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New hope in treatment of vitiligo (Switra) by ayurvedic medicines (A case study)

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Abstract

The skin covers the entire external surface of the human body and is the principle site of interaction with the surrounding world. Vitiligo is a specific type of a acquired leukoderma and this is idiopathic, patterned, circumscribed hypomelanosis of the skin and hair in which other cause of leukoderma have been excluded. The disease is important principally because of the social stigma associated with vitiligo. Vitiligo is autoimmune disease and it may be associated with other autoimmune disease as diabetes mellitus, pernicious anemia and Addison disease. Incidence of vitiligo is 1 to 8.8 % and age of onset varies widely from infancy to old age. Peak incidence is found in 10 to 30 years age group. The etiology is unknown but there is positive family history in 30% of patients. Main clinical feature of vitiligo is white spot usually appears and remains for life. In *Ayurveda* Vitiligo is known as "Switra. It is one of the varieties of *Kushta* in *Ayurvedic* classics, caused due to vitiation of *Tridosha* and *Dhatus* like *Rasa*, *Rakta*, *Mamsa* and *Medas*. *Switra* or vitiligo is a hypopigmentation dermatological disorder involving body and mind. In modern medicine photo chemotherapy is satisfactory method of treatment but it has adverse effect. So, it becomes a new hope to provide effective and safe treatment protocol for vitiligo in *Ayurveda*.

The case was treated with compound Ayurvedic medicines *Bakuchitaila* (*Psoralea Corylifolia*) for local application, *Bakuchi churna*, *Gandhak-rasayana*, *Rasamanikya*, *Muktashukti-bhasma* and *Khadirarishta* over a period of 12 months with sound improvement which is evident from inspection and photographs. The outcome of this clinical study will reveal further regarding the effect of Ayurvedic medicine in vitiligo.

Keywords: Vitiligo, *Shwitra*, *Bakuchi*, *Ayurvedic* medication

Introduction

Approximately 30% of outdoor patient department (OPD) attendance is accounted by dermatologic disorders as such as associates of other illnesses. Skin may be an index of many systemic and genetic disorders. Vitiligo is acquired, progressive, common pigmentary disorder of the skin and characterized by milky white lesions over skin. The cause is an autoimmune damage to melanocytes in the dermis and it may be associates with other autoimmune disease such as diabetes mellitus, pernicious anemia Addison disease etc. Vitiligo a disease of cosmetic problem and has considerably psychosocial impact. This disease has more embarrassment to dark skinned people and patient feels anxious and defamed by the condition [1]. Chance of recovery is more when lesion is located on the fleshy region of the body than bony/friction points [2]. The most accepted theory for pathogenesis of vitiligo is autoimmune hypothesis [3]. The Symptoms present in vitiligo are more comparable with features of *Switra roga* in *Ayurveda* [4]. The word *Switra* is derived from the Sanskrit word *Shweta*, which means white patch [5]. *Acharya Sushruta* called the disease as *Kilasa* instead of *Switra* [6]. Main features of *Shwitra* are discoloration of the skin (*twakvaivarnyata*), without discharge (*aparivra*). In *Ayurveda*, the *nidana* of *Shwitra*, are considered as untruthfulness, ungratefulness, disrespect for the gods, insult of the preceptors and intake of contradictory food [7, 8].

The term vitiligo has been derived from the Latin word "vitilus" meaning calf. The term was first coined by Roman physician Celsus, in the 1st Century A.D. According to him white patches of the disease look like the white patches of a spotted calf. The incidence of vitiligo in India is 1 to 8.8% and age of onset varies widely from infancy to old age but peak incidence in

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the 10 to 30 years age group [9]. Family history of vitiligo is present in only about 25% of cases [10]. In India where vitiligo can be considerable disfigurement and can affect eligibility for marriage because vitiligo mimics leprosy. Etiology is multifactorial, it may be hereditary, autoimmune, hormonal imbalance, dietary, stress, secondary to other systemic diseases like diabetes mellitus, hypothyroidism etc. [11] it results from an autoimmune process that damages melanocytes. Main clinical features of vitiligo is the white lesions usually appear on skin and distribution of lesions may be symmetrical and at site such as the bony prominences (malleoli, tip of the elbow, necklace area in females). Rarely vitiligo may be erythematous with a raised border and with itching. Other finding in the history include premature graying of hair (<20 years of age) and history of alopecia areata. Iritis occurs in 10% but may not be symptomatic and retinal changes consistent up to 30% of patients. Wood's lamp examination is essential to examine patients with a light skin color with wood's lamp to detect all the areas of vitiligo. Other supportive investigations are ANA for lupus erythematous and Vitamin B₁₂ level for pernicious anemia. The response to treatment is observed in terms of reduction in area of depigmentation after treatment.

Case report

A 20 years old male patient present with complaint of white patch over skin over the region of bilateral iliac spine with multiple irregular sized patches (from 0.3x0.2cm to 2x3 inch patches) for last 2 years.

History of present illness

Initially lesions were small isolated, later progressively increased in size and then spread to abdomen and back region. Itching was mildly present. Burning sensation is not associated in this patient. Patient had taken modern medicine treatment for a period of one and a half year without any definite improvement.

Past history: Not significant

Personal history: Patient had desire for spicy food ice-cream and meat and he could not tolerate warmth.

Psychological history: Patient was in stress for more than 5 months due to some family problem. Size of white patches increased during this period.

Family history: There was no family history of vitiligo.

Local examination

- Site of lesion:** B/L iliac spine spreading to back and abdomen
- Distribution:** Symmetrical
- Itching:** Mildly present
- Discharge:** Absent
- Sensation:** Present
- Character of lesion:** White colored grouped and diffused lesion
- Inflammation:** Absent

Table 1: Assessment Score Chart (ASC) [12]: Assessment of case was done on the basis of ASC.

Score	0	1	2	3
Type	No improvement	Stationary	Resistant	Progressive
Site of the lesion		Follicular	Mucosal	Acral
Number of patches	Absent	Single patch	Segmentary	Generalized
Hair in patch	Black	Mild black	White	
Margins of patch		Normal	Inflamed	
Color of patches	Normal	Pigment spot on patch	Pink	Milky white
Re-pigmentation	Fully pigmented	Perifollicular pigmentation	Hyper pigmentation of margin	No pigmentation

Table 2: Baseline assessment score of the patient on first visit

Score	0	1	2	3
Type				Progressive
Site of the lesion			Mucosal	
Number of patches				Generalized
Hair in patch			White	
Margins of patch		Normal		
Color of patches				Milky white
Re-pigmentation				No pigmentation

Table 3: Treatment plan: Patient was treated on OPD basis. During period of treatment diet was salt-free and contains buttermilk.

Step -1 Shodhana Karma (Purification therapies) and Agni vardhan Karma	
1.	<i>Haritaki-churna</i> 2 gram at bed time at night with warm water
2.	<i>Agnitundi-vati</i> 2 Tablets twice a day with warm water before meals.
Step -2 Snehan Karma (Oleation)	
1.	<i>Bakuchi-taila</i> For local application over affected area.
Step – 3 Photo-chemotherapy	
1.	Photo-chemotherapy is exposure of lesions to the sun light after topical treatment depending on the tolerance of the patient by <i>Suryapadasanthap</i> .
Step – 4 Oral medication	
1.	<i>Bakuchi Churna</i> 2gm twice a day with warm water
2.	<i>Gandhak rasayana</i> 250 mg twice a day with warm water
3.	<i>Rasamanikya</i> 125 mg twice a day with warm water
4.	<i>Muktashukti bhasma</i> 250 mg together with warm water twice a day after meal.
5.	<i>Khadirarishta</i> 20 ml (4 TSF) with equal amount of water twice a day after meal.

Follow up

Patient had been followed up every 1 month for one year. Before and after treatment patch change is illustrated in figure



Fig 1: (Before treatment)



Fig 2: (6 month after treatment)



Fig 3: (12 month after treatment)

Observation and Result

Regular oral use of *Bakuchi-churna* and other ingredients with local application of *Bakuchi tail* minimizes the size of vitiligo and changes the color of patches from white to reddish then to normal skin color.

Table 4: Shows Sign & Symptoms Before treatment after treatment (6 month) and after treatment (12 month)

Sign & Symptoms	Before treatment	After treatment (6 month)	After treatment (12 month)
Number of patches	3	2	2
Hair in patch	2	1	0
Margins of patch	1	1	1
Color of patches	3	2	0
Repigmentation	3	2	1

Discussion

Vitiligo is a common pigmentary disorder of the skin, with a worldwide incidence of 1% [13] but in India some dermatological records show the incidence of vitiligo as high as 8.8% [14]. In which about 25% patients have age less than 8 years [15]. In modern medical sciences the main cause of the vitiligo is autoimmune, genetic, psychological, endocrine

disorder, chemical contact and adverse drug interaction [16] so for this mainly photosensitizers and blood purifiers are used. In *Ayurveda* Vitiligo (*Switra*) is chronic disease (*Deergha roga*) [17] and should be treated immediately [18]. *Bakuchi-churna* contain psoralen, isopsoralen, bakuchiol, bavchinin, bavachin and corylin which have antioxidant properties, help in Stimulates melanocytes for Melanin synthesis, Immuno-modulatory effect and inhibitory against antigen induced granulation [19, 20]. Main ingredients of *Khadirarista* are *Khadira* extract (*Acacia Catechu*). *Khadir* extract is used as an immune-modulatory, purify blood, astringent, bactericidal, refrigerant and antiphogistic [21, 22]. *Agnitundi Vati* mainly acts on digestive system. If *Agni* (digestion) becomes poor, it may cause various diseases in the body. Poor digestion leads to malabsorption which in turn produces more toxins in the body, which ultimately cause several disorders. Main contents of *Gandhak rasayana* are *Sudha-Gandhak* (Sulphur) and it has several potential uses for skin health. *Gandhak-rasayana* is *raktashodhak*, *twachya* and useful in skin condition (*kushtaghna*) [23]. *Manikya Rasa* is used in the Ayurvedic treatment of skin diseases, allergic skin conditions, dermatitis and pruritis. Main ingredients of *Manikya Rasa* are *Shuddha Haratala* and *Haratala* is Orpiment, which is a deep orange-yellow color sulphide of arsenic, with formula As_2S_3 . *Muktasukti Bhasma* is calcinated ash of pearl oyster and chemically $CaCO_3$, having *Deepana* (Increase the secretion of gastric enzymes), *Ruchikara* (Tasty), *Baladayani* (Increase the body strength).

Bakuchi oil is Ayurvedic medicinal oil prepared from the dried fruits of *P. corylifolia*, and sesame oil for treatment of vitiligo in *Ayurveda*. Photosensitizing agents involves *Bakuchi* (*Psoralea corylifolia*) contain psoralen to stimulate melanocytes when exposed to ultraviolet light exposure. The exact mechanism of action of psoralen with the epidermal melanocytes and keratinocytes to enhance pigmentation into the body is still unknown. The treatment consists of the oil application and sunlight exposure to the affected areas of the skin. The major secondary metabolite of *P. corylifolia* is the furanocoumarin, psoralen. Psoralen stimulates repigmentation by sensitizing the skin to ultraviolet light [24]. Photo chemotherapy is very valuable for the treatment of vitiligo. Psoralen has good photochemical response to ultraviolet as well as ultraviolet B. Because of this reason the treatment includes topical/oral treatment, followed by exposure to ultraviolet light or Sunlight.

After recovery of this case it can be said that *Ayurvedic* medication is useful in vitiligo without any adverse effect and many other studies also give successful result [25, 26]. In oral treatment the drug first effects the blood and via blood reaches to the epidermis while in topical treatment the drug direct effects the epidermis thus topical treatments are faster than oral treatments.

Conclusion

However, this case speaks about the best results of *Ayurvedic* medication in vitiligo without any adverse effect. *Bakuchi Taila* for locally application, *Bakuchi-churna*, *Gandhak-rasayana*, *Rasamanikya*, *Muktashukti-bhasma* and *Khadirarishta* is very effective in vitiligo without any adverse effect on body on any system or organ. Sun light is additive effect to promote the melanocyte formation. This shows that if treatment is done according to the principles of *Ayurveda* with proper selection of dose and duration along with strictly follow of *pathya* and *apathy* diet, it leads to success as in this case of vitiligo (*Switra*).

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