

Home Use of Topical Methoxsalen in Localized Vitiligo

Norman Minars, MD, Richmond, Virginia

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A detailed method of utilizing topical methoxsalen solution at home for treating localized forms of idiopathic vitiligo is presented. Success depends on patient cooperation, doctor reassurance and proper technique. The drawbacks of systemic medication, proper dosage and frequent office visits are thus avoided. The efficacy of this method has been impressive in a small group of patients.

VITILIGO IS THE MOST COMMON hypomelanotic disorder of man, affecting at least 1% of the population.¹ The disappearance of melanocytes from the basal cell layer leads to the development of the clinically visible white macule. When vitiligo affects Negroes, the results are often psychologically and socially devastating, particularly if the leukoderma is widespread or on the face or hands. These people come to the dermatologist asking for help and are often told that there is no cure or therapy. The effects of vitiligo on young Negro children are especially disturbing. In the fair-skinned or light-colored individual, vitiligo is easily missed and usually is not a social problem.

The use of psoralens in repigmenting vitiligo is possibly one thousand years old.

The modern use of the psoralens was begun by El-Mofty in Egypt² and by Lerner, Kelly, and Pincus in the United States.³

Since their introduction into this country, oral and topical psoralens have been used with varying success rates for repigmenting lesions of vitiligo. Recently, the question of dosage and the most effective preparation has been raised.^{4,5} To avoid this controversy and minimize systemic effects, the topical application of psoralens was thought to be a practical, economical, and safe method for treating vitiligo at home. The following technique was used with one factor being varied—length of exposure to the light source.

After the diagnosis of idiopathic vitiligo is established, the patient receives instructions about the nature and use of psoralens. He is told that repigmentation is a slow and gradual process which takes months or even years. Most patients see minimal repigmentation within the first two or three months, and some as soon as two weeks after therapy is started. El-Mofty found more favorable results in young patients who had their disease less than two years. However, long duration of the disease and older patients are no indication that a case will be resistant. Persistence of treatment is rewarded with pigment in most cases!

The patient is instructed to purchase a blacklight fixture containing a GE15T8-BLB fluorescent tube and to bring it in for inspection for the correct light source at the next office visit. A unit, like the one de-

From the Department of Dermatology, Medical College of Virginia, Richmond.

Reprint requests to the Department of Dermatology, Medical College of Virginia, Box 164, Richmond, Virginia 23298.



Fig 1. Early during therapy.



Fig 2. Therapy completed after eight months.

scribed above, can be purchased at most record and stationery stores that sell black-light posters or at lighting supply houses. The fluorescent tube is approximately 15 inches in length and dark purple, with identifying marks on the ends. A written summary of the method should always be given to the patient including time, distance, and precautions.

Methods

A 1% solution of 8-methoxsalen (Oxso-ralen[®]) is applied sparingly to the white areas of the skin to be treated. Caution must be used to avoid dripping the solution on areas not to be repigmented. With a little practice, the patient can learn to use a cotton tipped applicator (Q-tip[®]) for application of the watery solution. After a one-hour waiting period, the patient should expose himself to the light source for *ten minutes* at a measured distance of *ten inches*. This should always be done after sundown and always be followed by application of Uval[®] (sulisobenzone 10%) and/or clothing. The procedure is repeated every three days if light erythema is present. If deep, painful erythema, blistering, or irritation occurs, the treatments are skipped for several days and restarted using five minutes of exposure time at the same distance of ten inches. The distance is never varied. Uval[®] should be used the following morning and afternoon since psoralens on the skin are active for over 24 hours if exposed to sunlight. The treat-

ments are discontinued once repigmentation is complete. It is not advisable to apply the solution on the skin of the eyelids, genitalia, and other sensitive areas.

Commentary

It should be emphasized that the peak of erythema occurs from 48 to 72 hours after exposure.⁶ The patient should not increase the length of exposure until the peak reaction has occurred. I have found that a treatment schedule of every three days allows peak erythema to develop, minimizes burning, and produces the most satisfactory results within the shortest period of time. A moderate amount of erythema at all times is desirable and patients soon become expert in determining their correct length of exposure to maintain it. Hyperpigmentation around the lesion being treated does occur and should not stop the patient from further treatments. After repigmentation is complete, the hyperpigmentation blends into the surrounding skin and soon fades to a normal or near normal color. The overall effect of repigmentation overcomes any slightly hyperpigmented borders seen early in the treatment. Photographing all patients before, during, and after therapy allows both the patient and the doctor to document improvement and is reassuring after months of treatment. Patients are followed at monthly intervals for the first four months and then at three-month intervals.

It has been shown that Uval[®] will pre-

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vent unintentional overexposure of skin treated with psoralens for vitiligo.⁶ Despite washing, skin treated topically with psoralens remains photosensitive for over 24 hours. Most problems can be avoided by using psoralens at sundown and applying Uval® the next morning to areas of skin that will be exposed to sunlight. The psoralens as phototherapeutic agents have been well summarized by Becker.³

It has been demonstrated that methoxsalen in the skin is activated by light only in the longwave ultraviolet spectrum (360–380 nm).⁷ The GE15T8-BLB blacklight provides an ample energy source to evoke the response needed to treat vitiligo.

Five patients ranging from 2 to 18 years of age were treated with gratifying results. Three teenage Negro girls, one 10-year-old Negro boy and one two-year-old white boy were treated using the above schedule. Lesions involved the face, lips, trunk, and extremities and measured up to 6 inches in diameter. All lesions were partly

or completely repigmented within eight months of therapy. Pigment can be seen around follicles as early as two weeks after starting treatment. In some patients the pigment migrated from the borders of the white macule (Fig 1 and 2).

It is hoped that this simple, inexpensive, relatively safe and effective method will be utilized more frequently to help those individuals suffering from localized vitiligo.

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