

# Agnihotra as an add on therapy in Stress-induced Shwitra (Vitiligo): A Single Case Report

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## Abstract

Over 30% of people with dermatological issues have underlying psychological stress. The skin disorders and psychological problems have a bilateral positive correlation. So most of the dermatology patients require psychiatric consultation. Most skin issues particularly vitiligo are known to cause embarrassment, low self esteem, reduced social interaction, social and emotional distress. Psycho dermatology is an emerging field which combines psychiatry, dermatology along with immunology and neuroscience. It bridges the treatment gap with such patients. Thereby providing better health care.

Agnihotra a Vedic fire ritual performed at sunrise and sunset has been documented to promote mental and physical health, regulate stress responses, and harmonise the environment Its by-product, Agnihotra Bhasma (sacred ash), is traditionally utilised for therapeutic and purificatory purposes, with emerging scientific evidence supporting its role in stress modulation.

The present study evaluates the add-on effect of Agnihotra and Agnihotra Bhasma. Shiropichu in the management of stress induced vitiligo. Subjective outcomes are assessed using the Hamilton Anxiety scale (Ham-A) while objective stress reduction is measured through Galvanic Skin Response (GSR). This investigation seeks to bridge traditional Vedic practices in psycho dermatological disorders with modern clinical assessment, offering a simple, cost-effective, and integrative approach for management of the symptoms.

## BACKGROUND

Vitiligo is a chronic dermatological disorder characterized by progressive hypopigmentation resulting from the loss of melanocytes<sup>1</sup>. It is estimated to be affecting around 0.5% of the global population<sup>2</sup>. People are equally prone to vitiligo irrespective of their race, but it is more noticeable and often perceived as more severe in darker skin tones<sup>3</sup>. Numerous studies have established a strong link between dermatological disorders and heightened psychological distress<sup>4</sup>. Psychosomatic factors have been estimated to play a significant role in at least one-third of dermatology patients<sup>5</sup>. Therefore, effective management of the skin condition must integrate psychological management into the conventional dermatological treatment<sup>5</sup>.

Ayurveda and Yoga conceptualise stress as arising from dukkha (misery) and kleshas (mental afflictions), and prescribe therapeutic modalities including Daiva Vyapashraya Chikitsa (spiritual-ritual therapy), which employs practices such as Mantra, Homa, and Japa<sup>6,7</sup>. Among these, Agnihotra a Vedic fire ritual performed at sunrise and sunset, has been documented to promote mental and physical health, regulate stress responses, and harmonise the environment <sup>8,9</sup>. Its by-product, Agnihotra Bhasma (sacred ash), is traditionally utilised for therapeutic and purificatory purposes, with emerging scientific evidence supporting its role in stress modulation <sup>10</sup>

The present study evaluates the add-on effect of Agnihotra and Agnihotra Bhasma Shiropichu in the management of stress induced vitiligo. Subjective outcomes are assessed using the Hamilton Anxiety Scale (HAM-A) while objective stress reduction is measured through Galvanic Skin Response (GSR)<sup>11,12</sup>. This investigation seeks to bridge traditional Vedic practices with modern clinical assessment, offering a simple, cost-effective, and integrative approach for stress induced dermatological disorders with reference to vitiligo.

## PATIENT INFORMATION

On May 17, 2025, a 37-year-old housewife was admitted to the Inpatient Department of Manasaroga, SDM College of Ayurveda Hospital, Hassan. She had presented complaints of widespread depigmentation and mild itching over the bilateral upper and lower limbs and face, without any discharge from the affected areas. She also reported difficulty in maintaining sleep. The clinical diagnosis was Shwitra (Vitiligo).

### History of present illness:

The onset of her condition was due to an injury seven years ago on the dorsum of the left foot following a fall from a bicycle, which caused a tiny area of de-pigmentation. The patient initially sought allopathic treatment, which resulted in partial repigmentation. One year ago, after going through high emotional stress after the death of her mother, there was a well exaggerated increase in the size and number of patches and it began to gradually spread to the bilateral upper limbs and upper lip. She had also undergone psychiatric treatment for three months for the above symptoms with no marked improvement. Not satisfied with the symptomatic response, the patient sought Ayurvedic management from our hospital.

### Treatment History:

1. Lorazepam 2mg 1 HS
2. L Carnosine 200 mg 1 BD A/F
3. Rabeprazole and Domperidone 1 BD B/F

### Clinical examination:

#### Physical examination:

Physical examination revealed well-demarcated depigmented patches over exposed body parts. There were no signs of scaling, lesions, bleeding, exudation, or hair depigmentation in the affected areas. No significant family history was found related to her symptoms.

## Psychological parameters:

### Mental status examination:

#### Hamilton scale for Anxiety (HAM-A)

On the Hamilton scale for Anxiety (HAM-A), her score was **23** (mild to moderate severity) on the day of admission (17/5/25) which reduced to **6** (mild severity) on the day of discharge(28/5/25).

### GSR

#### Before treatment- 17/5/25

Duration: 23:05 min

Basal value- 54 Actual value- 120

#### After treatment- 28/5/25

Duration: 12:03 min

Basal value- 94 Actual value- 160

#### Follow up- 7/6/25

Duration: 9:03 min

Basal value- 110 Actual value- 215

**GSR improved.**

### Ayurvedic examination:

- **Ashtavidha pareeksha:**

- **Nadi-** 78/min, Pittavataja
- **Mutra-** prakrita
- **Malam-** nirama
- **Jihwa-** lepatwa
- **Sabda-** vyakta
- **Sparsha-** anushnaseeta
- **Druk-** prakrita
- **Akriti-** prakrita

- **Dasavidha pareeksha:**

- **Prakriti-** Sareerika prakriti: Pittavaja, Manasika prakriti-Rajasika
- **Vikriti-** Tridoshaja
- **Sara-** madhyama

- **Samhana-** madhyama
  - **Pramana-** height: weight:
  - **Satmya-** sarvarasa
  - **Satva-** avara
  - **Ahara sakthi-** madhyama
  - **Vyayama sakthi-** madhyama
  - **Vaya-** madhyama
- **Nidana Panchaka:**
- **Nidana-** mano abhigata, kshata.
  - **Poorvaroop-** vrana, sokha
  - **Roopa-** twak vaivarnyata
  - **Upasaya-** abhyanga, lepa
  - **Anupasaya-** manodukha, atichintha
  - **Samprapti-** explained in discussion

### **Interventions:**

On assessing the Doshabahulya (excessive vitiation of Dosha) and Stheermoolatva (extensive spread) of disease, Shodhana was planned.

### **Poorva Karma:**

As poorvakarma, Rukshana was done through Sarvanga udvartana followed by sarvanga pariseka with dasamoola kwatha + dhanyamla and takradhara.

### **Snehapana:**

After that Snehapana (internal oleation) was given with Pancha Tiktaka guggulu gritham for 4 days.

### **Pradhana karma:**

After 3 days of Vishramakala, Virechana was given with 100g trivrut lehya and 100 ml draksha kashayam followed by samsarjana krama.

### **Agnihotra as an add-on therapy:**

After snehapana, from vishrama kala, the patient was advised to attend agnihotra homa for stress management.

### Procedure Materials Used:

1. Copper pyramid vessel ( $6 \times 6 \times 3$  inches; base  $2 \times 2$  inches)
2. Unbroken raw rice grains
3. Pure cow's ghee
4. Dried cow dung cakes

### Procedure:

1. Fire was lit in the copper pyramid using ghee-smearred cow dung cakes.
2. At local sunset time, 10 g of rice mixed with ghee was offered twice with mantras:  
  
o Agnaye Svaha, Agnaye Idam Na Mama  
  
o Prajāpataye Svaha, Prajāpataye Idam Na Mama
3. Mahamṛtyuñjaya mantra was chanted 21 times.

### Key mantras:

- ॐ सूयायय स्वाहा। सूयायय इदम् – न ममा।

- ॐ प्र्ाितये स्वाहा। प्र्ाितये इदम् – न ममा।

Fire was allowed to extinguish naturally, and Agnihotra Bhasma was collected after cooling overnight.

**Duration:** ~20 minutes daily for 7 consecutive days.

### Shiropichu Procedure

#### Materials Used:

Cotton pad ( $4 \times 4 \times 2.5$  cm)

Gauze pieces

Banana leaf ( $6 \times 6 \times 1$  cm)

25 g of Agnihotra Bhasma mixed with warm milk

### **Procedure:**

1. The patient was made to sit comfortably, and the procedure was explained.
2. Semi-solid paste of Agnihotra Bhasma with milk was applied over Brahmarandhra (vertex) (~1 inch thickness).
3. Covered with banana leaf and secured with cotton gauze.
4. Retained for 60 minutes.

### **Frequency:**

Once daily in the afternoon for 7 days.

**Total duration:** 7 days

**Mode of administration:** External application (Shiropichu over vertex)

**Dosage:** 25 g Agnihotra Bhasma with sufficient warm milk

### **FOLLOW UP AND OUTCOMES:**

The patient was followed up for a month for observing the changes in the anxiety levels. During the follow up, the patient reported having better mood control and also we observed the depigmented patches started to become pink within a span of two weeks.

### **DISCUSSION**

The relationship between psychological stress and dermatological conditions, especially vitiligo, has been emphasized in both classical Ayurvedic texts and modern psychodermatology. In Ayurveda, Acharya Charaka described the inseparable bond between the mind and skin using the concept of Chetah Samavaya, indicating a constant, reciprocal interaction between the psyche (Manas) and the skin (Twak). The skin's sense of touch (Sparshana Indriya) is governed by Vata Dosha, which also stimulates cognitive functions. According to the principle of Ashraya- Ashrayi Bhava, both Vata and Twak share a functional and anatomical interdependence. Additionally, the Manovaha Srotas (channels of the mind) are said to pervade the entire body, analogous to the skin's extensive surface area<sup>11 12</sup>

From a contemporary biomedical perspective, the field of psychodermatology also acknowledges this mind–skin connection. More than one-third of patients with dermatological diseases have been reported to suffer from underlying psychiatric conditions, including anxiety and depression<sup>13</sup>. This has led to the

integration of psychiatry, dermatology, and psychoneuroimmunology into a combined framework referred to as the Neuro-Immuno-Cutaneous System (NICS).

Vitiligo is now increasingly considered a psychodermatosis, where chronic psychological stress activates the hypothalamic–pituitary–adrenal (HPA) axis and the sympathetic nervous system. This leads to elevated levels of cortisol, catecholamines, and neuropeptides, which contribute to oxidative stress, melanocyte destruction, and autoimmune dysregulation<sup>14 15</sup>. Stressful life events, such as bereavement and interpersonal or financial issues, are commonly reported as triggers for disease onset or exacerbation. Vitiligo patients frequently experience anxiety, social withdrawal, and a reduced quality of life<sup>16</sup>.

Agnihotra, a Vedic fire ritual performed at sunrise and sunset, is traditionally believed to purify the environment and promote psychospiritual well-being. The Agnihotra Bhasma (ritual ash) generated during this process has been shown to contain trace elements like copper, zinc, iron, and calcium, which are essential for melanin biosynthesis and antioxidant defense<sup>17</sup>. Copper and zinc are crucial cofactors for enzymes such as tyrosinase and superoxide dismutase, which are involved in melanogenesis and oxidative protection<sup>18</sup>. Copper deficiency has been specifically associated with impaired melanin synthesis in vitiligo<sup>19</sup>, and topical application of trace elements may help restore the biochemical milieu necessary for melanocyte survival<sup>20</sup>.

In addition to its trace mineral content, Agnihotra Bhasma has demonstrated anti-inflammatory and immunomodulatory effects. The ash contains alkaline carbonates and salts capable of modulating local immune responses, including the downregulation of pro-inflammatory cytokines involved in autoimmune skin damage<sup>21</sup>. Application of Agnihotra Bhasma Lepa, particularly when mixed with Gomutra Arka, may therefore provide a localized anti-inflammatory and regenerative effect on vitiliginous patches.

From an Ayurvedic standpoint, Agnihotra is considered to pacify Prana and stabilize Manas, thereby balancing the Trigunas—Sattva, Rajas, and Tamas. This contributes to reducing Manodukha (mental distress), a recognized Nidana (causative factor) in Shwitra. The lepa (topical application) made of Agnihotra Bhasma and Gomutra Arka is described as Kusthaghna (anti-leprotic), Krimighna (antimicrobial), Twachya (skin-nourishing), and Dosha-Shodhaka (cleansing of bodily humors). It is said to act through Shodhana (purification), Lekhana (cleansing/scraping), and Ropana (healing) mechanisms and is especially effective in conditions involving Vata–Kapha dosha vitiation, as seen in Shwitra<sup>22</sup>.

Modern studies support the neuroendocrine regulatory effect of Agnihotra. Regular exposure to Agnihotra smoke has been shown to: Reduce serum cortisol levels, Improve autonomic nervous system balance, and Enhance subjective well-being and emotional regulation<sup>23</sup>.

## CONCLUSION

This case demonstrates that a comprehensive Ayurvedic protocol combining Shodhana therapy, psychospiritual practices like Agnihotra, and topical applications can offer promising results in stress-induced vitiligo.

## LIMITATIONS:

Since this is a single case study, there are obvious limitations to the study and therefore more clinical studies are warranted to validate these integrated interventions on a larger scale.

## CONSENT

Written Consent was obtained from the patient to publish the article.

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