week, without residual disease. Afterwards, the patient continued manufacturing the same creams, but now handling Neem oil with gloves, without developing new lesions.

Patch testing with the TRUE-Test and the undiluted product provided by the patient “as is” was performed. Prior literature has tested this product “as is” with negative controls <sup>5-7</sup>. Readings were made according to International Contact Dermatitis Research Groupo guidelines at day 2 (D2) and D4. Patch tests were negative at D2 and D4 for the TRUE-Test. Neem oil “as is” at was positive (D2: ++, D4: +++). Ten controls were all negative at both D2 and D4.

## DISCUSSION

To our knowledge, we present the first case of occupational allergic contact dermatitis due to sensitization to Neem Oil. Despite the internationally widespread use of it, there are few published cases of ACD due to Neem oil, therefore it could be an underdiagnosed dermatitis <sup>9</sup>. This case highlights the allergenic potential of natural herbal products and the diagnostic utility of patch tests

with the product involved. It is also an allergen that should be considered as an etiologic agent in occupational ACD in cosmetic workers.

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