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Management of Childhood *Shwitra* in the purview of Vitiligo through Ayurveda Protocol: A Case Study

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Abstract

Background:

The most prevalent pigmentation condition, vitiligo, is referred to in Ayurveda as *Shwitra* because of its distinctive appearance. It results from an imbalance of the three *Doshas* (*Vata*, *Pitta*, and *Kapha*), which vitiates the *Dhatu*s like *Rakta*, *Mamsa*, and *Meda*. *Shwitra* is a benign but extremely serious cosmetic condition that negatively impacts a person's social, psychological, and emotional well-being.

Objective:

The purpose of this study was to evaluate the efficacy of Ayurvedic treatment for *Shwitra* patient.

Method:

Following Ayurvedic principles, a 10-year-old girl with vitiligo vulgaris (*Shwitra*) complained of a

rising area and number of depigmented spots on her skin. Based on the patient's observed indications and symptoms, a treatment plan was developed. The protocol includes *Shodhana* (*Dipana-Pachana*, *Snehapana* followed by *Vamana* and *Virechana*), followed by *Shamana* treatment with a combination of powdered herbal drugs *Triphala Churna* and *Arogyavardhini Vati*, *Khadirarishta* orally along with *Avalgujadi Lepa* for local application, is part of the protocol.


Result:

The treatment strategy was shown to have been successful in reversing depigmented patches to repigmentation. As per VETI scoring for vitiligo, the patient was observed to have had significant improvement, with the VETI score changing from 9 before treatment to 1 after treatment. Additionally, there was an improvement in subjective criteria, with 80-85% filling of the hypopigmented patches.

Keywords: Ayurvedic Treatment, Vitiligo, *Vamana*, *Virechana*, *Shwitra*, Case report

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Introduction

According to Ayurveda, *Kushtha* is the umbrella term for all skin conditions. The classic *Kushtha Roga Chikitsa* mentions about *Shwitra*. The Sanskrit root *Shwit*, meaning white patch, is the root of the word *Shwitra*.^[1] Thus, *Shwitra* is a condition in which the body develops white spots. In accordance with "*Shweta Bhava Michanti Shwitram*" from the *Kashyapa Samhita*.^[2] It is also known as *Shweta Kushta*, *Kilasa*, *Daruna*, and *Aruna*. *Chhaya* and *Prabha* of *Tvacha* (skin) are prompted by *Bhrajaka Pitta*, which is found in the skin. ^[3] Skin conditions like *Shwitra* can be brought on by any disruption of the *Bhrajaka Pitta*, *Vata* and *Kapha Doshas*. *Medhodhatu* is where morbidity is found in *Shwitra*. Three different varieties of *Kilasa* are referenced in *Dhatus* based on color and *Ashraya*: red if found in *Rakta*, coppery if found in *Mamsa* and white if found in *Medas*.^[4] This may be closely linked to vitiligo because of the similarities in how the two conditions present. Vitiligo is an acquired macular depigmentation disorder associated with the destruction of melanocytes.^[5] A localized loss of melanocytes causes hypopigmentation in certain areas. The disorder represents a clinical end-point

resulting from a complex interaction of environmental, genetic and immunological factors. The hands, wrist, feet, knees, neck, and areas surrounding body orifices are all affected by generalized vitiligo, which is frequently symmetrical.^[6] Although segmental vitiligo is limited to a single area of the body, it is not always a dermatome. The depigmentation spots are clearly visible.

As per National Institutes of Health (NIH)- 2019, the prevalence of vitiligo in India has been invariably reported between 0.25% and 4% of dermatology outpatients across studies from India and up to 8.8% in Gujarat and Rajasthan

Objective of the study

To determine the efficacy of *Ayurvedic* treatment in *Shwitra*, as mentioned in classical Ayurveda text.

Brief history of patient

Present case report is of a 10-year-old female child, that came with complaint of whitish discolored patches over bilateral upper eyelids, back of neck, right side of temporal region, hand and abdomen with no itching or burning sensation in the last 1 year. At first it was only one whitish patch over back of neck that spread all over the above regions in a year.

Developmental history

Patient's development was appropriate as per the age in all the domains (eg. Gross motor, Fine motor, social and speech domain)

Immunization history- Patient was immunized as per the age as per the guidelines of National Immunization Schedule.

Past history- The patient has no significant past medical history, including autoimmune or dermatological conditions.

Family history- No significant familial predisposition or hereditary conditions identified.

Personal history-

- Appetite- Unaltered
- Diet- Vegetarian

Baseline findings

The patient's general condition was moderate with 30.5kg weight and height 128cm and 18.6 kg/m² of body mass index. The patient's vitals were 98.2°F temperature, 84 beats/min of pulse rate, 22 breaths/ min of respiratory rate, and 100/70mm Hg of blood pressure.

On systemic examination, the patient was conscious and well oriented; on auscultation of heart S1, S2 heard, the chest

- Bowel habits- Regular, with no abnormalities noted.
- Bladder habits- Regular, with no abnormalities noted.
- Sleep- Sound sleep, approximately 8–9 hours at night and 2–3 hours during the day.
- Allergy: None Reported
- Addiction: None Reported

Nidana

a. Aaharaja-

Viruddhahara- Milk with Fruits e.g., Mango and Banana

Adhyashana- Eating food before previous meal being digested.

b. Viharaja-

Diwasawapna

was clear with air entry to lungs bilaterally equal, and gastro-intestinal system examination showed that the abdomen was soft, non-tender with normal bowel sound.

Clinical findings

- Site of lesions- Bilateral Upper eyelids- oval and irregular (3x6cm)
 - Back of neck- multiple, small and oval and irregular (1x1cm) each

- Right temporal region- round shaped (0.2x 0.5cm)
- Hand- small coin like round shaped lesion (0.2x 0.2 cm)
- Abdomen- very small round lesion (0.1x 0.1cm)
- Margins- non-elevated
- Character of lesion - Macules
- Color - White
- Itching- no
- Discharge- no

Clinical test

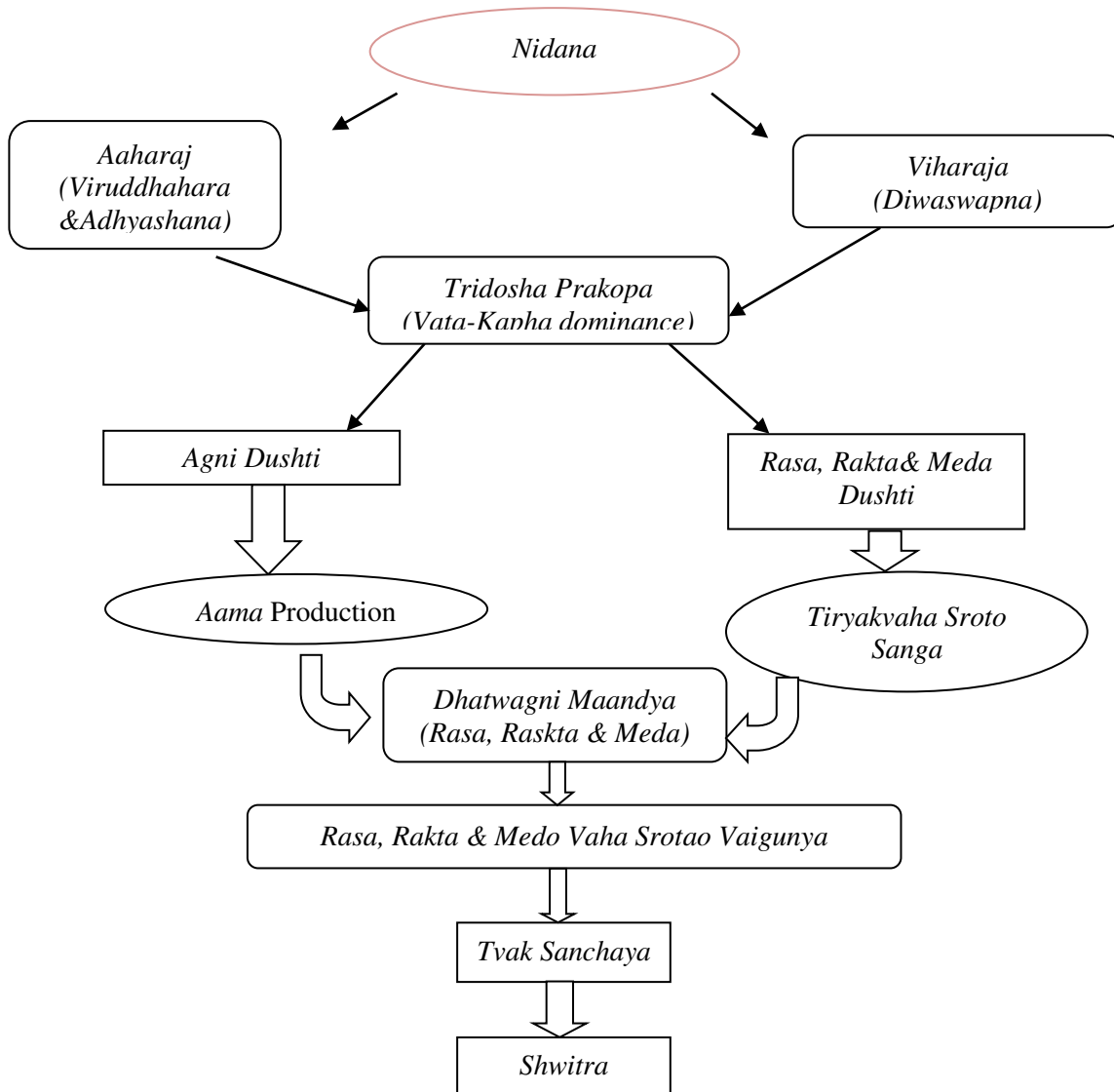
Wood's lamp test- In dark room, the wood's lamp emits ultraviolet light that

makes affected areas of vitiligo affected skin glow a dull-off white light.

Aggravating factors- Spicy food, Rainy season.

Samprapti Ghataka

- *Dosha - Tridosha [Vata Kapha dominance]*
- *Dushya - Rasa, Rakta, Mamsa, Meda*
- *Ama - Jathargni Janya Ama*
- *Agni - Jathargnimaandya, Dhatwagnimaandya*
- *Srotas - Rasavaha, Raktavaha, Mamsavaha & Medovaha*
- *Srotodusti Prakara - Sanga*
- *Rogamarga - Bahya*
- *Vyakta Sthana - Twacha*
- *Roga Swabhava - Chirakari*
- *Sadhyasadhyata – Yaapya*



Flowchart showing pathogenesis of *shwitra*

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Materials and Methods

for improvement in number of

Assessment criteria

Hypopigmented patches and improvement in

Subjective Criteria- Patient was observed

general condition.

Grading Assessment for Subjective Criteria-

Score	0	1	2	3
Number of Patches depending on % of area involved	Absent	1-29%	30-69%	70-100%
Color	Normal	>50% filling with normal tensity	<50% of filling with pinkish discoloration	White patches

Objective criteria- Improvement calculated on basis of VETI (Vitiligo Extent Tensity Index) scoring method

VETI score formula: (Ph x Th) + (Pt x Tt) 4+ (Pu x Tu) 2+(Pl x Tl) 4+ (Pg x Tg) 0.1

(Percentage of head involvement x grade of tensity) + (Percentage of trunk involvement x grade of tensity) 4+ (Percentage of upper limbs involvement x grade of tensity) 2+ (Percentage of lower limbs involvement x grade of tensity) 4+ (Percentage of genitalia involvement x grade of tensity) 0.1

Tensity	
Stage 0	Normal Skin
Stage 1	Hypopigmentation (including trichrome & homogeneous lighter pigmentation)
Stage 2	Complete depigmentation with black hair and with perifollicular pigmentation
Stage 3	Complete depigmentation with black hair and without perifollicular pigmentation
Stage 4	Complete depigmentation with compound of white and black hair with/without perifollicular pigmentation
Stage 5	Complete depigmentation plus significant hair whitening

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Percentage of involvement = Area Score
• 0 = 0%
• 1 = 1-9%
• 2 = 10-29%
• 3 = 30-49%
• 4 = 50-69%
• 5 = 70-89%
• 6 = 90-100%

Treatment Plan-

Dipana-Pachana	1. <i>Chitrakadi Vati</i> 125 mg BD, Before Meal with Luke warm water 2. <i>Syp M liv</i> 5 ml BD with water [For 5 days]
Snehana	<i>Mahatika Ghrita</i> for 7 days, in ascending order of dose, with warm water 1 st day- 30ml 2 nd day-40ml 3 rd day-60ml 4 th day-80ml 5 th day-100ml 6 th day-120ml 7 th day-140ml
Bahya Snehana and Swedana	<i>Dashmoola Taila</i> and <i>Mridu Nadi Swedana</i>
Kaphavardhaka Ahara	<i>Dadhi Sevana</i> and <i>Bada</i> made up of <i>Maasha</i> - evening earlier to <i>Vamana</i>
Shodhana-Vamana	<i>Ushna Dugdha Pana</i> - approx. 2 litres with <i>Yashtimadhu Faanta</i> - 500 ml
No. of Vegas	7 Vegas
Sansarjana Krama	For 7 days 1 st day evening- <i>Peya</i> 2 nd day morning & evening- <i>Peya</i> 3 rd day morning & evening- <i>Vilepi</i> 4 th day morning & evening- <i>Krita Vilepi</i> 5 th day morning & evening- <i>Yusha</i> 6 th day morning & evening- <i>Krita Yusha</i> 7 th day morning & evening- <i>Krushara</i>

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<i>Shamana Aushadhi- for 2 months</i>	
<i>Triphala Churna</i>	3 gm BD with honey
<i>Arogya Vardhini Vati</i>	125 mg BD with water
<i>Khadirarishta</i>	10 ml BD, After meal, with Equal amount of water
<i>Avalgujadi Lepa</i>	Q.S. followed by sunlight exposure
<i>Dipana-Pachana</i>	<ol style="list-style-type: none"> 1. <i>Chitrakadi Vati</i> 125 mg BD, Before Meal with Luke warm water 2. Syp M liv 5 ml BD with water
<i>Snehana</i>	<p><i>Mahatika Ghrita</i> for 7 days, in ascending order of dose, with warm water</p> <p>1st day- 30ml 2nd day-40ml 3rd day-60ml 4th day-80ml 5th day-100ml 6th day-120ml 7th day-140ml</p>
<i>Bahya Snehana and Swedana</i>	<i>Dashmoola Taila</i> and <i>Mridu Nadi Swedana</i> [For 3 days]
<i>Shodhana Virechana</i>	<i>Trivritadi Avaleha</i> 20 gm with <i>Draksha Fanta</i> 50-60 ml
No. of Vegas	8 Vega
<i>Sansarjana Krama</i>	<p>For 7 days</p> <p>1st day evening- <i>Peya</i> 2nd day morning & evening- <i>Peya</i> 3rd day morning & evening- <i>Vilepi</i> 4th day morning & evening- <i>Krita Vilepi</i> 5th day morning & evening- <i>Yusha</i> 6th day morning & evening- <i>Krita Yusha</i> 7th day morning & evening- <i>Krushara</i></p>
<i>Shamana Aushadhi- for 2 months</i>	
<i>Triphala Churna</i>	3 gm BD with honey
<i>Arogya Vardhini Vati</i>	125 mg BD with water
<i>Khadirarishta</i>	10 ml BD, Afetr meal, with Equal amount of water
<i>Avalgujadi Lepa</i>	Q.S. followed by sunlight exposure

Avalgujadi Lepa- contains 1 part of *Bakuchi churna* and 4 parts of *Shodhita Harataala* mixed with cow's urine. [7]

Pathya- pointed gourd, bitter gourd, *Tila Taila*, less spicy food

Apathya- *Sarshapa Taila*, spicy food

Follow-up – The patients was in follow-up up to 6 months, no recurrency of the symptoms reported during this time- period.

Results

VETI score before treatment

VETI: (Ph x Th) + (Pt x Tt) 4+ (Pu x Tu) 2+ (Pl x Tl) 4+ (Pg x Tg) 0.1
= (3 x 1) + (1 x 1) 4 + (1 x 1) 2 + (0 x 0) 4 + (0 x 0)0.1 = 9

VETI score after treatment

VETI: (Ph x Th) + (Pt x Tt) 4+ (Pu x Tu) 2+ (Pl x Tl) 4+ (Pg x Tg) 0.1
= (1x 1) + (0x 0) 4 + (0 x 0) 2 + (0 x 0) 4 + (0 x 0) 0.1 = 1

As per VETI scoring for vitiligo patient was observed with significant improvement of VETI scoring 9 before treatment to VETI scoring of 1 after treatment. The improvement was observed in subjective criteria with 80-85% filling of hypopigmented patches with normal skin tensity.

Discussion

In contemporary science vitiligo is being treated with potent topical steroids and narrow-band ultraviolet light B is the treatment of choice in patients with more extensive involvement. In all forms of vitiligo, response to therapy is slow, taking many months to years and spontaneous remission is seen in most of the cases.

Shwitra can be managed very well in Ayurveda by both *Shodhana* & *Shamana Aushadis*, if treatment can be initiated in early stages, we can observe satisfactory results. In this case patient presents with

whitish discolored patches in bilateral upper eyelids, right side of temporal region, back of the neck, hands and abdomen, with 1st *Shodhana (Vamana)* the patches started to fade and after 2 months of *Shamana Aushadha*, the patches around eyelids and temporal regions became smaller. With 2nd *Shodhana (Virechana)* the patches around back of the neck became faded and after completion of 2 months of *Shamana Aushadha* the patches of back of neck, hands and abdomen diminished completely. The total improvement is evaluated as per VETI score.

Due to similarities between the related elements and *Adhithana* and *Dushya* of the disease the principle of *Kustha* treatment has been used to treat *Shwitra*. *Shwitra* is a kind of *Kilasa* and has the prominent symptom of hypopigmentation that can be localised or generalized, the involvement of the *Pitta*, particularly the *Bhrajaka pitta*, is unquestionably present. Additionally, the *Rakta*, which circulates throughout the body, will become vitiated in all types of *Kusthas*. Propagating the disease with the inclusion of the seven *Dushyas*, such as *Tridoshas* and *Dhatu*s like *Rasa (Twak)*, *Rakta*, *Mamsa*, and *Lasika*, all *Kustha* are essentially *Tridoshaja*, which finally runs in a longer path and results in Chronicity. The clearance of metabolic waste, poisonous substances, and undigested antigenic materials from the cellular level, and consequently clearing the *Dhatugata Ama*, is the main prerequisite to achieving the *Samprapati Vighatana* when we analyse the pathology of *Kustha* or the *Shwitra*. The mainstay of treatment to achieve relief in *Shwitra* is the further regularisation and alteration of the cellular metabolism connected to phenylalanine by removing *Sanga* at the cellular enzymatic level to guarantee the normal generation of

Melanin pigment by activating the critical hormonal axis.

Shodhana is essential in the management of *Kustha Roga* because without internal purification, external application may lead to the exacerbation of the disease.[8]

Chitrakadi Vati- It has *Katu* and *Lavan Rasa* along with *Tiksna Guna* which helps in *Ama Pachan* and *Agni Deepana* by stimulating *Jathargni*.

Mahatikta Ghrita- It is indicated in *Kustha* and it is *Pittahara*, it is having healing and improving lustre property which helps in early healing with good pigmentation.[9]

Vamana was done by *Aakantha Dugdha Paana* due to age of patient.

Virechana was done by *Trivritadi Avaleha* and *Draksha Fanta* which helps to pacify *Pitta* and *Kapha Doshas* and helps in easy purgation.

Drugs used in *Virechana* have properties like *Ushna*, *Tikshna*, *Sukshma*, *Vyavayi*, and *Vikasi*. These qualities help stimulate digestion, enhance the elimination of metabolic waste, and promote the release of *Dosha* from the body. *Ushna* boosts digestive fire, while *Tikshna* breaks down waste into water-soluble, non-toxic forms

for removal. *Vayavayi* and *Vikasi* properties enable drug absorption at the cellular level. *Snehana* and *Swedana* aid in improving circulation and vasodilatation. Together, these actions allow the drug to spread through the body, facilitating *Dosha* removal and restoring balance. The above-mentioned qualities of the *Virechana* medication allow it to enter the *Hridaya* through its *Virya*, and after passing through the *Dhamani*, it permeates the entire body through the *Sthula* and *Sukshma Srotas*. It induces *Vishyandana*, or the seeping of the *Dosha*, due to its *Agneya* characteristics, and it can destroy the accumulated *Doshas* by its *Tikshna* properties. [10]

Khadirarista- main ingredient is *Khadira* extract (*Acacia catechu*). *Khadira* extract acts as an immune-modulatory, purify blood and antiphlogistic.[11]

Arogyavardhini Vati is having *Raktadhushtihara* (blood purifier), *Kushtahara* (alleviates skin disease), *Sroto Vishodhana* (cleansing channels of body) and *Pitta Doshahara* (alleviates *Pitta*) properties. And it improves digestion and metabolic activities.[12]

Avalgujadi Lepa- contains *Bakuchi Churna* contain psoralen, isopsoralen, bakuchiol, bavchinin & corylin which have

antioxidant properties, stimulates melanocytes for Melanin synthesis and has immuno-modulatory effect.[13]

Triphala Churna has skin protective properties and natural anti-oxidants, it has protective effect on dermal fibroblasts. [14]

Action by eliminating Sanga of Tiryak Vaha Srotus

The medications used have *Ushana* and *Teekshna* properties, *Katu Rasa* and *Katu Vipaka*

assist in the elimination of the local *Sanga* of the *Kapha Dosha* and the *Ama*. This facilitates *Dhatu Poshana* resulting in *Dhatu Vridhi*. There, melanocyte stimulation has been restored back by correcting cellular metabolism.

Action of Lepa

Ushna Virya and *Katu Vipaka* of the medicines when administered locally over affected patches of skin serve to change the local pH of the skin patches through a variety of methods, facilitating *Mamsadhara Kala* absorption of the medication. This probably acts by rising *Twak Gata Agni*, which in turn stimulates the melanocytes secreting cells, this also aids in enhancing the local *Bhrajaka Pitta*. Melanin is deposited on the skin and giving to normal color.

Drugs are *Vidahi* in nature, and when applied, it induces mild *Shotha* and *Sphota* in the affected area. This may also indicate an elevated *Pitta dosha*. This shows that an increase in local *Pitta dosha* promoted the *Bhrajaka pitta* which in turn, increasing the skin *Varna*. The drug ability to cause localised irritation is further reinforced *Ushna-Teekshna* characteristics promote *Bhrajaka Pitta*, which enhances melanogenesis.

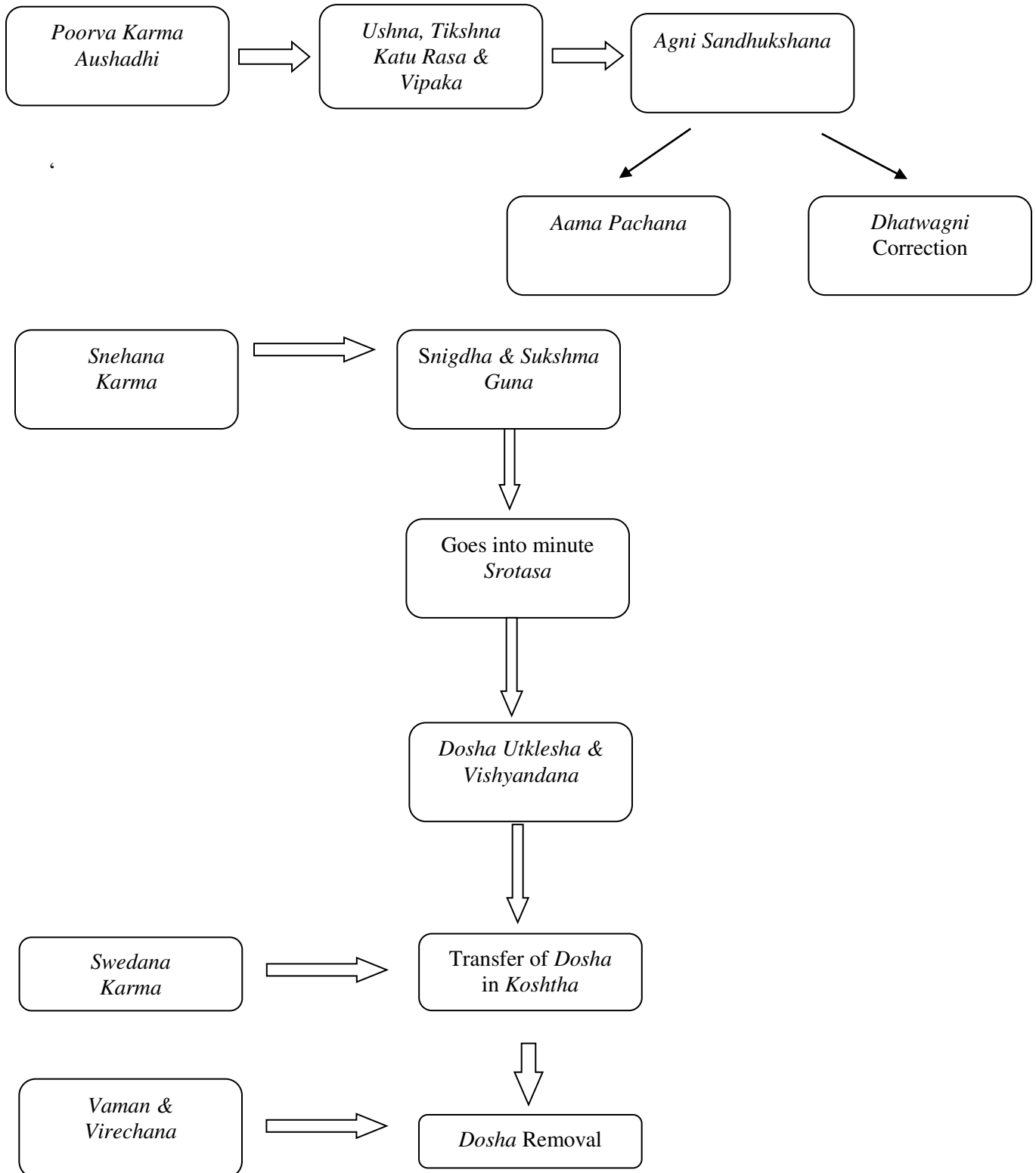
Effect of sunlight to nourish *Bhrajaka Pitta*

As the pathology of *Shwitra* suggests there is deficient *Agni* in the skin. As we know *Ayurveda* adheres to the *Samanya Vishesha Siddhanta* theory while treating disease. *Pitta* in the form of *Agni* that is found in the body. *Bhrajaka* variety of *Pitta*, which is present in the skin, is deficient in

Shwitra. According to *Samanya Vishesha Siddhanta* by consuming *Samana Guna, Karma, and Dravyas* can raise *Agni* or *Pitta* in the body. As a result, when patients were exposed to sunlight, which symbolizes the *Tejo Mahabhuta*, enhances *Agni* of body. Furthermore, studies have shown that UVA and NBUVB (Narrow-band UVB) are both effective melanocyte stimulants for depigmentation. Overexposure to sunlight with the full UV spectrum may result in marked pigmentation with diffuse skin darkening, depending on the intensity of UV light exposure. Additionally, UV light has an immunosuppressive impact on skin with vitiligo while at the same time increasing the number of remaining melanocytes.

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Flowchart Showing Treatment Plan for Shwitra

Conclusion

According to Ayurvedic principles, it is crucial to identify and eradicate the multifactorial agents linked to vitiligo because its incidence is rising as a result of poor lifestyle choices. Most individuals can regain their pigmentation by adhering to the Ayurvedic therapy regimen outlined in *Shwitra Chikitsa*. *Shwitra* is a disease that causes cosmetic deformities and has a significant effect on both the body and the mind. By removing the body's aggravated

Doshas, Shodhana and Shamana Chikitsa help to eradicate the disease's underlying cause and prevent its recurrence. This leads to an overall improvement in terms of the number and size of lesions as well as the restoration of normal skin pigmentation.

As this is a single case report, to apply of an large set of population with same reproducibility, more clinical trials should be done bigger population size to conclude on the results.



Image 1 showing difference in discolouration before & after treatment



Image 2 showing difference in discolouration before & after treatment

Declaration of patient consent

Obtained the parent's consent form, on which the parent has granted permission for the case to be published in the journal along with the image and clinical data. The parent understands that although every effort will be made to keep the child's identity anonymous, confidentiality cannot be ensured, the name and initials of their child

will remain private.

ADR declaration

Throughout the course of treatment and the follow-up period, no adverse drug reactions were observed.

Conflicts of interest

There are no conflicts of interest.

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