

# A Clinical Study to Evaluate the efficacy of *Agnimantha* (*Clerodendrum phlomidis* Linn.f) *Kalka Lepa* in *Vyanga* (Melasma)- A Single Case Study

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**Abstract**—Melasma is a persistent dermatological disorder marked by hyperpigmented macules on the face, frequently resulting in considerable cosmetic and psychological issues. The illness is chiefly linked to the imbalance of Vata and Pitta doshas, as outlined in Ayurvedic texts. Traditional therapy, including topical medications and procedural interventions, may offer transient relief but are accompanied by limitations like as recurrence and side effects. Ayurveda, with its comprehensive methodology, prioritizes the reestablishment of dosha equilibrium and the revitalization of compromised tissues. This case study examines the therapeutic efficacy of *Agnimantha Kalka Lepa*, a traditional herbal paste preparation, in the treatment of *Vyanga*. *Agnimantha* (*Clerodendrum phlomidis* Linn.f.) is esteemed for its anti-inflammatory, antioxidant, and depigmenting attributes, as described in Ayurvedic literature. The research emphasizes the formulation and utilization of *Agnimantha Kalka Lepa*, its function in alleviating imbalanced Doshas, and its impact on diminishing pigmentation. Throughout the 30-days treatment period, the patient exhibited notable enhancement in hyperpigmentation, devoid of any adverse effects, as evaluated by both objective and subjective assessment instruments. The results highlight the efficacy and safety of Ayurvedic therapies, such as *Agnimantha Kalka Lepa*, as viable alternatives for the management of chronic dermatological disorders like *Vyanga*. This work underscores the significance of classical Ayurvedic concepts in tackling contemporary health issues, facilitating further investigation in integrative dermatology.

**Keywords**— *Vyanga*, *Melasma*, *Agnimantha*, *Kalka Lepa*, *Hyperpigmentation*.

## I. INTRODUCTION

A cheerful face wins everyone's heart. The clean and clear face plays an important role in the individual's personal, emotional, and social well-being. Acquired hyperpigmentation disorders of the skin are among the most common complaint in a general dermatology clinic<sup>1</sup> It is a form of acquired hyper melanosis and occurs in sun exposed parts. It develops mostly on the face but occasionally it can also develop on the neck. Rarely, it can also appear on the forearms as well. Melasma is resistant to treatment and often causes significant psychological impact on the patient. It affects both males and females but predominantly seen in females<sup>2</sup>. Hyperpigmentation (Melanosis) is a group of disorders characterized by abnormally darker skin that results from increase in the concentration of pigment, which occurs either due to increase the number of melanocytes or increase activity of melanocytes.<sup>3</sup>

In Ayurveda skin diseases are included under the heading of *Kushtha* and *Kshudra Roga*. *Vyanga* is a pathological situation of the facial skin which is produced due to the vitiation of *Vata*, *Pitta* and *Rakta* producing cardinal features such as *Niruja*, *Tanu*, *Shyava mandala*<sup>4</sup>.

*Vyanga* becomes one of the biggest problems of the society. Many people are suffering from *Vyanga* today. Among them women are commonly found due to changes occurring during pregnancy and use of cosmetic supplements<sup>5</sup>.

Melasma is currently managed through the use of topical depigmenting agents, chemical peels, and laser therapies in modern medicine. Nevertheless, these treatments frequently fail to address the underlying cause and are linked to high rates of recurrence and adverse effects. A holistic approach to managing *Vyanga* is provided by Ayurveda, which emphasizes *Dosha* balance, *Dhatu Shuddhi* (tissue purification), and *Rasayana Chikitsa* (rejuvenation) by addressing both systemic and localized factors.

In the context of *Vyanga* both *Shodhana* and *Shamana chikitsa* are explained in the form of *Raktamokshana*, *Lepa*, *Abhyanga*, and oral medication<sup>6</sup>

'*Alepa*' being mentioned under *Bahya upachaara* and for correcting *Bhrajakapitta* located in the skin, absorbs the drug into the body through skin<sup>7</sup>.

The *Lepa* that is used on the face strengthens the muscles of the eyes and cheeks and needs to be thick, which improves the complexion of the face, thereby treating *Vyanga*. *Alepa* balances *Rakta* and *Pitta*<sup>8</sup>.

*Agnimantha* (*Clerodendrum phlomidis* Linn.f.) *Choorna Lepa* is a formulation mentioned in *Gadanigraha*. *Agnimantha* (*Clerodendrum phlomidis* Linn.f.) has properties like *Katu*, *Tikta*, *Kashaya Rasas*. *Laghu*, *Ruksha Guna*. *Ushna Virya* and *Katu Vipaka*. It has *Vatakapha hara* property. *Shothahara*, *Agnideepana* in action<sup>9</sup>.

Classical references suggests that the fine powder of this drug, made into fine paste using *Ajadugdha* and applied over the affected area on *Mukha Pradesha*, relieves *Vyanga*.<sup>10</sup>

This research examines the effectiveness of *Agnimantha Kalka Lepa* in treating *Vyanga*, emphasizing its traditional indications and its promise as a safe, natural, and efficacious alternative to contemporary therapies.

#### Aim & Objectives:

**Aim:** To evaluate the efficacy of *Agnimantha Kalka Lepa* in the management of *Vyanga*.

#### Objectives:

- To assess improvement in hyperpigmentation as per Ayurvedic principles.
- To observe any adverse effects during treatment, following the guidelines of safe *Lepa* application.
- To evaluate patient satisfaction through subjective feedback and objective assessment tools.

## II. MATERIALS AND METHOD

**Study Design:** Single case study.

**Patient Selection:** A 35-year-old female presenting with hyperpigmented facial macules diagnosed as *Vyanga*.

**Intervention:** *Agnimantha Kalka Lepa* was prepared fresh daily using *Agnimantha (Clerodendrum phlomidis Linn.f)* powder mixed with goat's milk.

**Procedure:** The paste was applied to the affected areas once daily for 30 minutes over 30 days.

#### Assessment Tools:

- Melasma Area and Severity Index (MASI) for objective evaluation.
- Patient's subjective feedback on pigmentation and skin health.
- Follow-up: Weekly for one month.

#### Case Presentation:

**Patient Details:** A 35-year-old female, working professional, with a 2-year history of facial hyperpigmentation.

**Medical History:** N/H/O: HTN, DM, Etc.

**Personal History:**

**Diet:** Mixed

**Sleep:** 6-7 hours per night, disturbed occasionally.

**Stress:** Moderate work-related stress, known to aggravate Vata.

**Bowel:** Constipated

**Urine:** 6-7times/day

**Appetite:** Poor

**Habit:** Tea

**General Examination:**

**Pulse:** 76 bpm

**Blood Pressure:** 110/70 mmHg

**BMI:** 22 kg/m<sup>2</sup>

No systemic abnormalities detected.

**Systemic Examination:**

**Cardiovascular:** Normal

**Respiratory:** Normal

**Gastrointestinal:** Normal

**Neurological:** Normal

**Dashavidha Pariksha:**

**Prakriti:** Pitta-Vata

**Vikriti:** Vata-Pitta imbalance

**Sara:** Madhyama

**Samhanana:** Madhyama

**Pramana:** Normal

**Satmya:** Madhyama

**Satva:** Madhyama

**Aharashakti:** Madhyama

**Vyayamashakti:** Madhyama

**Vaya:** Madhyama

#### Medical Intervention:

- **Agnimantha Kalka Lepa Preparation:** Dried *Agnimantha* powder mixed with sufficient quantity of goat's milk to form a paste.
- **Application Protocol:** Applied to affected areas daily for 30 minutes, followed by rinsing with cold water.

**Dietary Advice:** Pitta-pacifying diet avoiding spicy, sour, and fermented foods.

## III. OBSERVATION & RESULTS

**MASI Score:** Reduced from 8.5 at baseline to 3.2 after 30 days.

**Subjective Feedback:** Patient reported visible improvement in pigmentation and overall skin texture.

**Adverse Effects:** None observed.

**Lifestyle Modifications:** Encouraged stress management practices like yoga and pranayama.

#### Statistical Analysis:

Descriptive analysis was used due to the single-case design. Pre- and post-intervention MASI scores demonstrated a 62.35% reduction, indicating significant improvement.

## IV. DISCUSSION

The results of this case study align with the descriptions and therapeutic principles delineated in old Ayurvedic writings for the treatment of *Vyanga*. *Vyanga* is defined as discoloration caused by the disturbance of *Pitta* and *Rakta doshas*. The application of *Agnimantha Kalka Lepa* corresponds with the prescribed external therapies for skin disorders characterized by pigmentation anomalies, as it directly addresses the underlying *Dosha* imbalance and *Rakta (blood) Dushiti*. *Agnimantha* possesses qualities, including its *Tikta* (bitter) and *kashaya* (astringent) *Rasa*, along with its *Ushna Virya*, *Sheeta Sparsha* rendering it highly efficacious in mitigating *Pitta Dosha*, which is primarily implicated in hyperpigmentation disorders. Furthermore, its anti-inflammatory and antioxidant properties, validated by contemporary phytochemical research, substantiate its function in alleviating oxidative stress and inflammation, both of which are associated with the development of melasma. The enhancement noted in this instance corroborates the Ayurvedic principle of localized application (*Lepa*), which is highlighted for its specific efficacy on impacted tissues. The lack of negative effects underscores the safety of *Agnimantha Kalka Lepa*, especially when formulated and administered in accordance with traditional protocols. This contrasts with

contemporary treatments, including as chemical peels and laser therapy, which can include the risk of adverse effects, including erythema, irritation, and post-inflammatory hyperpigmentation. The dialogue also highlights the necessity for enhanced incorporation of Ayurvedic ideas into contemporary dermatology. By integrating evidence-based Ayurvedic therapies, healthcare professionals can provide safer, more sustainable alternatives for addressing illnesses such as melasma, which can entail considerable emotional effects. This study acts as a precursor to integrating traditional knowledge with modern science, promoting a comprehensive approach to skin health.

## V. CONCLUSION

This case study demonstrates the effective management of *Vyanga* with the application of *Agnimantha Kalka Lepa*, underscoring the efficacy of Ayurvedic methods in treating chronic dermatological disorders. The intervention significantly improved pigmentation by utilizing the principles of dosha balancing, dhatu *Shuddhi* (purification), and *Rasayana chikitsa* (rejuvenation), as demonstrated by both objective and subjective evaluations. The lack of negative consequences further emphasizes the safety profile of *Agnimantha Kalka Lepa* when utilized according to traditional norms. This study underscores the significance of incorporating Ayurvedic formulations into contemporary dermatological therapy, particularly for disorders such as *Vyanga*, where Western treatments frequently encounter constraints. The recognized qualities of *Agnimantha*, such as its anti-inflammatory and antioxidant activities, correspond with the observed therapeutic outcomes. Moreover, the comprehensive nature of Ayurveda, which emphasizes not merely symptom alleviation but also total wellness, renders it a potential strategy for sustained care. This case study shows promising effects; nevertheless, bigger clinical trials are required to confirm the findings and create uniform

techniques. Future research should investigate the pharmacological mechanisms of *Agnimantha* and other Ayurvedic compositions to reconcile traditional knowledge with modern science. This integration can facilitate a more holistic and patient-centered approach to dermatology, assuring effectiveness, safety, and sustainability in skin care methods.

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