

# Comparison of two diluents of 1% methoxsalen in the treatment of vitiligo

**Kiran V. Godse**

Consultant Dermatologist, Shree Skin Center and Laboratory, Mumbai, India

**Address for correspondence:** Dr. Kiran Godse, Shree Skin Center and Laboratory, 21/22, L market, Sector 8, Nerul, Navi Mumbai - 400 706, India.  
E-mail: drgodse@gmail.com

---

Sir,

The major nonsurgical repigmenting therapies for vitiligo include psoralens and corticosteroids, used both topically and systemically.<sup>[1]</sup> Around 1% of the world's population has vitiligo, which causes a patchy loss of skin color. The methods currently available to treat vitiligo are largely unsatisfactory and vary widely between cultures and within health systems.<sup>[2]</sup> Potent topical steroids used along with psoralens and ultraviolet or sun exposure are the most effective forms of therapy for localized vitiligo.

This study was done to evaluate a new diluent in the treatment of vitiligo. Traditionally, eau de cologne or spirit or water is used to dilute methoxsalen for topical PUVA therapy. Eau de Cologne contains a mixture of citrus oils, including oils of lemon, orange, tangerine, bergamot, lime, grapefruit, and nerolin, in a base of dilute ethanol (70-90%).

Ten patients with essentially bilateral and symmetrical lesions were enrolled in a randomized, right/left comparative study of 2 months' duration. Ten patients (6 females and 4 males) in the age-group of 15-50 years were included in this study; all of the subjects had localized vitiligo, affecting

less than 20% of the body surface area. The average age of the patients was 29.8 years (range 15-50 years) and they had had vitiligo for 2-4 years (average 1.7 years). Lips and tips variety of vitiligo was not included. Pregnant and lactating mothers were not included.

For therapy we used a topical psoralen, 1% methoxsalen, diluted with lipid-free lotion (Cetaphil® lotion, Galderma Laboratories) on the right side of the body and with eau de cologne on left side of body.

Cetaphil® lotion is composed of cetyl alcohol (2.65%) and stearyl alcohol (0.26%) in a propylene glycol base. Clobetasol propionate cream (0.05%) was applied in the night for all patients. All patients were advised to dilute 1% methoxsalen lotion with lipid-free lotion (Cetaphil® lotion) for use on the right side and with a similar amount of eau de cologne for use on the left side of body; this was to be applied with a brush on the affected area on alternate days 30 min before sun exposure between 10 am to 2 pm. Sun exposure was initially for 2 min and was gradually increased by 1 min every 10 days. After sunlight exposure, the treated areas were cleaned with soap and water.

**How to cite this article:** Kiran V. Godse. Comparison of two diluents of 1% methoxsalen in the treatment of vitiligo. Indian J Dermatol Venereol Leprol 2008;74:298.

Three patients (30%) reported irritation, redness, and itching on the eau de cologne side after 3 weeks, whereas there were no symptoms reported on the lipid-free lotion (Cetaphil) side till the end of the 2-month study period. Cetaphil® lotion was well tolerated as a diluent compared to eau de cologne, which is traditionally used in therapy. Later, eau de cologne was replaced with Cetaphil® lotion till the completion of the study. At the end of 2 months, more than 50% repigmentation was observed in four patients and between 25-50% repigmentation was observed in another five patients. One patient was lost to follow-up.

Lipid-free cleansing lotions, which contain fatty alcohols, were designed for people with sensitive or dry skin. These lotions can be wiped off without the use of water. One advantage of these agents is that the fatty alcohol component facilitates evaporation and thus is associated with less facial residue than classic soaps. These agents also contain emollients (e.g., fatty alcohols) and/or humectants (e.g., propylene glycol) to counter the irritating effects or drying potential of the surfactant ingredient.<sup>[3]</sup> It has been suggested that soaps and other skin cleansers with an alkaline pH may impair the lipid bilayer of the stratum corneum barrier and thus cause dry skin.<sup>[4]</sup> Cetaphil® contains the humectant propylene glycol and fatty acid alcohol emollients, both of which can enhance hydration of the stratum corneum. This hydration can enhance topical drug penetration.<sup>[5]</sup> Another

study showed that Cetaphil® lotion caused significantly less irritation compared with Purpose®, Ivory®, and Alpha Keri®.<sup>[6]</sup> In one study, Cetaphil® lotion was preferred over hydrophilic ointment for cosmetic reasons and was clinically equally effective in PUVA therapy for palmoplantar psoriasis.<sup>[7]</sup> Lipid-free lotion (Cetaphil® lotion) was well accepted by patients as a diluent in this study.

## REFERENCES

1. Handa S, Pandhi R, Kaur I. Vitiligo: A retrospective comparative analysis of treatment modalities in 500 patients. *J Dermatol* 2001;28:461-6.
2. Whitton ME, Ashcroft DM, Barrett CW, Gonzalez U. Interventions for vitiligo. *Cochrane Database Syst Rev* 2006;1:CD003263.
3. Bikowski J. The use of cleansers as therapeutic concomitants in various dermatologic disorders. *Cutis* 2001;68:12-9.
4. Schmid MH, Korting HC. The concept of the acid mantle of the skin: Its relevance for the choice of skin cleansers. *Dermatology* 1995;191:276-80.
5. Lippold BC. How to optimize drug penetration through the skin. *Pharm Acta Helv* 1992;67:294-600.
6. Mills OH Jr, Berger RS, Baker MD. A controlled comparison of skin cleansers in photo aged skin. *J Geriatr Dermatol* 1993;1:173-8.
7. Abel EA, Goldberg LH, Farber EM. Treatment of palmoplantar psoriasis with topical methoxsalen plus long wave ultraviolet light. *Arch Dermatol* 1980;116:1257-61.