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Vitiligo and Treatment

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Abstract: *Background:* Vitiligo is a common skin condition resulting from loss of normal melanin pigments in the skin which produces white patches. It mainly affects a younger population and can cause serious cosmetic and social problems. At least three theories about the underlying mechanism of vitiligo have been proposed. Release of a chemical that is toxic to melanocytes is one theory, while another theory says that the melanocytes simply self-destruct. According to the third theory, vitiligo is a type of autoimmune disease. *Methods:* We performed a prospective study to evaluate the efficacy of the 0.05% clobetasol propionate and 1% pimecrolimus in the treatment of vitiligo. In our study is 25 patients with virtually lesions of vitiligo. *Results:* Results from this pilot study indicate that topical 1% pimecrolimus is as effective as clobetasol propionate in restoring skin disfiguring due to vitiligo. *Discussion:* Further studies investigating the safety and efficacy of topical 1% pimecrolimus ointment either as monotherapy or in combination with other therapeutic measures are warranted.

Keywords: Vitiligo, the Skin Dispigmentation, Progress in Treatment of Vitiligo

1. Introduction

Vitiligo is a common skin condition resulting from loss of normal melanin pigments in the skin which produces white patches(1). The white patches are usually permanent. Vitiligo usually affects the skin, but it can develop anywhere we have pigment. Patches of hair can turn white. Some people lose color inside their mouths. The affected skin can lighten or turn completely white. Living with vitiligo can cause other symptoms such as low self-esteem and depression that is hard to beat. This can happen regardless of the amount of color loss or type of vitiligo. Vitiligo is a medical condition, not just a cosmetic concern. There are many treatment options. The goal of most treatments is to restore lost skin color.

Corticosteroids have anti-inflammatory properties and cause profound and varied metabolic effects. In addition, these agents modify the body's immune response to diverse stimuli. These drugs are used to stop spread of vitiligo and accomplish repigmentation.

Pimecrolimus reduce itching and inflammation by suppressing the release of cytokines from T cells, it has recently been shown to be effective for the treatment of vitiligo. We performed a prospective study to evaluate the efficacy of the 0.05% clobetasol propionate and 1% pimecrolimus in the treatment of vitiligo. In our study is 25 patients with virtually lesions of vitiligo, 1% pimecrolimus was applied twice daily over the lesion on the body. Response to treatment was varied according to the anatomical location of the lesions where better results were seen on the trunk and extremities. Results from this pilot study indicate that topical 1% pimecrolimus is as effective as clobetasol propionate in restoring skin disfiguring due to vitiligo. For a better conclusive statement further studies involving larger groups of patients should be performed.

2. Methods

Patients admitted to our clinic between January-December 2004-2007 with generalized vitiligo were considered for this prospective study. It was assured that none of the patients had any of the following conditions: thyroid or parathyroid disease, cardiovascular or malignant diseases, impaired renal and/or liver function, pregnancy, lactation. We study 25 patients (17 males and 8 females) with virtually bilaterally symmetrical lesions of generalized vitiligo were included. Topical 1% pimecrolimus, was applied twice daily over the body in the same patient.

These analyses involved evaluation of the level of

repigmentation, time of response, assessment of side symptoms related to treatment including telangiectasia, burning sensation and atrophy. Results of the treatment were visually assessed. Photographs of the lesions of all the patients were taken prior to commencement of the treatment and on every 4-weekly examination during the 1-years treatment and the patients were also clinically examined at every visit. The grade of repigmentation was evaluated from color slides. Evaluation of repigmentation was evaluated as follows: 0-25% repigmentation, minimal (poor); 26-50% repigmentation, moderate; 51-75% repigmentation, good; and 76-100% repigmentation, excellent.

3. Results

All the patients, mean age 31.8 years (range 12-66 years) with virtually bilaterally symmetrical lesions of generalized vitiligo were included. The duration of vitiligo was varied from 2 to 40 years (average 14.7 years). The acral region was affected in 2 (0.4%), trunk in 14 (0.56%), and extremities in 9 (0.36%) patients. New lesions had developed in 2 patients during the previous 6 months and in 14 patients during the previous 12 months while there was no recent development of new lesions in the other 9 patients.

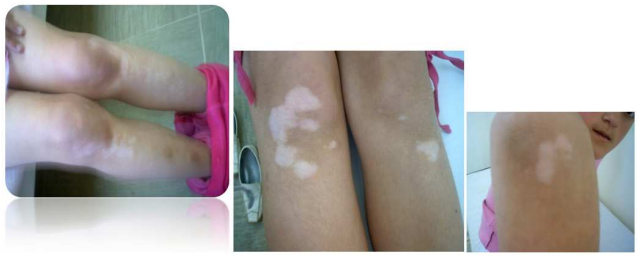

Fig. 1. *This skin disease often forms on both sides of the body as shown here on the extremitas.*

All patients had different degrees of pigmentation. But, the response rate of lesions varied according to their anatomical location. Response to treatment was better on the trunk and extremity lesions in all treatment modalities. With regard to the time of response, repgimentation had started after about 5 weeks on the lesions of the trunk and extremities. In response to topical pimecrolimus, five patients reported an experience of burning sensation but it was not to a degree to stop the treatment.

Tab. 1. *The manifestation of vitiligo by gender and age.*

Sex	11-20	21-30	31-40	41-50	51-60	61↑	Total
M	/	5	7	3	2		17
F	1	3	1	2	/	1	8
Total	1 (4%)	8 (32%)	8 (32%)	5 (20%)	2 (8%)	1 (4%)	25

Tab. 2. *Presentation of vitiligo by localization.*

Lokation	Acral	Trunk	Extremities	Total
M	1	11	5	17
F	1	3	4	8
Total	2 (8%)	14 (56%)	9 (36%)	25

Tab. 3. *Appearance of new lesions of vitiligo during months.*

New lesion	After 1-3 month	After 3-6 month	After 6-9 month	After 9-12 month	Total
M	1	/	7	4	12
F	/	1	1	2	4
Total	1	1	8	6	16

Tab. 4. *Repigmentation and the time of response in therapy.*

Repigmentations	1 -4 weeks	5-10 weeks	11-15weeks	16-20weeks	Total
Trunk	7	6	3	1	17
Ekstremites	4	3	1	/	8
Total	11	9	4	1	25

4. Discussion

Pimecrolimus, an ascomycin derivative, is one of the new classes of immunomodulating macrolactams and was specifically developed for the treatment of inflammatory skin diseases. There has been a substantial interest in pimecrolimus because of its significant anti-inflammatory and immunomodulatory activities. It also has a low systemic immunosuppressive potential. The mechanism of action of pimecrolimus is the blockage of T cell activation [2, 3, 5]. Lepe et al. [15] conducted a double-blind randomized trial of 0.1% tacrolimus vs. 0.05% clobetasol for the treatment of childhood vitiligo. They reported 0.1% tacrolimus as effective as clobetasol propionate for treatment of vitiligo. In another study, Mayoral et al. [7] conducted a repigmentation of vitiligo study with pimecrolimus cream. Travis et al. [16] found successful treatment of vitiligo with 0.1% tacrolimus ointment. Grimes et al. [17], Smith et al. [18] and Tanghetti [19] conducted studies on patients with vitiligo who responded to treatment with tacrolimus ointment. They concluded that tacrolimus ointment may be an efficacious and

safe treatment option for vitiligo.

We think that topical 1% pimecrolimus is as effective as clobetasol propionate to restore skin discoloring in vitiligo. Because it does not produce atrophy or other adverse effects, topical 1% pimecrolimus may be very useful for patients and for sensitive areas of the skin such as eyelids, and it should be considered in other skin disorders currently treated with topical steroids for prolonged periods. Further studies investigating the safety and efficacy of topical 1% pimecrolimus ointment either as monotherapy or in combination with other therapeutic measures are warranted.

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