

## A CLINICAL EVALUATION ON THE EFFECT OF VIRECHANA KARMA IN SWITRA W.S.R. TO LEUCODERMA

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### ABSTRACT

**Introduction:** Leucoderma (*Switra*) is a hypo pigmentation dermatological disorder involving body and mind, where patient feels socially and emotionally deranged by which it effect's the appearance and outlook of the individual. It has also become a social stigma. Though disorder is non-contagious but it is often source of social embarrassment. Patients often isolate themselves from the fear of rejection from the society. In *Ayurveda*, prognosis, management of *Switra* has been described in detail. Lots of research work has been done at various institutes of *Ayurveda*. With the aim of providing better relief to the patient, this study was planned and aim of this proposed study was to clinically evaluate the effect of *Virechana Karma* in Switra w.s.r. to Leucoderma. **Methods:** The research study is performed with

*Shaman Sneha* by which their effects were evaluated with the help of clinical study. Total 30 patients were diagnosed as *Switra* (Leucoderma) of any socio- economic status, age group of 10 to 60 years and irrespective of sex of all ethnic origins were randomly selected. 15 patients were with *Switra* from less than 1 year and 15 patients were with *switra* from more than 1 year. For assessment, subjective parameters as *Twak-shwetata* (white patches), *twak-rukshta*(dryness), *daha*(burning sensation), *roma- vidwamsa*(changes in colour of hair) and objective parameters as no. of *Virechana Vega*, time taken to start *Virechana*, time of last *Virechana Vega*, condition during *Vegas*, effect on signs and symptoms, were taken. **Result:** **Group A:** Complete improvement- NIL, marked improvement- 6.67%, moderate improvement- 86.66%, mild improvement- 6.67%, unchanged improvement- NIL. **Group B:-**

Complete improvement- NIL, marked improvement- NIL, moderate improvement- 40%, mild improvement- 60%, unchanged improvement- NIL. According to the above shown results, group A has shown better effect on patients as compared to group B.

**KEYWORDS:** *Switra*, Leucoderma, *Virechana*, *Shamana Sneha*.

## INTRODUCTION

The skin may seem little more than a husk, just an expanse of a surface to be covered and uncovered, shaved, painted, tattooed and otherwise assaulted for reasons of beauty, comfort, vanity or current style. But, skin is the largest organ of our body. The beauty and attraction of individual depends upon skin's health including physical and psychological health. The skin has been recognized as the 'organ of expression' and serves as the boundary between ourselves and the outside world, a 'first point of contact' when strangers meet us. It's the mirror that reflects external and internal pathology and thus helps in diagnosis of disease.<sup>[1]</sup>

In present era, more emphasize is given to the healthy state of an individual's as well as skin care, since it has cosmetic value. However, the skin which has many important physiological functions in humans is exposed to all elements of the environment.<sup>[2]</sup> The outward appearance of skin is dependant not only on its environment but also on complex metabolic pathways within the skin & other organs of the body.

Now a days, modern science reach top of the hill by great advance particularly in dermatology as topic is concerned and also availability of powerful antibiotics, antifungal, antihistaminic, steroids, etc. but better management could not be searched out till today. Few drugs are available for symptomatic relief only. Their indiscriminate use is most undesirable. The whole world is gradually turning towards *Ayurveda* for safe and complete cure of diseases. Especially in the field of skin problems *Ayurveda* can contribute remarkably.

*Switra* is one of the common skin disorders which can correlated with Leucoderma to certain extent in contemporary system of medicine. Normal skin colour is dependent on haemoglobin (in both the oxygenated and reduced state), arytoids and melanin pigment. Leucoderma is a common disorder of unknown aetiology even today. It is an acquired condition in which circumscribed de-pigmented patches develops. Worldwide prevalence of Leucoderma is observed as 1% of the world population.

Highest incident has been recorded in India and Mexico. Based on dermatologic out patient record, it is estimated between 3-4% in India<sup>[3]</sup>, although an incident as high as 8.8% has also been reported, irrespective of the races especially to dark skinned people. Many times common causes are observed as severe emotional stresses, (in some countries) social and emotional discrimination etc. It is marked clinically by completely de-pigmented flat patches of bizarre and irregular configuration.

Leucoderma is considered as psycho-emotional disease reflects in skin as pigmentation problem. It is distressing skin condition. The word literally means white skin. It is a chronic acquired disorder presenting with depigmented macules and patches, in which melanocytes (cells that form pigment) in the skin are totally or partially destroyed. As a result, white patches appear on the skin in different parts of the body. It is considered to be neither infectious nor contagious.

The exact cause of Leucoderma is not known but auto immunity has played important role. The main causes of Leucoderma are said to be excessive mental worry, chronic or acute gastric disorders, impaired hepatic function such as jaundice, worms or other parasites in the elementary canal, typhoid, a defective preparatory mechanism and burn injuries. Heredity is also a well- recognized causative factor.

*Shodhana* procedure has given a due importance in *Switra* by almost all *Acharyas*. Among *Shodhana*, *Vamana* and *Virechana* are indicated in skin disorders. *Virechana* is the best for *Pitta*. *Acharya Chakrapani* has advised to perform *Virechana Karma* of each one month in the patients of skin disorders. Drugs having *Pittahar* properties were advised for *Virechana*. Patient having good strength, acute stage of disease, young age, *Samshodhana Chikitsa* should be given.

*Virechana* is one of the Panchakarma by the virtue of which *Doshas* are expelled through *Adhobhaga* i.e. *Guda*. It helps in alleviating three *Doshas*, specifically aims at the elimination of excessive *Pitta Dosha* not only *Aamashya* and *Pakwashaya* but from the whole body. It is regarded as the best one among all the therapeutic measure for *Pitta*. It is the process of elimination of *Mala* either in *Pakwa* or in *Apakwa Avastha* but along with excess fluid portions. It is widely used as *Shodhana* therapy in practice. It is less stressful procedure, less possibility of complications and more acceptable to all classes of patients. *Virechana* drugs have the quality of *Pittaghna* proves beneficial in the condition of *Switra*.

*Virechana Karma* shows provided better relief in the signs and symptoms of *Switra*. It may be due to *Snehapana* with *Murchita Ghrita*, which has helped in bringing the *Doshas* from *Shakha* to the *Koshta* which is a necessary prerequisite condition before going for *Shodhana*.

## AYURVEDA REVIEW

According to Ayurveda all the skin diseases have been blanketed under heading of Kushtha, which are further divided into Maha-Kushtha and Kshudra-Kushtha.

Acharya Caraka has given its synonyms as- Kilasa, Darun, Charuna, Shwitra; and also enumerated it as Raktaja Vikara.<sup>[4]</sup>

It is a Raktaja and Pittaja skin disease in which mainly Pitta (Bhrajaka) gets vitiated, which is otherwise responsible for normal skin color. Vitiated bhrajaka pitta is responsible for white colored skin patches, named as Shwitra Vyadhi.

Acharya Kashyapa, in Kushtha-Rogadhikara, mentioned that any changes of skin color toward white, is called as Shwitra.

Here involvement of rakta, mamsa and medadhatu takes place. Dalhana has mentioned, when the vitiated doshas are limited to skin it is called Kilasa but when if other dhatus are involved than Shwitra.<sup>[5]</sup>

According to Gadanigraha, Vatika Shwitra - Ruksha, Aruna Varna; Pattika Shwitra-Tamra Varna, Daha, Romnashaka; Shleshmika Shwitra - Shveta Varna, Kandu, Bahala.<sup>[6]</sup>

The most important classical texts of Ayurveda such as Caraka Samhita, Sushruta Samhita, Astanga Hridaya, etc. clearly mentioned the treatment of Shwitra along with its classification and prognosis.

## MODERN REVIEWS

Leucoderma is a long term skin condition characterized by progressive disappearance of pigment cells from skin and hair follicle.<sup>[7]</sup>

Its signs and symptoms vary considerably from person to person. It is more pronounced in people with dark or tanned skin. Some may only acquire a handful of white dots that develop no further while others develop larger white patches that join together affecting larger areas of the skin.<sup>[8]</sup>

Segmental Leucoderma is restricted to one part of the body but not necessarily a dermatome. Generalized Leucoderma is often symmetrical and frequently involves the hands, wrists, knees and neck, and the area around the body orifices. The hair of the scalp and beard may also depigment. There are also mixed and undetermined forms of Leucoderma.<sup>[9]</sup>

Modern Science therapies include glucocorticoids, topical calcineurin inhibitors, and for more widespread vitiligo depigmentation, NB-UVB, medicines plus ultraviolet light (PUVA).<sup>10</sup> But, all these treatment modalities are having their own limitations and side-effects. So it is the need of the hour to have some safe and reliable, side-effect free treatment modality.

### AIMS & OBJECTIVES

- 1) To clinically evaluate the effect of *Virechana Karma* with *Kalyanaka Guda* in *Switra*.
- 2) To see the effect of *Virechana Karma* in patients having *switra*, less than 1 year.
- 3) To see the effect of *Virechana Karma* in patients having *switra*, more than 1 year.

### MATERIALS AND METHODS

30 patients of *Switra* attending the OPD & IPD of Patanjali Bhartiya Ayurvedigyan Avum Anusandhan Sansthan, Haridwar, Uttarakhand.

### INCLUSION CRITERIA

1. Patients in group of 10-60 years.
2. Patients having *Switra* patch with normal sensation in touch.
3. Patients having patches reddish in color.
4. Patients having patches with no whitish hair.

### EXCLUSION CRITERIA

1. Pregnant women and lactating women.
2. Patients suffering from other systemic disease.
3. Burnt areas.
4. Genital areas involved.

### CRITERIA FOR ASSESMENT

#### Subjective Parameters

- *Tvak-Shwetata* (White Patches)

- 1- Normal
- 2- Pink

- 3- Pinkish to whitish
- 4- White

- ***Tvak- rukshita* (Dryness)**

- 1- No dryness
- 2- Moderate dryness
- 3- Excessive dryness
- 4- Dry thickened skin

- ***Daha* (Burning sensation)**

- 1- No daha
- 2- Mild daha
- 3- Moderate daha
- 4- Daha not effecting sleep
- 5- Daha effecting sleep

- ***Roma-Vidwamsa* (Changes in color of hair)**

- 1- Mild
- 2- Moderate
- 3- Severe

### OBJECTIVE PARAMETERS

- Number of *Virechana Vega*.
- Time taken to start *Virechana*.
- Time of last *Virechana Vega*.
- Condition during *Vega* (side effects or any discomfort during *Virechana*)
- Quality of *Pittantaka shudhi*, *Antiki shudhi*.
- Effect on signs and symptoms.

Size of patches	Less than 1cm	1
	1 to 2 cm	2
	2 to 3 cm	3
	More than 3 cm	4
No. of patches	1 to 3	1
	4 to 6	2
	7 to 10	3
	More than 10	4

**INVESTIGATION**

1. CBC with ESR.
2. S.Cholestrol, S. Triglyceride.
3. SGOT, SGPT

**CRITERIA FOR SELECTION OF DRUG**

Drugs used in study are

1. Aarogyavardhini Vati
2. Murchita Ghrita
3. Somraji Tail
4. Kalyanka Guda

*Arogyavardhini Vati*<sup>[11]</sup> is a polyherbal formulation mentioned in Ayurvedic formulary. It has been used for centuries with claimed efficacy and safety in treatment of various skin disorders. It has laxative action which helps to eliminate toxins out of the body, therefore it is recommended in chronic constipation and skin disorders.

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Ingredients required for *Arogyavardhini Vati* are:-

Shudha Parada	Shudha Gandhaka
Loha Bhasma	Abhraka Bhasma
Tamra Bhasma	Haritaki
Vibhitaki	Amalaki
Shilajatu	Gugglu
Eranda	Kutaki

***Murchhita ghrita***<sup>[12]</sup>

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It is used in this study for the purpose of snehana. Ingredients required for *Murchhita Ghrita* are:-

<i>Go Ghrita</i>	<i>Haritaki</i>
<i>Amla</i>	<i>Vibhitak</i>
<i>Nagar Motha</i>	<i>Haridra</i>
<i>Bijora Nimbu</i>	

### *Somraji Taila*<sup>[13]</sup>

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### Ingredients of *Somraji taila*

<i>Bakuchi</i>	<i>Haridra</i>
<i>Daruharidra</i>	<i>Sarsapa</i>
<i>Kushtha</i>	<i>Karanja</i>
<i>Edagajabija</i>	<i>Aragvadha Sarsapa Taila</i>

### *Kalyanaka guda*<sup>[14]</sup>

has been advised as *Virechana yoga* in the management of skin disorders. It has properties opposite to *Pitta*, which is why it is very beneficial in *Switra*.

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### Ingredients of *Kalyanaka Guda*

- *Vidanga* *Triphala churna (haritaki, vibhitak, amlaki)*
- *Chitraka* *Kutaja Beej*
- *Gajapippali* *Yavani*
- *Sesame oil* *Jaggery*
- *Sauvarchala Lavana* *Saindhava Lavana*
- *Vida Lavana* *Samudra Lavana*



- *Audbidha Lavana*                      *Trivrit*
- *Amla*                                      *Kali Maricha*

## DESIGN OF STUDY

### Grouping

Group A will include patients with patches of *Switra* <1 year. Group B will include patients with patches of *Switra* >1 year.

### Duration of the study

- *Deepana & Pachana* - 3-5 days
- *Snehapana* - 3 to 7 days
- *Vishrama Kala* - 3 days
- *Virechana* - 1 day
- *Samsarjana Krama* 3 to 7 days

### Purva Karma

*Deepana & Pachana*- *Arogyavardhini vati* 2 TDS before food with *Ushana jal* for 3-5 days. *Snehapana* with *Murchita Ghrita* – based on *koshta* and *agni* of the patient till *Samyak snigha Lakshanas* are seen.

During *Vishrama kala*, *Sarvanga abhyanga* with *Somraji taila* followed by *Sarvanga sweda* for 3 days.

### Pradhana Karma

*Virechana* will be administered with *Kalayanaka Guda* with *ushnaja* based on the *koshta* of the patient.

### Paschat Karma

Based on type of *shudhi* patient will be advised to follow *Samsarjana karma*.

## OBSERVATION AND RESULTS

**Observation:** The observations of 30 patients are discussed below

- **Age:** In this study, Patients were classified according to different age groups. The observation reveals that about 20% patients belong to the age group between 10-20 years, 36.67% patients in 21-30 years, 23.33% patients in 31-40 years, and 10% patients each in the age group of 41- 50 years and 51-60 years. From this observation it is clear that

*Switra* (Leucoderma), a *TwakVikar* can affect at any age. But most of the patients i.e. 80% were from young and middle years of age group which was pitta pradhan. Aurvedic texts have told switra as pittapardhan tridoshaj vaydhi.

- **Sex:** In this study, 50% patients were male and 50% were female. The reason might be due to work stress, pollution, responsibilities, tensions, changing emotional status i.e. depression etc. According to modern science, male and female both are equally affected from this disease.
- **Marital Status:** In this study, 60% patients were married and 40% patients unmarried. In this present study 80% patients are above 21 years of age. This can be the most applicable cause for such observation.
- **Education:** In this study, Patients were classified according to Educational status. The observation reveals that about maximum 56.67% patients were graduate and 43.33% patients were taking education up to higher secondary. No patient was found illiterate. There is no relevant correlation with finding with any aspect of the disease. But the poor awareness about the food habits, hygiene and negligence towards the disease in its earlier stage are the probable explanation for high prevalence.
- **Religion:** All the 100% patients belong to the Hindu religion. This is due to geographical predominance of Hindus in particular area.
- **Occupaion:** Maximum numbers of patients 40% were student, 3.33% patient each was businessmen and farmer, 23.34% were housewives and 30% patients were doing service. Student and active group are frequently exposed to the other etiological factors.
- **Family history:** It was observed that out of 30 patients, 09 patients (30%) were having positive family history & 21 patients (70%) were having negative family history. Acharya Sushruta has explained that the children of Kushtha patients may also suffer from Kushtha. While modern science says that occurrence of vitiligo is in ratio of 1:3 when it comes to inheritance.
- **Rasa pradhanata:** It was observed that out of 30 patients, Maximum numbers of the patients i.e. 40% were having *LavanaRasa* dominant in their routine diet followed by *MadhuraRasa* in 30% patients, *KatuRasa* in 20% patients and *Amla Rasa* in 10% patients. Excessive taking of Lavana and Katu Rasa causes pitta prakopa. Acharya Harita clearly mentioned that the vitiation of vata along with the pitta dosha spoil the rakta dhatu and create the spot of pandura varna that is called Switra.
- **Emotional status:** It was observed that out of 30 patients, 93.33% patients were of

middle class and 6.67% patients were of poor economic status. The middle class persons always face maximum strain physically and mentally to maintain their living standards while in higher class good quality of food and early diagnosis of the disease and their treatment are the causes for its low prevalence.

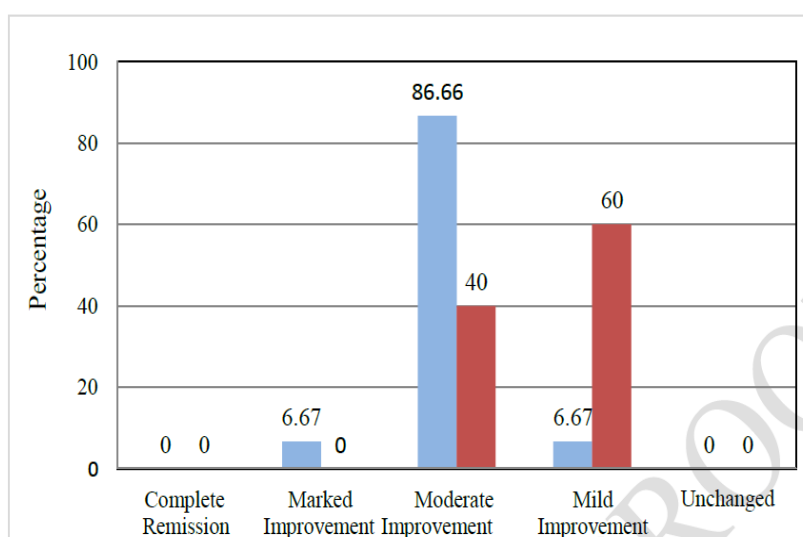
**Prakriti:** It was observed that out of 30 patients, *Vatapittaj Prakriti* patients were 30%, *Vatakhaphaj prakriti* patients were 16.67% and *Pittakaphaj Prakriti* patients were 53.33%. No patient of *Ekantik Prakriti* and *Sama Prakriti* was found in this study. It is because that dual constituent *Prakritis* are abundant and it is also described in ancient *Ayurvedic* texts.

## RESULTS

Group A showed marked improvement in 6.67% of the patients, 86.66% of the patients were showed moderate improvement and 6.67% of the patients were showed mild improvement after completion of treatment. Group B provided mode rate improvement in 40% of

Assessment	Score				
		Number of Patients	Percentage	Number of Patients	Percentage
Complete Remission	100%	Nil	-	Nil	-
Marked Improvement	75% to 99%	01	6.67	Nil	-
Moderate Improvement	50% to 74%	13	86.66	06	40
Mild Improvement	25% to 49%	01	6.67	09	60
Unchanged	< 25%	Nil	-	Nil	-

The patients and 60% of the patients were showed mild improvement. No patient got complete remission in both the groups. No patient was found unchanged/no response in both the groups.



## DISCUSSION

Ayurveda discussion based on Shastras, over any conceptual practical oriented study definitely gives one or other fruitful conclusions. This section analyses on selected problem i.e. Switra, observation made at the progressive stage of the plan and result obtained post therapeutically. The clinical research which was carried out on a distressing dermatological entity like Switra is need to be discussed in terms of Conceptual, Drug & Clinical studies.

Discussion on this study are made under the following points:

- 1) Discussion on mode of action of drug
- 2) Discussion on Clinical Study
- 3) Discussion on Observations
- 4) Discussion on Results

### 1. Probable Mode of Action of Drugs

**Arogyavardhini Vati** is a polyherbal formulation mentioned in Ayurvedic formulary. It has been used for centuries with claimed efficacy and safety in treatment of various skin disorders. It has laxative action which helps to eliminate toxins out of the body. Arogyavardhini Vati posses the pharmacological action like- Kusthanasaka (can alleviate all types of skin disorders), pachani (digestive), dipani (appetizer), pathya (wholesome for channel), malashudhikari (cleaning of waste material from body), increase kshudha (appetizer), therefore it is recommended in chronic constipation and skin disorders.

**Murchita Ghrita** is used in this study for the purpose of *Snehana*. *Murchana* of the *ghrita* is important to remove the impurities present in the *ghrita*. *Ghrita* is considered as best *sneha* among the *Jangama Sneha* because of its *Samskarasya Anuvartana* property. In the *Ayurvedic* classics and tradition, if not specific particularly then, the epithet *ghrita* always applies to *Go Ghrita*. *Acharya* have mentioned that *Ghrita* is a *Rasayana*, *Chakshushya*, *Deepana*, *Varna Prasadana* and *Medhya*. *Ghrita* is said to be *Vatapittahara*, *Rasavardhaka*, *Sukravardhaka*, *Ojavardhaka*, *Smrutivardhaka*, *Kapha Vardhaka* and *Visahara*. *Murchita Ghrita* has *Deepana* and *agnivardhana* properties, due to which *agni* gets *dipta*. Also due to *shaleshma vardhak* property, *dhosha* moves from their *shakha* to *koshta*.

**Somraji Taila** is herbal *Ayurvedic* oil very useful in treatment of various skin conditions. It is effective in skin problems, improves the immunity and promotes the purification of blood, thereby providing relief and giving soothing effect to the patient. It has properties which are

opposite to *Pitta*, which is why it is very useful in managing the condition of Leucoderma.

**Kalyanaka guda** has been advised as *Virechana yoga* in the management of skin disorders. It has Kushtaghan properties which are opposite to *Pitta*, which is why it is very beneficial in *Switra*.

**2. Discussion on Clinical Study:** In the present comparative randomized clinical study, 30 patients registered (15 patients in each group) between the age group 10-60yrs. from OPD of the panchakarma Department of Patanjali Ayurveda Hospital, Haridwar. The follow up was done at 1 month interval during 2 months of the trial. Assessment was done before & after treatment by- tvak-rukshata, roma-vaivarnyata, daha, color of patches (Subjective parameters) & size, number, area of patches, (Objective Parameters).

**3. Discussion on Observations:** The observations of 30 patients are discussed below

**Age:** In this study, Patients were classified according to different age groups. The observation reveals that about 20% patients belong to the age group between 10-20 years, 36.67% patients in 21-30 years, 23.33% patients in 31-40 years, and 10% patients each in the age group of 41-50 years and 51-60 years. From this observation it is clear that *Switra* (Leucoderma), a *TwakVikar* can affect at any age. But most of the patients i.e. 80% were from young and middle years of age group which was pitta pradhan. Aurvedic texts have told switra as pittapardhan tridoshaj vaydhi.

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**Occupation:** Maximum numbers of patients 40% were student, 3.33% patient each was businessmen and farmer, 23.34% were housewives and 30% patients were doing service. Student and active group are frequently exposed to the other etiological factors.

**Family History:** It was observed that out of 30 patients, 09 patients (30%) were having positive family history & 21 patients (70%) were having negative family history. Acharya Sushruta has explained that the children of Kushtha patients may also suffer from Kushtha. While modern science says that occurrence of vitiligo is in ratio of 1:3 when it comes to inheritance.

**Rasa Pradhanata:** It was observed that out of 30 patients, Maximum numbers of the patients i.e. 40% were having *LavanaRasa* dominant in their routine diet followed by *MadhuraRasa* in 30% patients, *KatuRasa* in 20% patients and *Amla Rasa* in 10% patients. Excessive taking of Lavana and Katu Rasa causes pitta prakopa. Acharya Harita clearly mentioned that the vitiation of vata along with the pitta dosha spoil the rakta dhatu and create the spot of pandura varna that is called Switra.

**Emotional status:** It was observed that out of 30 patients, 93.33% patients were of middle class and 6.67% patients were of poor economic status. The middle class persons always face maximum strain physically and mentally to maintain their living standards while in higher class good quality of food and early diagnosis of the disease and their treatment are the causes for its low prevalence.

**Prakriti:** It was observed that out of 30 patients, *Vatapittaj Prakriti* patients were 30%, *Vatakhaphaj prakriti* patients were 16.67% and *Pittakaphaj Prakriti* patients were 53.33%. No patient of *Ekantik Prakriti* and *Sama Prakriti* was found in this study. It is because that dual constituent *Prakritis* are abundant and it is also described in ancient *Ayurvedic* texts.

#### 4. DISCUSSION ON RESULTS

**Tvak Rukshata:** Out of 15 patients the symptom was relieved by 76.92% in Group A, and by 64.10% in Group B.

**Roma Vaivarnyata:** Out of 15 patients the symptom was relieved by 67.86% in Group A, and by 66.67% in Group B.

**Daha:** Out of 15 patients the symptom was relieved by 65.85% in Group A, and by 63.89% in Group B.

**Color of Patches:** Overall in 15 patients the symptom was relieved by 68.57% in Group A, and by 48.48% in Group B.

**Number of Patches:** Overall in 15 patients the symptom was relieved by 23.08% in Group A, and by 12.12% in Group B.

### **Total effect of therapy**

Individual Group.- **In Color of Patches & Margin of Patches** although both groups shows improvement after 2 months of treatment having highly significant (P-value <0.001) in Grp.-A and moderately significant (<0.01) in Grp.-B respectively.

Inter grp. **Comparison-** After 2 months of treatment in Size of Patches & Number of Patches Grp.-A shows mild significant and Grp.-B shows insignificant values respectively, which indicates Grp.-A effect was better in comparison with Grp.-B.

**Overall,** Group-A was more significant as compared to Group-B. But, effectiveness of Group B cannot be ignored because mild improvement is seen 9 patient and moderate improvement is seen 6 patient. This shows, further research can give positive outcomes.

For the statistical analysis, paired T test was used for the comparison between Group-A & Group-B. After 2 months, in Group A, none of the patient got complete relief, 1 patients (6.67%) got marked improvement, 13 patients (86.66%) got moderate improvement, 01 patients (6.67%) got mild improvement & no patients got unsatisfactorily change. In other hand in Group B, no patients got complete remission and marked improvement, 06 patients (40 %) got moderate improvement, 09 patients (60%) got mild improvement & no patients got unsatisfactorily change.

### **CONCLUSION**

Conclusion is the determination established by investigation in various ways and deducting by means of various reasons. Thus, based on the study sample, after completion of the study, following conclusion can be drawn-

1. Switra (Leucoderma) characterized by white discoloration of patches, is a Tridoshaja Vyadhi in nature but there is dominance of Pitta Dosha and vitiation of Rakta Dhatu along with Rasa Mamsa and Meda Dhatu Dushti.
2. On primary examination, only Shveta Mandala (hypo pigmented or white coloured patches and macules) was found in most of the patients, instead of any other symptoms.



3. Chinta is Mansika Nidana which leads to Vata prakopa and it was observed in maximum number of patients. This observation clearly shows the psychosomatic nature of the disease.
4. Viruddha Ahara and Mithya Ahara like milk with salt, milk with sour foods, excess taking of fermented foods was observed in most of the patients of Switra.
5. The study was conducted over 30 patients only, so a similar study performed over a large sample for longer duration could have obtain better results. This work has been done by keeping in view all the cautions of bias in Research also in interpretation of concepts in appropriate way.
6. All the drugs chosen for the study are chiefly Varnya, Vishaghana, Pittashamak, Vrana Ropana, Krimighana, Kushtaghana and Kandughana in nature. So by their virtue, they help in treatment of Ek-kushta.
7. These drugs are easily available, cheaper and with no side and adverse effect.
8. Asatyma Ahar-Vihar and Manasik Nidana are common causative factors for Switra.
9. As clinical trials were only primary, having very short duration of treatment and sample was very small 30 patients only; 1 patient in Group A reported complete cure. It is well known fact that the treatment of Switra requires very long time, so in this short duration of clinical trials excellent results or complete cure may not be assumed.
10. Statistical analysis showed that the effect shown by the trial drug is significant.
11. According to symptoms, highly significant results were found in group A. which means, Group A has more significant value as compared to Group B.
12. Switra is not only a skin disease but it also involves Rasa, Rakta , Mamasa and Swedavaha srotas along with Manovaha srotas, both internal and external Panchakarma are necessary for its management.

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