

## THE CLINICAL EFFICACY OF BAKUCHYADHI YOGAM (INTERNAL) AND MULAKBEEJADHI LEPAM (EXTERNAL) IN THE MANAGEMENT OF SWITRA W.S.R TO VITILIGO

B. Pushpanjali<sup>1</sup>, P. Srikanth Babu<sup>2</sup>, P. Anusha<sup>3</sup>, B. Pushpalatha<sup>4</sup>

<sup>1</sup>MD (Kayachikitsa), <sup>2</sup>MD (Ayu), Professor and HOD of Kayachikitsa Dept,

<sup>3</sup>MD (Kayachikitsa), <sup>4</sup>M.Sc

<sup>1-3</sup>Dr.B.R.K.R Govt Ayurvedic Medical College, Hyderabad, Telangana, India

<sup>4</sup>Asst.Professor in Chemistry, Sri Sivani College Of Engg, Srikakulam, Andhra Pradesh, India

Email: [Vanipushpa90@gmail.com](mailto:Vanipushpa90@gmail.com)

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### ABSTRACT

To assess the efficacy of *Bakuchyadhi yogam* and *Mulakabeejadhi lepam* in the management of *Switra*, *Switra* (vitiligo) is clinically characterized by the development of white macules where the afflicted person experience severe physiological distress, diminished quality of life and increased risk of psychiatric morbidity. **Method:** The clinical study was undertaken on 30 patients in a single group and to assess the effect of treatment before and after colour, size, no of patches, photographs were considered, the hypothesis based on the action of having *Kustagna*, *Krimighna*, *Varnya*, *Switraghna* along with *Deepana Pachana*, *Rasayana* properties. **Results:** The results of the study are based upon the assessment of subjective and objective parameters. The study reveals excellent result were observed in 5 patients 16.6%, good result in 12 patients 40%, moderate result in 10 patients 33.3%, mild result in 3 patients 10%. **Conclusion:** subjective parameters are significant as per statistical evaluation; objective parameters are highly significant except no of patches.

**Keywords:** Hypopigmentation, *Bakuchyadhi yogam*, vitiligo, *Mulakabeejadhi lepam*

### INTRODUCTION

The Aim of Ayurvedic medicine is to integrate & balance the body, mind, spirit “*Rujakarotheethiro-gadehamanasasantapyathi*”<sup>1</sup>, this clearly states that disease effects body and mind, among which *Switra* is the one, pertaining to *Twak*<sup>2</sup>

Vitiligo is an acquired pigmentation disorder of unknown etiology that is clinically characterised by the development of white macules related to the selective loss of melanocytes. The present study is intended to focus on the disease *Switra* with vis- a -vis to vitiligo and to reassess the different clinical as-

pects of *Switra*, described in Ayurvedic & modern text & Validating of pigmentation effect of *Bakuchyadi yogam* and *Mulakbeejadhi lepam* in *Switra* disease.

#### **JUSTIFICATION OF THE STUDY:**

Historically, vitiligo was deemed to respond relatively poorly to treatment with a chance of recurrence rate, therefore there is at times reluctance to advice treatment. Though the contemporary medical sciences tries to treat this disease with different types of repigmentation therapies starting from good old PUVA therapy to using corticosteroids<sup>3</sup>, the epidermal grafts, Excimer Laser or cell culture techniques and more recent narrow band UVB and Immuno-modulators but they fail to give satisfactory results. Further the above mentioned conventional approaches have unacceptable side effects or either unaffordable or not easily accessible in all conditions. This gives a big scope to other systems of Medicine to find a better and satisfactory treatment for this one of the most blemishing skin disease. Keeping all the above said factors in mind a clinical study was planned to access the efficacy of an indigenous preparations based on the Ayurvedic principles. All the drugs present in these formulations have *Switrahara* and *Varnyakara* properties which help in causing pigmentation over white patches. Recent researchers have also proved that the drugs in this formulation are very effective in producing melanin pigmentation over vitiligo patches. Though several studies were undertaken previously in the day to day research, it is still required for further studies on *Switra* disease to give better treatment. Hence the present study is initiated on this disease under the title “To Assess the Efficacy of *Bakuchyadi yogam* (Internal) and *Mulakbeejadhi lepam* (External) in the Management of *Switra* w.s.r. to Vitiligo – A Clinical Study.”

#### **MATERIAL & METHODS:**

##### **A. SOURCE OF DATA**

a. Patients who are clinically diagnosed as *Switra* and those fulfilling the required Inclusion criteria are

randomly selected from OPD of Dr. B.R.K.R Govt Ayurvedic College and Hospital, Hyderabad irrespective of their Sex, Caste and Religion.

b. Literary: Literary aspects of study are collected from classical Ayurvedic and contemporary texts and updated with recent Medical Journals.

##### **B. Method of collection of data:-**

- a. Study Design: Randomized open clinical study.
- b. Sample size: A minimum of 30 patients are taken in randomized selection
- c. Study duration: 90 days – treatment schedule
- d. Review: Every 15days until the completion of study, i.e. 90days.
- e. Follow up: 30 days after completion of treatment schedule.

##### **C. Exclusive criteria:**

1. Patients below 10 years
2. Patients above 60 years of age
3. Pregnant women and lactating women
4. Patients suffering from other systemic disease
5. Patients with Burnt areas
6. Patients having other skin diseases

##### **D. Inclusive criteria:**

1. Patients representing with classical features of *Switra* as explained in Āyurvedic classics and diagnosed and case of Vitiligo according to the contemporary diagnostic system are included.
2. Patients of either sex or age group between 10-60years were included.
3. All Patients other than that of exclusive criteria were included in the study.

##### **E. Diagnostic criteria:**

The diagnosis of Vitiligo is based exclusively on the clinical examination of the patient. The physical examination includes following findings as mentioned in the clinical features of *Switra* namely *Twak-swetata* (Whitish discolouration of skin), *Arunavarnata* (Reddish discolouration), *Tamravarnata* (Copper discolouration of skin), *Twakrukshata* (Dryness), *Daha* (Burningsensation), *Romavivarnata* (Leucotrichia), *Kandu* (Itching).

## F. Administration of the Drug:

a. Internally *Bakuchyadiyogam*<sup>4</sup> (*Bakuchi*, *Amlaki*, *Khadirasara*) 5gms/ day in 2 divided doses after food with water.

b. Externally *MulakbeejadhiLepam*<sup>5</sup> (*Mulakabeeja*, *Bakuchi*) is to be applied as per requirement over the white lesions once in a day followed by sun light exposure for a period of time.

## G. Parameters of the study:

The subjective and objective parameters of base line data to post medication were compared for assessment of the results.

### Scoring pattern given for Parameters

#### Subjective parameters:

1. **Rukshata:** Skin becoming dry over de-pigmented surface is given graded as follows

**Grade 0**-Normal- No dryness

**Grade 1**-Mild - Dryness on exposure to cold and sunlight and other allergens

**Grade 2**-Moderate - Dryness during exposure to Cold environment

**Grade 3**-Severe - Always Dryness

2. **Dāha:** Burning sensation of skin over de-pigmented surface is graded as follows:

**Grade 0**- Normal- No Burning sensation.

**Grade 1**- Mild - Burning sensation on exposed to mid noon sunlight

**Grade 2**- Moderate- Burning sensation on morning sunlight exposure & other irritants

**Grade 3**- Severe - Always Burning sensation

3. **Kandu:** Itching over de-pigmented surface is identified as different grades are

**Grade 0**-Normal- No itching

**Grade 1**-Mild -Itching on exposure to cold and sunlight and other allergens

**Grade 2**-Moderate- Itching on exposure to mild cold environment

**Grade 3**-Severe - Always itching

#### Objective parameters:

**Color:** Color of the skin is due to an interaction between Pigment composition and concentration and the dermal blood supply.

**Grade 0** - Normal skin color.

**Grade 1** - Non- unified skin.

**Grade 2** - Pigmentation is more than De-pigmentation.

**Grade 3** - De-pigmentation is equal to Pigmentation.

**Grade 4** - De-pigmentation is more than Pigmentation.

**Grade 5** - Complete de-pigmentation.

#### 2. Size of the Lesion (Diameter):

**Grade 0** - 0.1cm to 0.5cm

**Grade 1** - Above 0.5 and below 2 cm

**Grade 2** - Above 2cm and below 4 cm

**Grade 3** -Above4cm and below 6 cm

**Grade 4** - Above 6cm and below 8 cm

**Grade 5** -Above 8cms.

#### 3. Number of Lesions:

**Grade 0** - No patch observed

**Grade 1** - Up to 2 patches

**Grade 2** - 3 patches

**Grade 3** - 4 patches

**Grade 4** - 5patches

**Grade 5** - More than 5 patches

#### 4. Photographs before and after treatment

#### Overall assessment of results:

Overall assessment of the results was made by considering the collective effect of subjective and objective parameters of each group.

#### Overall assessment of Results:

Finally over all result is calculated by taking average of all parameter results.

#### Percentage result:

Below 30 % -Mild response

31- 50 %-Moderate response

51 -70% - Good response

>70 %-Excellent response

**OBSERVATION&RESULTS:**

**Table 1:** Overall change in scores of subjective Parameters in 30 cases

Subjective parameters	Observed in patients (out of 30)	Total score		% of improvement	Result
		BT	AT		
<i>Twakrukshata</i>	21	35	11	68.5	GR
<i>Daha</i>	13	18	6	66.7	GR
<i>Kandu</i>	28	42	10	76.2	ER

**Table 2:** Subjective parameter Statistical analysis in *Switra* using wilcoxon test

S.No	Parameters	W	Z	P	Remarks
1	<i>Twakrukshata</i>	95	-3.312	0.00046	S
3	<i>Daha</i>	39	-3.059	0.0011	S
4	<i>Kandu</i>	72	-3.158	0.00079	S

**Table 3:** Mean values of subjective parameters taken in the study

S.No	Parameters	Mean			SD		SEM	
		BT	AT	%	BT	AT	BT	AT
1	<i>Twakrukshata</i>	1.17	0.33	71.7	1.02	0.48	0.19	0.09
3	<i>Daha</i>	0.67	0.20	70	0.84	0.55	0.15	0.10
4	<i>Kandu</i>	1.40	0.33	76	0.72	0.48	0.13	0.09

**Table 4:** Overall change in scores of Objective Parameters using paired t test

Parameter	Observed in patients (out of 30)	Total score			% of improvement	Result
		BT	AT	Net Diff		
Color change	30	150	72	78	52	GR
Size of lesion	30	71	32	39	54.9	GR
No of patches	30	40	35	5	12.5	MR

**Table 5:** Statistical analysis of objective parameters in *Switra*

S.No	Parameters	Mean			SD		SEM		df	S.E.D	t-value	p-value
		BT	AT	DF	BT	AT	BT	AT				
1	Colour	4.93	2.40	2.53	0.25	1.07	0.05	0.20	29	0.198	12.91	<0.0001
2	Size of the patch	2.37	1.07	1.30	0.93	0.83	0.17	0.15	29	0.153	8.51	<0.0001
3	No of patch	1.33	1.17	0.16	0.48	0.46	0.09	0.08	29	0.069	2.40	0.0573



Image 1, 2, 3: showing Before, During and After treatment

## DISCUSSION

### Probable mode of action of drugs:

#### 1. *Bākuchi* (*Psoralea Corylifolia*):

*Bākuchi* is the drug of choice in *Switra*, as it contains highest amount of furocoumarin, a psoralen compound. It has the properties like *Kustagna*, *Kandughna*, *Vranashodhana*, *Krimihara* and *Twachya* and *Rasayanam*, *Switraghna*<sup>6</sup>.

*Bakuchi* is *Katu* and *Tikta rasa pradanadravya*, here *Katu* and *Tiktharasa* itself having the properties like *Krimi*, *Kustha*, *Kanduprasamana*<sup>7</sup>, by having, *Dipana*, *Pachana* properties it is helpful in *Switra* caused by *Mithyahaaravihara* because it does *Amapāchana* there by helps in clearing *Srotosanga*.

#### 2. *Amalaki* (*Phyllanthus Emblica*):

It has the properties like *Tridosahara*, *Kustagna*, *Rasayana*, *Vayasthapana*. Due to its *Amlarasa* –acts as *Vatahara*, due to its *Madhura rasa* & *Sitaguna* acts as *Pitta hara*, due to its *Kasaya rasa* & *Rukshaguna*–acts as *Kaphahara*

*Amlaki* has sour as main taste usually sour taste increases *Pitta*, but *Amalaki* balances *Pitta*<sup>8</sup>.

**Role of *Rasāyana*:** *Twak* is indicator of status of *Rasa Dhatu*, this *Rasa Dhatu* if not properly formed then there will be *Vikruti* in terms of its appearance, colour and luster etc, because *Rasadhatu* nourishes the *Twak*. So treatment should also target for the correction of *Rasadhatu*. So, that *Rasayana* property of *Amalaki* helps for *Rejuvenation* of skin. Vitiligo be-

ing an autoimmune disorder, the potent immune modulator *Amalaki* present in *Bakuchyadhiyogam* acts against the autoimmune mechanism in which antibodies against melanin were proved to be isolated from serum of vitiligo patients.

***Vayasthapana*:** Due to its *Vayasthapana* property, it slows down the degeneration of cells and regenerates new cells as well in *Switra*.

**3. *Khadirasara***<sup>9</sup> (*Acasia Catechu*): It is *Tiktha*, *Kasaya rasa pradana dravya* having the properties like *Krimighna*, *Kandughna*, *Switraghna*, *Kustahara*, *Dipana*. *Charakaacharya* mentioned it as best *Kustaharadravya* in *Agraprakarana*. It has important chemical constituent like catechin flavanoid, catechutanic acid and tannins there by *Khadira* helps for better absorption. Catechin is bio-flavonoids, increases the skin's defence and self healing abilities also acts as powerful antioxidants.

#### 4. *Mulaka* (*Raphanus Sativus*):

It is *Katu* and *Tiktha rasa pradanadravya*, balances all the *Tridoshas*.

Acts as *Kanduprasamana* and seeds of *Mulaka* acts as *Kustaghna*<sup>10</sup>.

### Effect of External application:

As *Switra* is a *Pitta pradana tridoshajavyadhi*, there is involvement of *Bhrajakapitta* which is located in the skin, responsible for pigmentation and metabolism of substances used as external application i.e. *Mulakabeejadhilepa*



It stimulates inactive melanocytes, thus stimulated melanocytes release melanin which gradually diffuse into de-pigmented area and results in re-pigmentation

By reviewing qualities and actions of *Bakuchyadi yogam* and *Mulakabeejadhi lepa*, we may conclude that, systematic correction with internal preparation and the local stimulation by external application may appear effective in this disease.

*Switra* being a cosmetic problem, some physicians emphasizes the topical treatment, others emphasize the internal treatment, but both appear important to the prompt and complete resolution of *Switra*.

## CONCLUSION

Among 30 patients, 5 patients showed excellent improvement of which 2 patients got 100% remission. 12 patients showed good response, 10 patients got moderate response, 3 patients got mild improvement. The *Varna* mentioned in *Doshaja* varieties of *Switra* could not be differentiated and identified in the present study. The present trail drug didn't give any encouraging effect on decreasing the number of lesions, but it showed marked improvement in terms of size and colour. Present study didn't shown significant improvement on lesions over palms and soles. So it is recommended to do researches on other drugs that will be effective on lesions over palmar and plantar areas. Finally it can be safely concluded that the above mentioned drug combination has positive role the management of *Switra*.

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