Abstract N°: ID-1263

Topic: Pigmentary disorders

A retrospective audit on the addition of liposomal 0.2% tofacitinib spray to liposomal 0.2% spray tacrolimus and narrowband UVB in the treatment of facial vitiligo

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Introduction

Vitiligo is a common depigmenting skin condition characterised by the loss of melanin, caused in part by immune dysregulation leading to the destruction of melanocytes. It can be seen as disfiguring, with some patients reporting low self-esteem and negative body image. Current treatment options include topical agents and narrowband ultraviolet B (NB-UVB) phototherapy. Topical tacrolimus, an immunosuppressive calcineurin inhibitor, is commonly used for facial vitiligo and demonstrates partial efficacy when combined with NB-UVB. More recently, tofacitinib, a Janus kinase (JAK) inhibitor which inhibits the inflammatory signalling pathway, has demonstrated some benefit when used in combination with NB-UVB in one study. However, neither treatment combinations reliably result in repigmentation. Given the limited efficacy of existing regimens, this retrospective audit evaluates the addition of topical tofacitinib to a combination of topical tacrolimus and NB-UVB phototherapy in adults with treatment-resistant facial vitiligo.

Materials and Methods

This retrospective audit examined images of 12 patients with intractable facial vitiligo. All patients were over 18 years of age and had failed previous therapies, including topical tacrolimus 0.1%, topical ruxolitinib, NB-UVB phototherapy, or combinations of these treatments.

Patients were instructed to purchase a personal NB-UVB device for home use, as home-based phototherapy combined with topical agents has been shown to be safe and moderately effective. Treatment consisted of a liposomal formulation of tacrolimus 0.2% spray and tofacitinib 0.2% spray applied twice daily to the affected facial areas, in combination with NB-UVB phototherapy administered two to three times weekly. Patients were reassessed every three months, with photographs obtained at each visit. Treatment duration ranged from three to six months. Pre- and post-treatment F-VASI scores were compared to assess clinical response, and adverse effects were documented.

Results

Pre- and post-treatment F-VASI scores demonstrated improvement in most patients. Percentage repigmentation ranged from −2.3% to 97.4%, with a mean repigmentation of 46.7%. Eight of the twelve patients achieved more than 25% repigmentation, with three patients exceeding 80% repigmentation. The treatment was well tolerated, with mild burning sensations reported at the application site, consistent with the known side-effect profile of topical tacrolimus.

Conclusions

In this small retrospective audit, the combination of topical liposomal tacrolimus and topical liposomal tofacitinib with NB-UVB phototherapy appeared to be a safe and potentially effective treatment option for adults with treatment-resistant vitiligo. This triple-therapy regimen may offer improved clinical outcomes compared with previously used treatment combinations and provides evidence for the role of tofacitinib as an adjunct in vitiligo management. However, the findings are limited by the small sample size, and larger studies are required to confirm efficacy, durability of response, long-term safety, and cost-benefit implications.