Facial Flush Reaction after Alcohol Ingestion during Topical Pimecrolimus and Tacrolimus Treatment

Giuseppe Stinco, Fabio Piccirillo, Manuela Sallustio, Pasquale Patrone
Institute of Dermatology, Department of Clinical and Experimental Pathology and Medicine, University of Udine
School of Medicine, Udine, Italy

Key Words
Vitiligo • Alcohol intolerance • Topical calcineurin inhibitors • Pimecrolimus cream • Tacrolimus ointment

Pimecrolimus and tacrolimus, topical calcineurin inhibitors, are approved for the treatment of atopic dermatitis and have recently been introduced for the treatment of vitiligo lesions offering the advantage to be used for a prolonged time avoiding the side effects related to the long-term use of topical steroids. Although no signs of atrophy, telangiectasia or tachyphylaxis have been described with their use, the topical treatment with tacrolimus has usually been reported in patients with atopic dermatitis. This is the first report in patients with vitiligo. The exact pathophysiological mechanism is still unknown, but 3 hypotheses can be formulated. Either ethanol or calcineurin inhibitors have been shown to induce the release of neuropeptides, and probably their combination could lead to an extreme vasodilatation [6]. The second hypothesis is linked to the aldehyde-dehydrogenase-inhibiting function of the calcineurin inhibitors in the areas where they are applied; in this way, the subsequent accumulation of acetaldehyde could lead to vasodilatation following alcohol consumption as described for disulfiram-treated patients after alcohol ingestion [7]. The third hypothesis is linked to a possible interaction of the two drugs on the calcineurin-calmodulin-calcium complex where both alcohol and tacrolimus/pimecrolimus are known to act [8]. Moreover, an abundant presence of Demodex mites has been observed in patients with flares of rosacea occurring during topical tacrolimus and pimecrolimus treatment [2, 9].

It is possible that the treatments with calcineurin inhibitors lead to an incipient rosacea with flares that appear after alcohol consumption. Despite its difficult pathogenesis and the absence of predictive factors, the flush reaction of the face should be recognized as a new side effect of the treatment with topical calcineurin inhibitors, both pimecrolimus and tacrolimus, independently from the skin disease.
References


Giuseppe Stinco
Institute of Dermatology, University of Udine
Ospedale ‘San Michele’, piazza Rodolone 1
IT–33013 Gemona del Friuli, Udine (Italy)
Tel. +39 0432 989 388, Fax +39 0432 989 209
E-Mail giuseppe.stinco@uniud.it