

MANAGEMENT OF VITILIGO WITH MICRONEEDLING – A CASE STUDY

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ABSTRACT

Micro needling has been mentioned in *Ayurveda* by the name of *vistravana karma*. In present time, micro needling is used in the treatment of vitiligo, which is more effective than any other procedure to get better results. So, here a case report is presented of a patient diagnosed as vitiligo having symptoms of depigmented patch over left lower leg without leucotrichia, sensation of touch, pain and temperature were normal. Vitiligo can be compared to *Savitr*, though there is no exact correlation mentioned in *Ayurvedic* texts. In this procedure, derma roller with 1mm needle size is used to produce erythema over depigmented areas. So three sittings of micro needling were done on given patient with an interval of 15 days and follow up was taken after 15 days. It is observed that pigmentation starts developing even after first sitting.

Keywords: Micro needling, *vistravana karma*, *shvitra*, vitiligo.

INTRODUCTION

Skin is important sense organ of the human body. Because of high technology life style the possibility of developing various diseases has also increased. Skin color depends mainly on pigments present in the skin, apart from pigments, blood flow in skin also determine its color¹. Vitiligo is characterized by completely depigmented macules and patches of varying sizes and shapes. Besides loss of color, there is no other structural change². *Vistravana karma* is one of the surgical techniques used to treat *shvitra* in ancient times with *kurcha Shastra*³. According to *yuga-anurup nyaya sandhrabha*⁴ this *vistravana karma* for *shvitra* can be considered as micro-needling. For micro needling, we used a medical device called, derma roller. It is classified as a medi-

cal device Class 1 in the US. It is a hand-held roller device covered in micro needles. Needles ranging in length from 0.25mm to 1.5mm which are rolled over skin. This is done in order to create tiny punctures on the skin, which triggers skin repair, leading to the creation of new collagen and also helping in improving the blood supply of that area. Therefore, the short term wounding of the skin is intended to trigger the supply of tyrosine an amino-acid which helps in formation of new melanocytes and also in rearrangement of melanocytes in hypo-pigmented skin.

Aim:- To evaluate the effect of micro needling in vitiligo.

Objectives:-

1. To evaluate the effect of micro needling in vitiligo.
2. To evaluate *Ayurvedic* principles.
3. To provide better and effective treatment for vitiligo.
4. To establish new remedy in vitiligo.

Microneedling with dermaroller having 1mm needle size

Over left lower leg

Duration – 45 days (3 sittings at the interval of 15 days)

CRITERIA OF ASSESSMENT: - The study is assessed on **VETI** (vitiligo extent tensity index) score.

MATERIALS:-**Table 1:**

Stage	Effect on skin
0	Normal skin
1	Hypopigmentation(including trichrome and homogenous lighter pigmentation)
2	Complete depigmentation with black hairs and with perifollicular pigmentation
3	Complete depigmentation with black hairs and without perifollicular pigmentation
4	Complete depigmentation with compound of white and black hairs with/without perifollicular pigmentation
5	Complete depigmentation with significant hair whitening

VETI SCORE: (Percentage of head involvement × grade of tensity) + (percentage of trunk involvement × grade of tensity) 4 +(percentage of upper limb involvement × grade of tensity) 2 + (percentage of lower limb involvement × grade of tensity)4

+(percentage of genitalia involvement × grade of tensity)0.1

CRITERIA OF NEEDLE SELECTION IN MICRONEEDLING**Table 2:**

Sr.no.	Needle size	Used in	Interval between two subsequent sittings
1.)	C-8: 0.13 mm	Cosmetic type Used to increase the absorption of skin care products Completely painless	Alternate day
2.)	C-8HE: 0.25mm	Cosmetic type for hair bearing areas like : scalp Less painful	3-5 days
3.)	CIT -8 : 0.5mm	Helps in collagen induction and skin modelling, like open pores, fine lines Around periorbital and perioral skin	Once in a week
4.)	MF -8: 0.75 – 1 mm	It creates deeper micro channels on the whole epidermis and dermis and at the same time destroys scar collagen bundles e.g. wrinkles , post acne scars , stretchmark , vitiligo lesions	In 15 days
5.)	MS -4 : 1.5 - 3.0 mm	Used where deep and better penetration is required e.g. in alopecia aerate , keloids , actinic keratosis	In 3 weeks

Table 3 :- (Case 1)

Patient's name	Age	Sex	Address	Occupation
XY	15	Female	Mandi (H.P.)	Student

C/O - depigmented patches over left lower limb, since 3 years.

H/O – No h/o atopic dermatitis, diabetes mellitus, hypothyroidism and hyperthyroidism or any other chronic illness.

Family history- NAD

On local examination of the lesion –

Stage 2- complete depigmentation with black hair and with perifollicular pigmentation

VETI score- $(0 \times 0) + (0 \times 0)4 + (0 \times 0)2 + (0.25 \times 2)4 + (0 \times 0)0.1 = 2$

Investigations:-

Hb- 11g/dl, TLC- 9200 cells/mm³, RBC- 4 million cells/mcL, DLC – N-73% , L-34%, M-08, E-05, B-00, ESR – 12mm/hr

Treatments –

Vistravana karma or Microneedling with dermaroller (1mm needle size)

Vaam Sakthi (On left lower limb)

Duration – 45 days (3 sittings at an interval of 15 days)

OBSERVATION

Day 45 stage 1 (Hypopigmentation including trichrome and homogenous lighter pigmentation).

DISCUSSIONS

The ultimate emphasis of any clinical study would be the discussion where in all the actual facts are presented in a combine format. The present case was to evaluate the effect of micro needling in vitiligo.

Selection of problem:

Though there is no direct correlation between vitiligo and shvitra. I choose micro needling for study because melanin from pigmented skin is pushed into depigmented patch naturally. No steroids were given.

Disease review:

Vitiligo is an acquired idiopathic hypomelanotic disorder which present as localized or widespread areas of depigmentation. Patient present with milky or chalky white amelanotic macules usually with well demarcated margins. On examination five clinical

types of vitiligo focal, segmental, acrofacial, generalized and universal vitiligo may be recognized. Treatment of vitiligo is oral steroids, topical PUVA therapy⁵.

According to *Shusruta* in *shvitra / kilasa* there is no exudation and it is limited to the skin only⁶. According to *Charaka* when *doshas* reached upto *meda dhatu* then *shvitra* turned into white color⁷. It is very much similar to vitiligo which is characterised by depigmented macules on skin.

Effect of therapy:-

1. With the 1st sitting mild erythema was developed in depigmented patch.
2. With the 2nd sitting perifollicular pigmentation increased and covered 2/3rd of the patch.
3. With the 3rd sitting, size of the lesion was same as per in 2nd sitting with homogenous lighter pigmentation of the patch.

CONCLUSION

The condition referred to as vitiligo in modern science has no definite comparison in *Ayurvedic* classical texts. Diagnosis was made on the basis of signs and symptoms as per the literature.

Total effect of therapy:-

Micro needling found effective, easy, less time consuming and give excellent results with less effort.

Scope for further study:-

Present case report showed that micro needling is effective in the management of vitiligo, however as the lesion was confined to a limb and sample size was also small the obtained results can't be generalized. It is hoped that further study is required to evaluate with the reverse pharmacology and more recent advances with modern medical science.

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