



Needle Sheikhing Treatment of Vitiligo, A Study of Needling + UVB for Vitiligo

Sheikh MI*

Consultant dermatologist, Alhamd Skin Clinic, Pakistan

***Corresponding author:** M Iftikhar Sheikh, Consultant dermatologist, Alhamd Skin Clinic, Pakistan, Tel No: +923009423032; Email: iftikhar96@hotmail.com

Review Article

Volume 1 Issue 1

Received Date: April 04, 2017

Published Date: June 12, 2017

Abstract

Objective: Vitiligo is an ever increasing problem in all age groups globally. Different regimens are in practice including sun exposure, UVR, Oral & Topical psoralens. Our study presents an original work with a new idea where NEEDLING is combined with narrow band UVB exposure. Our hypothesis is that the Melanocytes in the normal skin around the vitiligo patch can be pushed into the vitiligo patch and subsequent UVB induced melanogenesis treats vitiligo.

Methods: A 30-G needle with short stem is softly pushed through the normal skin edge in to the vitiligo patch at the level of the D-E junction parallel to the skin. This needle push called NEEDLING drags epidermal cells including melanocytes as micro inoculation to produce multiple small population of melanocytes in the vitiligo area, which is then exposed to narrow band UVB to cause melanogenesis and hence repigmentation of the area. Multiple needle pushes are made through the edge into vitiligo patch one centimeter apart. All patients are having needling once weekly and UVB 3 times a week.

A study of this combination was done over 170 patients, in both sexes in different age groups from July 2009 to July 2013 and follow up still continued. A comparison was also done with UVB alone (without needling) in some of these patients at some patches. Inclusion and exclusion criteria, a result criteria and a study Performa with follow-up details was set. Photos of all the patients were taken at the start and then every 3-weeks. Biopsy of few patients performed to observe the effects of needling.

Results: This combination treatment has proved very safe and effective against vitiligo as compared to UVB alone in all age groups. All patients had fast repigmentation. The best results are on the face with more than 90% repigmentation in all age groups. Repigmentation is still good but slower towards peripheral parts. Repigmentation was specially noticed to start from the edge of the vitiligo patch (where needling is started) as tiny black dots and further needling through these dots gradually repigmented the central areas. Repigmentation is also good over areas with grey hair with this technique as needling uses melanocytes of the skin surrounding the vitiligo patch rather than the follicular cells. This further strengthened the idea of needling as a useful combination with UVB

Keywords: Vitiligo; Needling; UVB; Melanocytes

Introduction

Vitiligo is a common, ever increasing idiopathic acquired depigmentation disorder caused by selective destruction of melanocytes. It affects 1-4% of the world population with no predilection for age, sex or racial background. It is characterized by circumscribed white or milky white spots on the skin tending to enlarge centrifugally and may recover spontaneously.

Several Aetiologies have been Proposed

- The autoimmune theory
- The autocyotoxic or self-destruction theory
- The neuronal theory
- Genetic basis is supported by the familial cases of vitiligo, a family history found in 6-38% of cases.
- Often associated with autoimmune disorders such as thyroid diseases and diabetes mellitus.

Different Regimens in Practice are

Non Surgical Modalities

- Considered first-line therapy
- Corticosteroids (oral, topical and intra lesional)
- Oral or topical psoralens plus ultraviolet A (PUVA)
- Narrow-band ultraviolet B therapy
- MEL (monochromatic eximer light @ 308nm)

Surgical Modalities

- Autologous transplantation
- Split-thickness epidermal grafting
- Suction blister grafting
- Melanocytes cell transfer

Our work is different with a new idea where NEEDLING is combined with NARROW BAND UVB with the hypothesis that melanocytes can be pushed from normal skin into the vitiligo patch and subsequent UVB induced melanogenesis treats vitiligo.

Previous Studies

- Savant S.S. Text book of dermatosurgery describes only needling [1].
- Many studies done with UVB alone but not in combination with needling [2,3].
- But a study of this combination has not been described before
- Although the needling and UVB has been described before for vitiligo but separately.
- This Study is 'Authors own combination'.

Methods

Inclusion Criteria

- Willing patients only and otherwise healthy
- No concomitant infection
- Most of the patients had conventional treatment failure or adverse effects

Exclusion Criteria

- Contact Dermatitis
- Acne (treat first, if vitiligo on face)
- Rosacea (areas other than face treated)
- Pregnancy (Risks not known)

Pre-Procedure

Photos of all patients were taken at the start and during treatment session for reference, to assess the progress of disease, to record improvement and to evaluate the result of this treatment.

- All patients not given any other medicine.
- All patients given detailed information about NEEDLING & UVB & consent taken.
- No anaesthesia is given for needling as it is almost painless.

STUDY PERIOD Proposed 4years	From July 2009 to July 2013 Follow-up Continued to date
Total number of Patients: 170	Male 50, Female 120
Age: 5 to 50Y	Mean age 20Y
Treatment duration 3 -7 months	Mean treatment duration 5months

Table 1: Biopsy taken in 12 Patients.

Biopsy taken in 12 Patients

- Immediately after needling
- At the appearance of 1st dots
- After re-pigmentation

Treatment

Materials and Methods

- So a study of this combination was done in 170 patients, in both sexes in different age groups from July 2009 to July 2013.

- A comparison was also being done with UVB alone (without needling) in the same patients at some patches.
- A 30G needle is penetrated from the normal skin at the periphery of the vitiligo patch in to the vitiligo patch through the epidermis parallel to the skin surface.
- This push carries epidermal cells including MELANOCYTES in to the patch.
- This micro pushing of epidermal cells is called NEEDLING.
- And subsequent UVB helps these pushed melanocytes to induce melanogenesis.
- Multiple needle pushes are needed through the edge at one centimeter distance.
- All patients having needling once a week and UVB 3 times a week with increasing doses.



Figure 1a: The arrows in this figure show movement of needle from normal skin into vitlgo patch.



Figure 1b: It is evident that repigmentation is progressing fast at the periphery of the patch where needling is done.

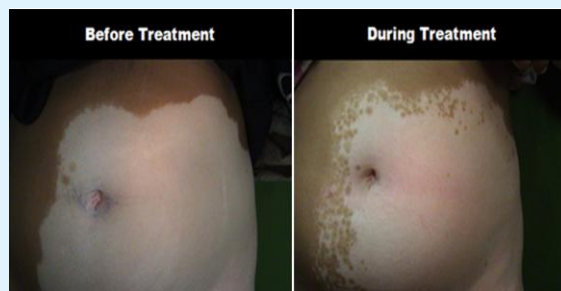


Figure 2a,b: This figure shows that although the whole vitiligo patch is exposed to UVB but the initial fast repigmentation (as new dots) is at the periphery of the patch where needling is done. This proves the role of needling. These newly formed dots are very potential for further repigmentation, and needling is done through these dots to spread pigmentation towards the center of the patch.

Results

We proposed Results Criteria as following

Percentage of repigmentation (Measured according to no. and size of patches) VS Part of body, Time in weeks, and UVB with needling and UVB alone.

The Results	Percentage of Repigmentation		
	UVB + Needling (Black)		UVB Alone (Red)
	12 Weeks	16 Weeks	20 Weeks
Face	70%	80%	90%
	25%	30%	35%
	Trunk	60%	70%
Arms	20%	25%	30%
	50%	60%	70%
	20%	25%	30%
All Patients (170)	5%	6%	7%
	0.50%	0.50%	1%
	Hands & Feet	5%	6%

Table 2: This table clearly shows that combination of NEEDLING+ UVB is 3 times more effective in repigmentation then UVB alone.

Percentage of Reserve or Recurrence after Treatment

Reverse Or Recurrence All Patients - 170	Percentage of Recurrence After Treatment Stop		
	3 Months	6 Months	18 Months
Face	10%	10%	15%
Trunk	5%	5%	10%
Arms	10%	10%	15%
Hands & Feet	10%	15%	20%

Table 3: This table shows that chances of depigmentation of treated patches are 10% to 20% in a year and increases with time.

So results mainly depending upon the area under treatment.

Fastest and best results are over face (almost 80%-90% in 3 months).

The results are slower towards peripheral parts.

Repigmentation good even over areas with grey hair

Repigmentation good over lips & some tips (Nose, eye lids, breasts, vulva)

Repigmentation mostly progressing from the edges where needling done

Hand and feet least responding



Figure 3: Periorcular vitiligo treated.



Figure 4: Extensive, Multiple vitiligo patches on face treated.

Conclusion

It means that this our combination treatment named (Needle Sheikning treatment of vitiligo) has proved very safe and effective. All patients had remarkable improvement against vitiligo as compared to UVB alone in all age groups.

As melanocytes are mostly absent in vitiligo so exposing to UVB alone is not much useful because the target of UVB (i.e melanocyte) is missing. Needling is an easy, cheap, office procedure and useful adjunct with UVB, that helps by shifting melanocyte into the vitiligo patch to produce a target for UVB and hence UVB becomes more useful.

About Biopsy / Histology

Just after needling it's inconclusive with mild disturbance in epidermis

At new tiny dots.... Few Melanocytes seen but hard to find

When repigmented Like normal skin

Problems Due to Needling

- Occasional mini bruising
- Pain (differs patient to patient and minimizes after few needling sessions)
- Time factor, patients can be trained to do needling at home over some body parts
- Chances of infection (did not happen in our study)
- Patients have to travel a lot for regular visits (commonest reason for missed sessions)

Problems due to UVB

- Complexion darkening (Reversible)
- Erythema, photodermatitis (UVB-Dose Related, controllable)
- Itching (Off and on, no fixed data).

References

1. Satish S Savant (1998) Needling for vitiligo, textbook of dermatosurgery and cosmetology.
2. Sitek jc, Loeb m, Ronnevig jr (2007) Narrowband UVB therapy for vitiligo: does the repigmentation last?. J Eur Acad Dermatol Venereol 21(7): 891-896.
3. Kumar YHK, Rao GRR, Gopal KVT, Shanti G, Rao KV (2009) Evaluation of narrow-band UVB phototherapy in 150 patients with vitiligo. Indian J Dermatol Venereol Leprol 75(2): 162-166.