

Allergic contact dermatitis due to nickel: can systemic isotretinoin therapy favour sensitization?

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There is some evidence of the development of allergic contact dermatitis (ACD) during oral therapy with isotretinoin. We report the case of a young man who developed nickel allergy to his jewellery during isotretinoin treatment.

CASE REPORT

A 21-year-old non atopic man suffering from severe acne vulgaris was put on systemic isotretinoin therapy (0.3 mg/kg). After 2 months of therapy, the patient complained of eczema on his wrists, neck and under his belt buckle. All skin lesions occurred in areas in contact with metal jewellery accessories that he had been wearing for years without them causing any problem before starting isotretinoin.

Patch testing was performed with the Società Italiana di Dermatologia Allergologica Professionale e Ambientale (SIDAPA) baseline series (F.I.R.M.A., Florence, Italy). Patch test chambers (Van der Bend, Brielle, The Netherlands) were applied on the upper part of the patient's back. The readings on day (D) 2 and D4, according to the Italian guidelines¹, showed a strong positive reaction only to nickel (++/+++). Systemic treatment with isotretinoin was stopped, the metallic accessories eliminated and eczematous manifestations healed with moisturizers and topical steroids.

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DISCUSSION

Systemic retinoids can cause several adverse cutaneous effects, the commonest being xerosis.² Systemic retinoids modify both the structure and function of the epidermis. Retinoids inhibit the production of sebum and therefore increase transepidermal water loss. Retinoids can cause a loss of tonofilaments and hemidesmosomes and increase the epithelial fragility.³ All this damage to the barrier function of the epidermis and a thinner stratum corneum allow an increased penetration of haptens. Furthermore, retinoids increase the density of Langerhans cells, the antigen-presenting cells in the sensitization phase of allergic contact dermatitis, enhancing immune-responsiveness against antigens.

Therefore it can be assumed that the use of systemic isotretinoin may favour the onset of ACD. There are only three reported cases in the literature concerning the development of new contact sensitivities in patients taking oral isotretinoin. One case was a student who developed rubber glove dermatitis to gloves she had tolerated before starting isotretinoin.⁴ The second case, a young adult, developed allergies to multiple ingredients in ointments used for isotretinoin-induced xerosis.⁵ Another case involved a young boy who, after 5 months of isotretinoin therapy for acne, presented new eczematous plaques underneath his watch and his belt buckle due to sensitization to nickel.⁶ This case seems to add further evidence on the role of **oral** isotretinoin as potential promoter of allergic sensitization, especially to metals; further studies are required to verify this hypothesis.

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