

Allergic contact dermatitis caused by Mirvaso[®], brimonidine tartrate gel 0.33%, a new topical treatment for rosaceal erythema

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We present a case of acute contact dermatitis caused by the new rosacea treatment, Mirvaso[®], to draw attention to what we believe may be an increasingly encountered clinical problem.

Case Report

A 24-year-old atopic woman presented with a florid facial dermatitis 6 months after starting to use Mirvaso[®] gel (Galderma UK), brimonidine tartrate 0.33%, a topical α_2 receptor agonist, once daily for the treatment of her rosaceal erythema. In the month preceding the presentation, she had increased the frequency with which she was applying the Mirvaso[®], thinking that the increasing

redness and itching of her skin was caused by a worsening of her rosacea (Fig. 1).

Examination showed a florid exudative dermatitis affecting the malar region, the bridge of the nose, and the forehead. The distribution of the rash matched the application of Mirvaso[®]. Associated with the facial dermatitis, the patient had also suffered a flare in her hand dermatitis. This had previously been diagnosed as an irritant dermatitis associated with frequent hand washing in her role as a nurse, but it had now evolved into an acute pulpitis.

The patient was patch tested (Finn Chambers[®] on Scanpor[®] tape) with an extended European baseline series, with healthcare, fragrance, medicament and face allergens, and with the products that she had been using on her face, the last of these being tested 'as is'. The application time was 48 hrs. Noting a positive (+) reaction to Mirvaso[®] on day (D)2, we repeated the test and performed additional testing with relevant ingredients of the vehicle gel, namely, phenoxyethanol, methylparaben,

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Fig. 1. A 24-year-old with acute facial contact dermatitis following the application of Mirvaso®, topical brimonidine tartrate gel 0.33%.

and propylene glycol. On D4, the only positive reaction was to Mirvaso® (+).

Following cessation of the use of Mirvaso®, and treatment with a topical steroid, the face and hand dermatitis completely resolved. We then asked the patient to perform a repeated open application test with Mirvaso® on her forearm. This resulted in an eczematous reaction after

4 days of application. Subsequently, 17 controls were also patch tested 'as is', and all showed a negative response.

Discussion

Brimonidine tartrate is a highly selective α_2 -adrenergic receptor agonist that targets the smooth muscle of superficial cutaneous blood vessels to cause vasoconstriction. In phase 3 clinical trials of Mirvaso®, 1% of patients experienced contact dermatitis. One patient was diagnosed with contact allergy to the active ingredient brimonidine tartrate, and another patient had a positive patch test reaction to phenoxyethanol, the preservative in the vehicle gel. Further to these findings, a larger, open label study of 345 patients who applied Mirvaso® for a 12-month period reported a rate of contact allergy of 2.2% (1).

Although the use of topical brimonidine is relatively new in dermatology, ophthalmologists have been using it for many years as a treatment for chronic open angle glaucoma, to lower the intraocular pressure. In its use as eye drops, brimonidine is a well-known allergen, with claimed rates of sensitization and allergic conjunctivitis of 10–20% on the prescribing information (2).

In a previously published case report (3) of contact allergy to Mirvaso®, the authors hypothesized that the patient had been previously sensitized by the use of brimonidine eye drops for glaucoma. In our case, there was no prior history of eye drop use, suggesting a primary sensitization.

We wish to highlight this case because, given the increasing popularity of Mirvaso® as a treatment for rosacea erythema and the established allergenic properties of brimonidine, this is likely to be an increasingly observed clinical problem.

References

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