



LAMPS HAVING WAVELENGTH SUITABLE FOR TREATMENT OF PHOTO-RESPONSIVE SKIN DISEASE VITILIGO

Dr. Swapnil S. Arsad

Dept. of phy. Shri Shivaji Science College Amravati

Abstract

The vitiligo is a commonly found skin disorder in which white patches appear due to pigmentary disorder. The biological drug therapies were in practice. Over a period of time the safety of these medications were evaluated. It is said to be photo-responsive disease because it can be cured with light having specific wavelength. We studied that NB UVB is found to be extremely safe and effective treatment. We have used a clinical unit installed by dermatologist. The patient undergoing treatment for vitiligo patches were closely observed. The results are quite satisfactory achieving good repigmentation in just 6 months of treatment.

Keywords: NB UVB, Phototherapy, Vitiligo

Introduction

Treatment of vitiligo with narrow band UVB has acquired strong recognition and it is being used in almost all the countries. The use of drugs like topical steroids have shown connectivity with diabetes. [1] The study shows that the risk of diabetes increases upto 40% due to cumulative steroid dose. Topical corticosteroids need to be avoided for treating vitiligo since it requires intense skin treatment. Daavlin [2] has highlighted the adverse effects of many drugs with reference to FDA statements showing number of sufferers in yearwise (2000 to 2007) table. The biological drugs data is compiled using Medwatch statistics available at FDA.

Background

The NB UVB treatments was administered in a local clinic under the supervision of expert dermatologist having treated thousands of patients having 20 years of experience. The

important point of distinction in NB UVB unit is that it emits a more specific or “narrow” range of UV wavelengths. NB UVB is also frequently used than broad-band UVB for psoriasis patients, eczema, vitiligo, and mycosis fungoides, Narrow Band UVB continues to show its versatility with its promising results.

Conventional broad band UVB lamps emit a variety of wavelengths ranging from 280-330 nm. Narrow Band UVB virtually eliminates superfluous and harmful UV by emitting only wavelengths 311-312 nm. Clinical studies show the peak therapeutic effectiveness of UVB to be within the range of 295-313 nm, but wavelengths below 300 nm can cause erythema or severe burning and increase the risk of skin cancer

Method

The patients were given only NB UVB therapy twice a week for nearly six months. The visits were fixed and photographs of affected area were taken at regular intervals. Graphically the repigmentation rate was calculated. No drugs were given during the treatment. The exposure time and dose were decided in consultation with the dermatologists.

Conclusion

Phototherapy with selective wavelength 311nm allows longer exposure and accordingly dose intensity can be increased. In the case study the exposure to patient was twice a week with increasing exposure time no complain from the patient was registered. The patient got benefit of faster repigmentation with safety. The treatment took shorter period than expected to achieve the repigmentation which assured the effectiveness of NB UVB therapy. The patient need not spent any amount for medicine of any kind. The treated area did not show any sign of re appearance of

white patch in nearby region of the skin. Narrow Band UVB therapy is emerging out as an effective tool and a strong alternative to traditional treatment modalities in practice for the treatment of vitiligo. The phototherapy units are available in different shapes and sizes with varying power.

Acknowledgement

Dr. Sandip S. Arsad, MD, Darpan Skin Care Clinic has permitted the free use of UVB unit for the case study. ** Daavlin company for narrow band UVB phototherapy for graph, documenting the therapeutic effectiveness and safety benefits of narrow band UVB treatment.

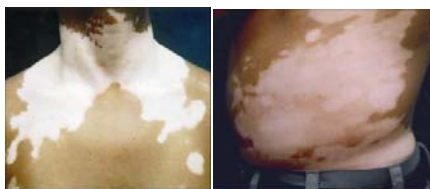
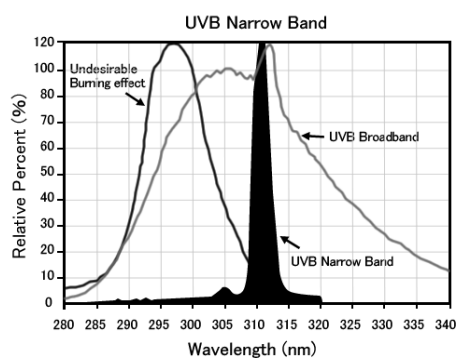


Fig. 7.10 (a) Completely aggregated patches on the chest (Viligo vitigo)

Fig. 7.11 (a) Patches on umbilicus and abdomen before laser treatment (Viligo vitigo)



Fig. 7.10 (b) Repigmentation after three months of laser treatment

Fig. 7.11 (b) Repigmentation after three months of treatment

References

1. van der Linden MW, et al. Topical corticosteroids and the risk of diabetes mellitus: a nested case-control study in the Netherlands. *Drug Saf.* 2009;32(6):527-37. doi: 10.2165/00002018-200932060-00008.

2. Sehgal VN, Srivastava G. Vitiligo: compendium of clinico-epidemiological features. *Indian Journal of Dermatology, Venerology and Leprology.* 2007;73(3):149-156.

3. Parsad D, Pandhi R, Juneja A. Effectiveness of oral Ginkgo biloba in treating limited, slowly spreading vitiligo. *Clinical & Experimental Dermatology.* 2003;28(3):285-287.

4. Halder RMMDa, Nootheti PKMDb. Ethnic skin disorders overview. [Miscellaneous] *Journal of the American Academy of Dermatology.* 2003;48((6 Part 2) Supplement):S143-S148.

5. Behl PN, Bhatia RK. 400 cases of vitiligo - A clinicotherapeutic analysis. *Indian Journal of Dermatology.* 1971;17:51-53.

6. Mehta HR, Shah KC, Theodore C. Epidemiological study of vitiligo in Surat area, South Gujarat. *Indian Journal of Medical Research.* 1973;61:145-154.

7. Ongenaer K, Beelaert L, Van Geel N, Naeyaert JM. Psychosocial effects of vitiligo. *Journal of the European Academy of Dermatology & Venereology.* 2005;20:1-8.

8. Grimes PEMD. New Insights and New Therapies in Vitiligo. [Miscellaneous Article] *JAMA.* 2005;293(6):730-735.

9. Forschner T, Buchholtz S, Stockfleth E. Current state of vitiligo therapy--evidence-based analysis of the literature. [Review] [30 refs] *Journal der Deutschen Dermatologischen Gesellschaft.* 2007;5(6):467-475.

10. Chu CY, Liu YL, Chiu HC, Jee SH. Dopamine-induced apoptosis in human melanocytes involves generation of reactive oxygen species. *British Journal of Dermatology.* 2006;154(6):1071-1079.

11. Park ES, Kim SY, Na JI, Ryu HS, Youn SW, Kim DS, Yun HY, Park KC. Glutathione prevented dopamine-induced apoptosis of melanocytes and its signaling. *Journal of Dermatological Science.* 2007;47(2):141-149.

12. Namazi M, Chee Leok G. Vitiligo and diet: a theoretical molecular approach with practical implications. *Indian Journal of Dermatology, Venerology and Leprology.* 2009;75(2):116-118.

13. Szczurko O, Boon H. A systematic review of natural health product treatment for vitiligo. *BMC Dermatology.* 2008;8(2)

14. Panin Ga, Strumia Rb, Ursini Fc. Topical [alpha]-Tocopherol Acetate in the Bulk Phase: Eight Years of Experience in Skin Treatment. [Article] *Annals of the New York Academy of Sciences.* 2004;1031:443-447.

15. Ichiro K, Aki MA, Kumiko E, Sang JB. Vitamin D3 and solar irradiation in the treatment of vitiligo vulgaris. [Miscellaneous] Journal of the European Academy of Dermatology & Venereology Supplement. 2002;16(Supplement 1):341.
16. Woelk H, Arnoldt K, Kieser M, Hoerr R. Ginkgo biloba special extract EGb 761 in generalized anxiety disorder and adjustment disorder with anxious mood: A randomized, double-blind, placebo-controlled trial. Journal of Psychiatric Research. 2007;41:472–480.
17. Taieb A, Picardo M. The definition and assessment of vitiligo: a consensus report of the Vitiligo European Task Force. Pigment Cell Research. 2007;20:27–35.
18. Nicolaidu E, Antoniou C, Stratigos A, Katsambas AD. Narrowband ultraviolet B phototherapy and 308-nm excimer laser in the treatment of vitiligo: a review. Journal of the American Academy of Dermatology. 2009;60(3):470–477.
19. Scherschun L, Kim J, Lim HW. Narrow-band ultraviolet B is a useful and well-tolerated treatment for vitiligo. J Am Acad Dermatol. 2001;44(6):999–1003..