



## Research Article

### A CLINICAL STUDY ON SHWITRA (VITILIGO) AND ITS MANAGEMENT WITH VIRECHAN KARMA AND SHAMAN CHIKITSA

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**KEYWORDS:** *Shwitra*, Vitiligo, *Virechan karma*, *Khadira*, *Rohitak*, *Manjistha*, *Shweta Aparajita*, *Shyama Trivrit churna*.

#### ABSTRACT

**Purpose:** The human skin is the largest organ of the integumentary system, plays an important role towards the beauty of human beings. Although the disease *Shwitra* does not produce any other systemic mal-functions, it creates many psychological as well as social problems for the patients. Though the disease, *Shwitra* is not fatal but it may interfere the enjoyment of life as white discoloration takes place on the body. *Shwitra* (Vitiligo) is a social problem not only in India but all over World.

**Methods:** In the present study 20 patients were treated with internal intake of *Khadira*, *Rohitak* & *Manjistha* along with local application by *Shweta Aparajita* and *Khadira* for the duration of 6 months. Another 20 patients were treated with additional use of *Virechan karma* by *Shyama Trivritchurna*. **Result:** The result of the study was assessed by clinical improvement on regular interval of follow up of the patients. **Conclusion:** The drugs used for the management of the disease *Shwitra* are safe, effective, cheap & easily available. No untoward affect of the trial drug has been observed during the study.

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#### INTRODUCTION

The human skin that is the largest organ of the integumentary system, covers and protects the body against physical, chemical & mechanical injuries. It also acts as the mirror of our body.

In '*Shwitra*' the normal color of the skin is become changed. This disease is found in the fourth layer of the *Twak* named as '*Tamra*' (i.e. Malpighian layer). In this disease white spots or white discoloration takes place on the skin; so it is named as *Shwitra*. So it is a disease of de-pigmented condition of the skin. Patients suffering from this disease are disturbed by the body, as well as the mind also. It is a social problem not only in India but all over the world. It has been observed from time immemorial. The description of this disease is found from Vedic Period.

This is a disorder involving '*Bhrajaka Pitta*' of the skin. It is a disease caused by deficiency of melanin pigment in the skin. Although this disease does not produce any other systemic mal-functions,

it creates many psychological as well as social problems for the patient.<sup>1</sup>

Now a day's *Shwitra* is just not a disease, but has caused a lot of suffering to human beings since a long time. Its effect is observed more on human mentality and social relations than on human body. Because of people's superstitious belief, that this disease is contagious, also *Shwitra* produces ugliness in appearance. Due to all of these reasons, persons suffering from this disease are frequently ignored by society. So important is the skin tone's image that people spend much time and money to restore skin to a more normal or youthful appearance.

From Vedic period we found the description regarding *Shwitra*. In *Charaka Samhita*, *Susruta Samhita*, *Ashtanga Samgraha*, *Ashtanga Hridaya* & other classical texts we found the vivid description of *Shwitra* as synonyms, etiology, types, *Sadhya-Asadhyatva* and *Chikitsayojana* elaborately.

Vitiligo is an acquired idiopathic depigmentary condition, which, through worldwide in distribution, is most common in India, Egypt and other tropical countries. It is a source of great social embarrassment to dark skinned people. It affects all age groups with no predilection to either sex.

Hence the term 'Shwitra' may be considered as equivalent to Vitiligo. Though the disease is not fatal but it may interfere the enjoyment of life. Till now the management of this disease is not satisfactory. So the development of harmless drug of plant origin for the treatment of Shwitra is essential.

In the present study we have selected *Khadira* (*Acacia catechu* Linn.F.), *Rohitaka* (*Tecoma undulate* G.Don) and *Manjistha* (*Rubia cardifolia* Linn.) for oral administration and *Shweta Aparajita*<sup>2</sup> (*Clitoria terneata* Linn.) & *Khadira* (*Acacia catechu* Linn.F.) for local application in equal proportion as well as *Shyama Trivrit* (*Operculina turpethum* Linn.) for Virechan therapy to observe the efficacy of the treatment for Shwitra (Vitiligo).

Almost all the plants have *Shita Virya* & *Katu Vipaka*. For this each component of drugs are counteract the pathogenic changes of the disease Shwitra. Also all the plants have the properties of *Katu*, *Tikta* & *Kashayarasas* which are needed for the treatment of Shwitra vis-à-vis Vitiligo.<sup>3</sup>

With the above background the present research work entitled "A Clinical Study on Shwitra (Vitiligo) and its Management with Virechan Karma and Shaman Chikitsa" has been selected.

For this study a series of 40 patients were selected from the OPD & IPD of Institute of Post Graduate Ayurvedic Education & Research at Shyama Das Vaidya Shastra Pith Hospital, Kolkata. Patients were registered in a specialized research proforma along with informed consent. Patients were interrogated, examined and investigated thoroughly by following the exclusion & inclusion criteria. The patients of this study were divided in two groups (20 patients in each group). Out of 40 patients, 20 patients were treated with *Shaman Chikitsa* (by means of oral administration & local application) for 6 months. Another 20 patients were treated with *Virechan Karma*<sup>4</sup> & *Shaman Chikitsa* for the same duration. The response of treatment was recorded by periodical check up.

At the end of the treatment, treatment Group 'B' shows more significant result than treatment Group 'A'. Untoward affect was noted during the period of the study.

**Materials & Methods**

**Study area:** I.P.G.A.E.&R. at S.V.S.P.Hospital, Kolkata

**Sample size:** 40 patients

**Sample design**

**Group A (20 patients)**

Oral administered with powder of *Khadira*, *Rohitaka*, *Manjistha* along with local application of *Shweta Aparajitha* & *Khadira with Narikela Taila*.

**Group B (20 patients)**

Oral administered with powder of *Khadira*, *Rohitaka*, *Manjistha* along with local application of *Shweta Aparajitha* & *Khadira with Narikela Taila*. And *Virechana Karma* with *Trivritchurna*.

**Study period**

Individual patients for 6 months. Follow up at interval of 30 days.

**Exclusion criteria**

- 1) Below the age group of 10years & above 60years.
- 2) More than 1year old Shwitra
- 3) *Vranaja Shwitra*<sup>5</sup>
- 4) Pregnant women
- 5) Lactating mother
- 6) Mental disordered patients
- 7) Patients suffering from any critical illness
- 8) Patient not willing to take part in the study
- 9) In the time of treatment develop any side effects

**Inclusion Criteria**

- 1) Patients were included after signing informed consent form, explaining the study details to them.
- 2) Newly diagnosed patients with white patches on the skin neither scaling nor itching.
- 3) Between the ages groups of 10-60 years
- 4) Sex-both Male & Female.

**Scoring Pattern**

Special scoring pattern was adopted for assess the symptomatology. The score pattern was given on the basis of color, site, size and number of patches.

**Size of Patches<sup>6</sup>**

Size of patches	Score
Less than 5cm	1
5-10cm	2
10-15cm	3
More than 15cm	4

**Color of Patches**

Color of patches	Score
Red	1
coppery to red	2
whitish to coppery	3
White	4

**Site of Patches (As per Rule-9)**

S.No.	Involved body parts	%
1.	Head & Neck-	
	Scalp	2.0
	Face	5.0
	Neck	2.0
2.	Thorax-	
	Dorsal	9.0
	Ventral	9.0
3.	Abdomen-	
	Trunk	9.0
	Back	9.0
4.	Right upper limb-	
	Finger to elbow	4.5
	Dorsal	2.25
	Ventral	2.25
	Left upper limb-	

	Finger to elbow 4.5	
	Dorsal	2.25
	Ventral	2.25
5.	Right lower limb-	
	Dorsal	4.5
	Ventral	4.5
	Left lower limb-	
	Dorsal	4.5
	Ventral	4.5

**Number of Patches**

No. of patches	Score
1-2	1
3-5	2
5-7	3
More than 7	4

**Dose**

- ❖ *Shyama Trivrit*- 5gms to 15gms in empty stomach on the day of *Virechan karma*.
- ❖ Oral intake of *Khadira+Rohitaka+Manjistha* (1:1:1) powder- 3gms twice daily after meal with plain water.
- ❖ Local application- *Shweta Aparajita + Khadira* (1:1) twice daily with *Narikelataila* followed by Sun exposure for 10 minutes.

**Observations & Results**

**Table 1: Effect of treatment on color, site, size and number of patches in Group A patients of Shwitra (Vitiligo)**

Criteria for patches (n=20)	BT Mean	AT Mean	Percentage of Relief	SD (±)	SE (±)	't'	'p' value
Color	3.5	2.7	22.85%	0.46	0.103	2.58	<0.01
Site	1.6	1.4	12.5%	0.42	0.09	3.12	<0.001
Size	2.4	1.7	29.167%	0.36	0.08	2.67	<0.01
No. of Patches	1.9	1.5	21.05%	0.68	0.15	2.84	<0.01

**Table 2: Effect of treatment on color, site, size and number of patches in Group B patients of Shwitra (Vitiligo)**

Criteria for patches (n=20)	BT Mean	AT Mean	Percentage of Relief	SD (±)	SE (±)	't'	'P' value
Color	3.8	2.4	36.84%	0.47	0.105	4.68	<0.001
Site	3.1	2.2	29.03%	0.36	0.08	3.98	<0.001
Size	3.4	1.9	44.12%	0.51	0.114	5.12	<0.001
No. of Patches	2.9	1.8	37.93%	0.48	0.107	4.12	<0.001

### Overall effect of the trial drugs

There was significant relief in both the treatment Group A & Group B, but treatment Group B are more significant than treatment Group A.

### DISCUSSION

The skin is considered as the largest organ of the body and has many different functions. It is the first organ of the body which interacts with environmental stimuli to the natural ability of the body. Skin is the mirror that reflects external & internal pathology and thus helps in the diagnosis of disease. In the present days more emphasis is given in skin care, since it has cosmetic value. The outwards appearance of skin is dependent on its environment<sup>7</sup>.

Now a day's *Shwitra* (Vitiligo) is a major problem in our society for its appearance. It not only disturbs the personal life but also disturbs the familiar as well as social life. The disease *Shwitra* is responsible for unhappiness and depression. In *Ayurveda* almost all skin diseases are considered under *Kushtha roga*<sup>8</sup>. *Shwitra* is one among them, characterized by white patches on the skin. Further from classification it is characterized by *Rakta* i.e., red, *Tamra* i.e. coppery and *Shweta* i.e. white colored patches over the skin.

The disease *Shwitra* is not only a life threatening disorder but also responsible for frustrations in the patients. It also causes more deep pain in the mind of suffering patients. In modern parlance the disease *Shwitra* may be compared with Vitiligo. Many patients attend in our hospital for the treatment of this disease. Due to many adverse affect of modern drugs, everybody is trying to get relief by Ayurvedic treatment. So the popularity of Ayurvedic treatment is encouraging day by day. In this present study I have tried my level best to proof the Ayurvedic concept in modern parameter in terms of Vitiligo.

### Etiological correlation

All the major text book of *Ayurveda* deals with the etiological factors of *Shwitra*. It includes *Mithyaahara*, intake of *Shita*, *Ushna*, *Lavanaahara* in wrong method, suppression of natural urges like *Chhardi*, improper procedure of *Panchkarma* as well as *papakarma*<sup>9</sup>. But maximum emphasis was given in *Mithyaahara-vihara*. Similarly Western Medical Literature has also mentioned the etiological factors of Vitiligo. These are intake of unwholesome diet, emotional stress & strain, trauma and intake of some drugs & chemicals<sup>10</sup>. So etiological factors of *Shwitra* are similar to Vitiligo.

### Patho-physiological correlation

*Acharya Charaka* has described that the disease *Shwitra* is caused by the vitiation of *Rakta Dosha* as it is mentioned under *Raktapradoshaja vikara*. *Maharshi Harita* has also mentioned the *Samprapti* of *Shwitra roga*<sup>11</sup>. According to him derangement of *Vata* as well as *Pitta* affects *Rakta* and resides in skin, than produces pale-white discoloration of skin, which is known as *Shwitra*. Similarly modern review reveals that Vitiligo is a defect in enzyme tyrosinase. The normal pigmentation of the skin is dependent upon the formation of melanin, hemoglobin & carotene. Melanin inhibits tyrosinase & which interfering the pigment formation of skin. DOPA staining shows that melanocytes are deficient.

### Clinical correlation

Clinical correlation means the relation at the level of symptomatology. The symptoms of *Shwitra* according to the involvement of *Dhatu-samsraya* are *Raktadhatu-raktavarna* i.e. reddish color, *Mansadhatu-tamravarna* i.e. coppery color and *Medadhatu-shwetavarna* i.e. white colored patches on the skin<sup>12</sup>. On the other hand the symptoms of Vitiligo are the appearance of ivory white colored patches in different parts of the body and *Leucotrichia* i.e. whitish hair in the affected area.

### Drug Review

The drug selected for the management of *Shwitra* were stem bark of *Khadira* (having property of *Tikta-Kashaya rasa*, *Laghu-Rukshaguna*, *Shita Virya*, *Katu Vipaka* & *Kushthghna Prabhava*), *Rohitaka*<sup>13</sup> (having property of *Katu-Tikta-Kashayas Rasa*, *Laghu-Snigdha Guna*, *ShitaVirya*, *Katu Vipaka* & *Pleehaghna Prabhava*) and root of *Manjishtha*<sup>14</sup> (having property of *Tikta-Kashaya-Madhura Rasa*, *Guru-Ruksha Guna*, *Ushna Virya* & *Katu Vipaka*), *Shweta Aparajita*<sup>15</sup> (having property of *Katu-Tikta-Kashaya Rasa*, *Laghu Guna*, *Shita Virya* & *Katu Vipaka*) & *Shyama Trivrit*<sup>15</sup> (having property of *Katu-Tikta-Kashaya-Madhura Rasa*, *Laghu-Ruksha-Tikshna Guna*, *Ushna Virya* & *Katu Vipaka*). On the basis of these qualities of drugs, the pharmacodynamic actions are considered. Hence the *Rasa*, *Guna*, *Virya*, *Vipaka* & *Prabhava* of these drugs are responsible for the management of *Shwitra* (Vitiligo).

### Age

All the 40 patients selected for the present study from 10-60 years of age. Out of which maximum no. of patients were between the age group of 31-40 years (40%), followed by 30% patients of 21-30 years. It can be inferred that there is predominance of *Pittadosha* in middle age group,



as mentioned in Ayurveda. *Shwitra* is also a *Pitta* predominant *Tridoshajavyadhi*.

### Sex

In the present study majority of the patients were female (82.5%) as compared to male patients (17.5%) which may be due to their intake of *Mithyaahara-vihara*, *Amla-lavana rasa* containing *Ahara* & suppression of natural urges.

### Religion

In this series maximum no. of patients were Hindus (52.5%) followed by Muslims (47.5%). In this study almost both Hindus & Muslims are affected equally.

### Occupation

It was observed that maximum number of patients i.e. 50% were housewife, 35% were student followed by 15% of business man. It can be interpreted that the increase in number of occurrence (in housewife & students) is due to their mental stress as well as food habit. *Shwitra* is considered as a psychosomatic disorder.

### Habitat

It was observed that 60% patients were from urban area while 40% patients were from rural area. It may be due to the situation of hospital & also due to the polluted air, water, irregular & unhygienic dietary pattern of urban people.

### Education

In the present research work maximum patients i.e. 52.5% were having *Madhyamik* level followed by 27.5% were having higher secondary level & 15% were graduate. Overall 95% patients were educated. It indicates that educated patients are more conscious due to their ugliness & cosmetic purpose.

### Income status

In this series 37.5% patients were belonging to the no income group, followed by 27.5% were from lower income group. It may be due to the fact that in government hospital free treatment facility is available. So maximum no of patients prefer to attend in this hospital.

### Family history

Family history was present in 50% patients & absent in 50% patients. No conclusion can be drawn from this small data.

### Diet habit

Diet habit was observed in all the patients. 90% patients were non vegetarian while only 10% patients were vegetarian. It indicates that the disease *Shwitra* is prevalent in non-vegetarian community.

### Deha Prakriti

*Deha Prakriti* was observed in all the patients of this study. 65% patients showed the predominance of *Pitta-Kaphaja Prakriti* followed by 20% of *Vata-Pittaja Prakriti*. It shows the predominance of *Pitta Dosha* in *Shwitraroga*.

### Manasa Prakriti

In the present series *Manasa Prakriti* was observed in all the patients. There are 67.5% patients of *Rajasikaprakriti* and 32.5% patients with *Tamasika Prakriti*. It can be interpret that *Rajasika prakriti* persons are more prone to develop the disease.

### Addiction

In present study 37.5% patients having the addiction of tea & 17.5% of coffee. These having the property of *Vidahi*, *Tikshna*, *Ushna* & *Dravagunas* which causes vitiation of *Pitta & Raktadosha*.

### Agni

It revealed that 37.5% patients had *Mandagni* & 32.5% had *Vishamagni*. In *Ashtanga Hridayam* we found that all the diseases are caused by *Mandagni*.<sup>10</sup>

### Koshtha

In this series 60% patients had *Madhyam Koshtha*, 22.5% had *Krura Koshtha* & 17.5% had *Mridu Koshtha*. It supports that *Shwitra* is a *Tridoshaja Vyadhi*.

### Laboratory profile

Fasting Plasma Glucose Level was carried out in all the 40 patients of *Shwitra* and was found 67.5% patients between 86-100mg/dl, 22.5% patients between 101-115mg/dl & 10% patients between the 70-85mg/dl. In my study the fasting plasma glucose level was in normal range.

Postprandial Plasma Glucose Level was carried out in all the 40 patients of *Shwitra* and was found 57.5% patients between 116-130mg/dl, 22.5% patients between 131-145mg/dl & 20% patients between the 100-115mg/dl. In my study the postprandial glucose level was in normal range.

Estimation of Serum Bilirubin was carried out in all the 40 patients of *Shwitra* and was found 42.5% patients between 0.7-0.9 mg/dl, 40% patients between 0.9-1.0 mg/dl & 17.5% patients between the 0.2-0.6mg/dl. In my study the fasting Serum Bilirubin level was within normal range.

Estimation of SGOT level was carried out in all the 40 patients of *Shwitra* and was found 72.5% patients between 16-25u/dl, 17.5% patients between 26-34u/dl & 10% patients between the 5-15u/dl. In my study the SGOT level was within normal range.

Estimation of SGPT level was carried out in all the 40 patients of *Shwitra* and was found 62.5% patients between 19-30u/dl, 20% patients between 31-42u/dl & 17.5% patients between the 07-18u/dl. In my study the SGPT level was within normal range.

Stool examination was carried out in all the 40 patients of *Shwitra* and was found 57.5% patients of normal report, 20% patients had presence of ova & cyst & 17.5% patients had presence of mucus and 5% had presence of worm in their stool report.

### Therapeutic trial

In this present research program therapeutic trial was conducted in all the 40 patients of *Shwitra* (vitiligo), who were completed the therapeutic modalities. The effect of the treatment in term of color, site, size & number of patches of both the treatment group 'A' & 'B' were evaluated statistically.

Effect of the therapy in response of the color of the skin, the treatment group 'A' showed the result significant i.e. 'P' < 0.01 and treatment group 'B' showed the result highly significance i.e. 'P' < 0.001.

In respect of site treatment Group 'A' showed the result 'P' < 0.001 and the treatment Group 'B' also showed the result 'P' < 0.001. Both the group showed highly significant result.

In Group 'A' patients the result of the size of white patches showed the result significant i.e. 'P' < 0.01 and Group 'B' patients showed the result highly significant i.e. 'P' < 0.001.

In respect of number of patches, treatment group 'A' showed the result significant i.e. 'P' < 0.01 where as treatment group 'B' showed the result highly significant i.e. 'P' < 0.001.

Statistically treatment Group 'B' showed highly significant result in comparison to treatment Group 'A'. This result convincingly proves that there is an additional effect of *Virechan Karma*. Thus it can be concluded that in treatment Group 'B' where in combination of both *Virechan Karma* & *Shaman Chikitsa* along with local application applied, showed better result in comparison to treatment Group 'A' patients where only *Shaman Chikitsa* & local application applied.

### Probable Mode of Action

In this present clinical study almost all the drugs from plant origin (both orally & locally) contain *Tikta-Katu Rasa* drugs like *Rohitaka*, *Shweta Aparajita* & *Shyama Trivrita*. Some of them are of *Tikta-Kashaya Rasa* drugs like *Khadira* & *Manjistha* but almost have *Shita Virya* & *Katu Vipaka*. Thus

from this background all the drugs used for this study were pacify the derangement of the *Pitta* & *Kapha Dosha* specially *Bhrajaka Pitta*.

Inspite of many limitations the present conceptual, clinical & therapeutic study revealed useful information about the disease *Shwitra* & its management. The result of the *Virechan* therapy along with trial drug has been encouraging in the management of *Shwitra* (Vitiligo).

Extensive clinical & experimental studies are suggested regarding the diagnosis, treatment & to assess the exact mode of action of the drug.

### DISCUSSION

- ❖ *Shwitra* (Vitiligo) is a very common, social as well as dermatological problem not only in India but also all over the world with an increasing trend.
- ❖ The disease *Shwitra* are presents with a single cardinal symptom i.e. white colored patches.
- ❖ It is a cosmetic disability problem.
- ❖ *Shwitra* may be compared with Vitiligo.
- ❖ It is predominant in middle age group which is *Pitta* predominant age.
- ❖ It affects both the sex but females are more prone to this disease.
- ❖ The prevalence of *Shwitra* is higher in urban area than rural area.
- ❖ It is a *Pitta* predominant *Tridoshajavyadhi* where *Dushyas* are *Rakata*, *Mansa* & *Medadhatu*.<sup>17</sup>
- ❖ In Ayurvedic classical text it is mentioned as *Raktapradoshajavikara*.
- ❖ *Pitta-kaphaprakriti* persons with *Rajasikaguna* are more susceptible to this disease.
- ❖ The disease *Shwitra* can be occurred on any part of the body but more common in sun exposed areas.
- ❖ It becomes incurable after passing out of more than a year.<sup>18</sup>
- ❖ Excessive intake of *Amla*, *Lavana*, *Shita*, *Ushna*, *Vidahi* & *Tikshnadravys* are responsible for the disease *Shwitra* (Vitiligo).
- ❖ Life style disorders also play an important role towards *Shwitra*.
- ❖ Mental stress is one of the most common causes of *Shwitra*.
- ❖ It is a psycho-cutaneous de-pigmented disease.
- ❖ In the present study more than half of patients were found without any causative factors, it may support the involvement of *Papakarma* & other psychological factors.

❖ In disease *Shwitra*, *Shrota-dushti* is of *Sanga* type, so *Virechan* therapy is very effective for its management.<sup>18</sup>

### CONCLUSION

- ❖ Statistically Group 'B' showed highly satisfactory result not only for the *Shaman* therapy but also the additional effect of the *Virechan Karma*.
- ❖ No untoward affect of the trial drug has been observed during this study.
- ❖ The drugs used for the management of the disease *Shwitra* are cheap, safe, effective & easily available.

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#### Cite this article as:

Arti Gupta, Sukumar Ghosh. A Clinical Study on Shwitra (Vitiligo) and its Management with Virechan Karma and Shaman Chikitsa. AYUSHDHARA, 2018;5(1): 1509-1515.

**Source of support: Nil, Conflict of interest: None Declared**

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