



Effect of *Champakadi Agada* in the Management of Insect Bite-*Keetadamsha*: A Case Report

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ABSTRACT:

Champakadi Agada, a traditional Indian herbal formulation, has been widely used to treat insect bites and various skin disorders. This natural remedy combines medicinal herbs with anti-inflammatory, antibacterial, and soothing properties. When applied, *Champakadi Agada* can effectively alleviate symptoms of insect bites, including redness, swelling, and itching.

This abstract explores the traditional use, processing, and potential health benefits of *Champakadi Agada* as a home remedy for insect bites. Further research and clinical trials are necessary to validate its efficacy and potentially integrate it into broader dermatological treatments. **Case Presentation:** A 23-year-old female patient presented with complaints of itching, burning sensation, and spreading erythema on her left forearm following an unknown insect bite. According to *Acharya Vagbhatt* (A.S.U 37/71), *Champakadi Agada*, a honey and ghee-based herbal formulation comprising six herbs (*Haridra*, *Daruharidra*, *Patang*, *Manjishtha*, *Nata*, and *Nagkeshar*), can be employed to counteract insect bite cases. ^[1]

Champakadi Agada exhibits a broad spectrum of pharmacological activities, including antibacterial, anti-allergic, anti-inflammatory, antioxidant, analgesic, and antifungal effects. These properties make it a promising treatment for insect bites and certain skin disorders. However, further research and clinical trials are warranted to fully explore its therapeutic potential. ^[2]

1. Introduction

One of the subspecialties of *Ashtang Ayurved*, *Agadtantra*, deals with understanding signs and symptoms as well as therapeutic management of poisoning caused by the bites of snakes, insects, worms, scorpions, rats, and other creatures as well as a variety of other poisons made by incorrect medicine or substance combinations. *Visha*, or poison, is a harmful substance that can cause adverse effects on the human body through ingestion, inhalation, or topical application. With a history dating back thousands of years, poisoning has

been a persistent threat. Initially, poisons were primarily derived from plant and animal toxins, as well as minerals. In *Ayurvedic* classification, *Visha* is categorized into two main types: *Sthavar Visha*, which encompasses plant-based poisons like *Vatsanabh* and *Dhatuira*, and *Jangam Visha*, which includes animal-derived poisons from sources such as snakes, scorpions, rodents, and spiders. ^[3]

In ancient *Ayurvedic* texts, *Agada* was described by revered scholars as a therapeutic remedy for mitigating the effects of poisoning (*Visha*). These anti-poisonous



medications, known as *Agadas*, were used to treat a range of ailments caused by both animate (biological) and inanimate (non-biological) poisons. According to traditional texts, certain *Agadas* possess broad-spectrum activity, neutralizing the effects of various poisons and venoms. Others are specific to particular types of venom or poison. Notably, *Acharya Vagbhata* recommended *Padmakagad* and *Champakagad* for treating insect bites and stings (*Loota and Keeta Visha*), with *Champakadi Agada* considered a more efficacious option than *Padmakagad*.^[4]

2. Aims and Objectives

Aim

-To investigate the efficacy of topically applied *Champakadi Agada* in treating spider bites (*Lootavisha*).

Objectives

1. To discuss the properties and constituents of *Champakadi Agada*.
2. To assess the effectiveness of *Champakadi Agada* in managing insect bite (a skin condition characterized by itching, burning, and erythema).

3. Methods

Study Setting:

The study was conducted at the *Vishachikitsa*, Outpatient Department (OPD) of Datta Meghe Ayurvedic Medical College Hospital and Research Centre, Wanadongri, Nagpur.

Case Presentation:

This case study demonstrates the effective *Ayurvedic* management of an insect (spider) bite, showcasing the potential of traditional medicine in treating such conditions.

Patient Profile:

A 23-year-old female student, registered as 2407130017, presented at the Datta Meghe Ayurvedic Medical College Hospital and Research Centre, Wanadongri, Nagpur, seeking treatment for the insect bite.

Patient Profile:

Name: XYZ

Bala: Madhyam

Prakriti (Constitutional Type): *Madhyam* (Medium) with a predominance of *Kapha-Pitta*

Age: 22 years

Appetite: Irregular

Vital Signs: Blood Pressure (BP) - 110/60 mmHg

Demographics: Female, unmarried, student

Physical Characteristics: Height - 157 cm, Weight - 58 kg

Lifestyle Habits: Regular sleep, tendency to eat fast food

Gastrointestinal Habits: Constipation

Eight-Fold Examination (*Ashtavidha Pariksha*) Findings:

1. Pulse (*Nadi*): 68 beats per minute
2. Speech (*Shabda*): Normal (*Prakrit*)
3. Urine (*Mutra*): Normal (*Prakrit*)
4. Touch (*Sparsha*): Slightly warm (*Alpaushna*)
5. Stool (*Mala*): Constipated
6. Vision (*Drik*): Normal (*Prakrit*)
7. Tongue (*Jivha*): Normal with a slight coating
8. Body Build (*Akruti*): Medium (*Madhyam*)

The Patient presented with a 2-day history of dermatological symptoms on her left forearm, including:

- Intense itching
- Erythema (redness)
- Burning sensation
- Mild pain
- Skin discoloration
- Papules (small, raised bumps)

Initially, the patient attempted to manage her symptoms by applying *Shatadhauta Ghrita* topically.

Past history:

The patient presented with a 2-day history of left forearm dermatitis, characterized by intense itching, redness, burning sensation, mild pain, skin discoloration, and papules. Prior to seeking medical attention, the patient self-managed her symptoms with topical application of *Shatadhauta Ghrita*.



The Pathophysiology of Insect Bites: ^[5]

Immediate Response (0-15 minutes)

Following an insect bite, a cascade of events unfolds:

1. Insect saliva injection: The insect's saliva, containing histamine, kinins, and enzymes, is injected into the skin.
2. The saliva triggers mast cell activation, releasing histamine and other inflammatory mediators.
3. Vasodilation and increased permeability: Histamine causes blood vessels to dilate, increasing blood flow and permeability, leading to fluid and protein leakage into tissues.

Acute Inflammatory Response (15 minutes-24 hours)

1. The inflammatory response intensifies, characterized by:
2. Neutrophils, eosinophil's, and lymphocytes infiltrate the affected area.
3. Activated immune cells release cytokines (IL-1 β , IL-6, TNF- α), amplifying the inflammatory response.
4. Increased permeability and inflammation lead to swelling (edema) and redness (erythema) at the bite site.

Late-Phase Response (24-72 hours):

1. A more pronounced inflammatory reaction develops, featuring:
2. Activated T-cells contribute to the late-phase response.
3. Eosinophil's accumulate, causing tissue damage and papule/blister formation.
4. The inflammatory response compromises the skin barrier, increasing susceptibility to secondary infections.

Systemic Response:

1. In severe cases, the inflammatory response can lead to:
2. A life-threatening allergic reaction characterized by widespread vasodilation, increased permeability, and smooth muscle contraction.

The patient in this case presents with a range of dermatological symptoms, including swelling, itching, pricking pain, dryness, burning sensation, and discoloration. These symptoms can be attributed to the vitiation of all three *doshas*: *Kapha* (swelling and

itching), *Vata* (pricking pain and dryness), and *Pitta* (burning sensation and discoloration). This condition can be classified as a *Tridoshajanya vyadhi*, a disorder caused by the imbalance of all three *doshas*, with *Rasa* and *Rakta dhatus* being the primary affected tissues.

Treatment plan:

The patient underwent outpatient treatment, which involved the administration of selected internal *Ayurvedic* medications. The chosen medicines included *Gulvel Satva*, *Gandharva Haritaki Churna*, and *Champakadi agada* tablets, which were given orally according to the following regimen:

1. *Gulvel Satva* -2 tabs twice daily - Oral (After meal with Water
2. *Champakadi agada* 250 mg -2 tabs twice daily – Oral with water
3. *Gandharva Haritaki Churna* - 2-3 gm -Oral (Bedtime)-Lukewarm water

The oral medications were selected based on their efficacy in alleviating symptoms of *Twakdushti* (skin disorders) and their ability to balance the vitiated *doshas* (bio-elements) associated with these conditions.

External application:

According to *Vagbhat Samhita*, in *Uttarsthan Champkadi Agada Lepa* is explained-

Ingredients of this lepa are as follows:

1. *Haridra*- Rhizome - Anti-inflammatory, antitoxic, antidermatosis, antipruritic, Antibacterial, antifungal, antihistaminic, anti-diabetic .
2. *Daruharidra* -Rhizome - Skin health promoter, anti-inflammatory, Antimicrobial, anticarcinogenic, antiparasitic
3. *Pattanga* - Heartwood -Anti-inflammatory, antipyretic, wound healer, anticancer, antimicrobial, anti-convulsant.
4. *Manjistha* – Root- Anti-inflammatory, antioxidant, antimicrobial | Anticancer, antiviral, anti-tumor, hemostatic.
5. *Tagar (Nata)* - Rhizome -Stress reliever, anxiety reducer, sleep inducer | Antispasmodic, hypotensive, anxiolytic |



6. *Nagkesar* (Kesar) - Stamen -Anti-inflammatory, antimicrobial, antihelmintic , Antibiotic, antifungal, antispasmodic, hypotensive |
7. *Madhu* (Honey) - Antitoxic, antimicrobial, anti-inflammatory, antibacterial, antioxidant, antifungal
8. *Ghrita* (Clarified Butter) - Anti-inflammatory, antioxidant, *medhya* (intellect promoter) , Anti-inflammatory, antioxidant, digestive aid.

The *Churna* was prepared in accordance with the traditional methodology outlined in the ancient *Ayurvedic* texts, *Ashtanga Hrudaya Uttartstan* and *Sharangadhar Samhita*. The ingredients were blended uniformly, and then mixed with honey and ghee to form a paste-like consistency. The resulting paste was subsequently formulated into pills for oral administration, while the remaining mixture was reserved for topical application.

In conjunction with the treatment, the patient was also advised to adhere to a specific regimen of dietary and lifestyle guidelines, encompassing both *Pathya* (do's) and *Apathya* (don'ts). This comprehensive approach included tailored recommendations for *Ahar* (diet) and *Vihar* (daily routine) to support optimal healing and recovery.

Dietary Recommendations (*Pathya Ahar*):

To promote healing and recovery, the patient was advised to follow a diet rich in:

- Green leafy vegetables
- Fresh fruits

Lifestyle Recommendations (*Pathya Vihar*):

To support overall well-being, the patient was instructed to:

- Maintain a regular sleep schedule with at least 8 hours of sleep daily
- Practice yoga and pranayama regularly

Dietary Restrictions (*Apathya Ahar*): To prevent aggravation of the condition, the patient was counselled to avoid consuming the following:

- Processed and junk foods
- Salty and pungent foods

- Frozen desserts like ice cream
- Fast food
- Fried snacks like chips

Lifestyle Restrictions (*Apathya Vihar*):

To prevent exacerbation of symptoms, the patient was advised to avoid the following lifestyle habits:

- Daytime sleeping (*Divaswapna*)
- Late-night wakefulness (*Ratri Jagaran*)
- Prolonged exposure to cold environments, including the use of air conditioning.

Treatment Duration and Follow-up:

Treatment Record:

Initial Consultation (July 13, 2024)

Chief Complaints: The patient presented with itching, burning sensation, pricking pain, roughness, and discoloration on the palmar aspect of hands and cheeks.

Treatment Plan:

1. Administer *Champakadi Agad* tablets (2 tablets, 2 times daily) for 7 days.
2. Apply *Champakadi Agad* locally 3 times a day.

Dietary Advice and Lifestyle Recommendations:

- Consume green leafy vegetables and fresh fruits.
- Avoid junk food, salty and spicy food, ice cream, fast food, and chips.
- Maintain 8 hours of sleep daily.
- Practice yoga and pranayama.
- Avoid daytime sleeping, staying awake at night, and excessive exposure to cold.

Follow-up 1 (July 19, 2024)

Improvement was noted, and the treatment plan was continued.

Follow-up 2 (July 26, 2024)

Decreased discoloration, burning, and itching were observed.



Revised Treatment Plan:

1. Administer *Champakadi Agad* tablets (1 tablet, 2 times daily) for 7 days.
2. Continue local application of *Champakadi Agad* 3 times a day.

Follow-up 3 (August 2, 2024)

Improvement was noted, with the scar becoming lighter.

Revised Treatment Plan:

1. Continue administering *Champakadi Agad* tablets (1 tablet, 2 times daily) for 7 days.
2. Reduce local application of *Champakadi Agad* to 2 times a day.

Clinical Feature Assessment Criteria

Itching

- Grade 4:** Severe, continuous itching that significantly disrupts daily routine and sleep
- Grade 3:** Severe itching with noticeable scratch marks
- Grade 2:** Mild itching that persists throughout the day
- Grade 1:** Mild itching that occurs occasionally
- **Grade 0:** No itching present

Burning Sensation

- Grade 4:** Continuous burning sensation lasting more than 24 hours
- Grade 3:** Continuous burning sensation lasting 24 hours
- Grade 2:** Burning sensation occurring after an interval of 24 hours
- Grade 1:** Burning sensation occurring occasionally within 24 hours
- **Grade 0:** No burning sensation present

Pricking Pain

- **Grade 4:** Severe pricking pain
- **Grade 3:** Moderate pricking pain
- **Grade 2:** Mild pricking pain
- **Grade 1:** Occasional pricking pain
- **Grade 0:** No pricking pain present

Reddish Discoloration-

- **Grade 4:** Severe reddish discoloration with 5-6 patches
- **Grade 3:** Moderate reddish discoloration with 3-5 patches
- **Grade 2:** Mild reddish discoloration with 2-3 patches
- **Grade 1:** Mild reddish discoloration with less than 2 patches
- Grade 0:** No reddish discoloration present.

Pictures showing Progress after treatment:



Day 1



Day 3



Day 7



Day 14



Day 21

polyherbal formulation comprising *Haridra*, *Daruharidra*, *Pattanga*, *Manjistha*, *Nata*, and *Keshara*, mixed with honey and ghee. This preparation was administered both orally and topically, leveraging its anti-inflammatory, antipruritic, and antimicrobial properties.

The concept of *Keeta- Loota Visha Damsha*, as described by *Acharya Vagbhata*, is relevant to this study. This condition is characterized by dermatological symptoms such as pruritus, cellulitis, suppuration, and ulceration, which are similar to those observed in Insect bite case.

In the context of *Keetadamsha*, the etiopathogenesis and symptomatology suggest a complex interplay of the three *doshas* (*Kapha*, *Vata*, and *Pitta*), leading to a *tridoshic* imbalance. The *Rasa* and *Rakta dhatus* are predominantly affected, necessitating a treatment approach that incorporates herbs with *Rasa-rakta prasadak* (promoting tissue health), *Vishaghna* (antitoxic), *Rakta stambhak* (hemostatic), *Vranaropaka* (wound-healing), and *Tridoshashamak* (*tridoshic* balancing) properties to restore balance and promote recovery.

The study's findings underscore the importance of a holistic approach in managing *Keetadamsha*, incorporating dietary modifications, lifestyle changes, and *Ayurvedic* herbal interventions to restore balance and alleviate symptoms.

The potential therapeutic mechanisms of the medicinal plants employed in this study are as follows:

***Haridra* (Turmeric):** According to *Ayurvedic* principles, *Haridra* possesses a bitter (*tikta*) and pungent (*katu*) taste, with qualities of lightness (*laghu*) and hot potency (*ushna*). Its bitter taste pacifies *Pitta*, while its heated potency and post-digestive impact alleviate *Kapha*.^[6] The herb's pungent post-digestive effect (*vipaka*) further contributes to its therapeutic properties.

As described in *Ayurvedic* scriptures, *Haridra* exhibits analgesic, digestive, and anthelmintic properties, making it an effective remedy for various health conditions.^[7] Additionally, its anti-coagulant activity renders it useful in treating skin disorders, anaemia, wounds, and bleeding disorders. The bitter taste of *Haridra* is also believed to enhance physical strength and balance all three *doshas*.



Haridra's therapeutic properties also extend to reducing blood toxicity. Its *jantughna* and *kandughna* properties make it an effective remedy for various skin conditions [8].

According to the *Charak Samhita*, *Haridra* is a crucial component in various *yogas* utilized for the treatment of *Tritiya* and *Astam Visha Vega*, underscoring its efficacy in managing toxic conditions. Additionally, its inclusion in the *Vishaghna Mahakashaya* highlights *Haridra's* potent detoxifying properties. [9]

Daruharidra: *Daruharidra's* pharmacological profile reveals a bitter taste (*Tikta rasa*), light and dry properties (*Laghu and Ruksha Guna*), hot potency (*Usna Veerya*), and pungent post-digestive effect (*Katu Vipaka*). Its therapeutic attributes include wound healing (*Vrana Ropana*), wound cleansing (*Vrana Sodhan*), skin detoxification (*Twakdosha Hara*), blood purification (*Rakta Sodhak*), and hemostasis (*Rakta Stambhak*). *Daruharidra's* therapeutic efficacy can be attributed to the presence of berberine, a bioactive compound that imparts a broad spectrum of pharmacological activities, including antibacterial, antifungal, antiviral, antioxidant, and anti-inflammatory properties. [10] Furthermore, *Daruharidra* is revered in Ayurveda for its *Kandu Kushtahara* (antipruritic), *Visarpahara* (anti-cellulitic), and *Vishahara* (antitoxic) qualities. Its versatility extends to its use as a *Rasanjana*, where it is employed to treat various eye disorders. Collectively, these attributes make *Daruharidra* an excellent choice for managing *keetadamsha*.

Manjistha: *Manjistha's* therapeutic properties make it an effective remedy for skin conditions. Its astringent (*Kahsaya*) and sweet (*Madhura*) tastes help reduce Pitta, a primary contributor to skin disorders. *Manjistha's* heavy (*Guru*) property counteracts the light (*Laghu*) property of *Vata*, while its dry (*Ruksha*) property alleviates the unctuous (*Snigdha*) property of Pitta. *Manjistha* has been traditionally valued for its extensive range of therapeutic properties, including blood purification, antioxidant, anti-acne, anti-inflammatory, and antibacterial activities, rendering it an exemplary herb for promoting skin well-being. [11] As noted in the *Charak Samhita*, *Manjistha* is a crucial component in various *yogas* employed for the treatment of *Tritiya Visha Vega*, and its inclusion in the *Vishaghna*

Mahakashaya further underscores its potent detoxifying properties.

Pattang: *Pattanga's* inherent cooling property (*Sheeta Virya*) is thought to mitigate burning sensations (*Daha Prasamana*), providing relief from thermal discomfort. Furthermore, *Pattanga* exhibits a range of therapeutic benefits, including wound-healing (*Vrana Ropaka*) properties, as well as antimicrobial and anti-inflammatory activities, which collectively contribute to its efficacy in promoting tissue repair and reducing inflammation. [12][13]

Nata (Tagar): *Tagar* demonstrates sedative and anxiolytic effects, calming the central nervous system, alleviating anxiety, and promoting profound sleep. [14] This is particularly advantageous for patients with skin disorders, who often experience increased stress and tension due to skin alterations. [15] Additionally, *Tagar's* antimicrobial and antibacterial properties facilitate the treatment of skin disorders by fostering a balanced microbial environment. Moreover, it exhibits detoxifying (*Vishaghna*) and wound-cleansing (*Vrana Shodhaka*) properties, further contributing to its therapeutic efficacy in managing skin conditions. [16]

Nagkeshar: *Nagkeshar* is endowed with a diverse range of therapeutic attributes, including anti-leptotic (*Kushthahara*), anti-erysipelalous (*Visarpahara*), detoxifying (*Vishaghna*), and hemostatic (*Rakta Stambhana*) effects. [17] Furthermore, research has demonstrated that *Nagkeshar* possesses antifungal, anti-inflammatory, and anthelmintic properties, rendering it a valuable botanical agent in the management of *keetadamsha*. [18]

Honey: Comprehensive *in vitro* studies have unequivocally established honey's robust antimicrobial activity against bacteria pertinent to skin health. Furthermore, a multitude of investigations suggest that honey may exert immunomodulatory effects on the skin, underscoring its promising therapeutic applications. [19]

The treatment regimen yielded significant improvements, with a substantial decrease in symptoms of insect bite. The reduction in itching can be attributed to *Haridra's* bitter and pungent tastes, hot potency, and *Kapha*-pacifying properties, as well as *Daruharidra's* bitter taste, light and dry properties, pungent post-digestive effect, and hot potency. These herbs' combined



properties, including skin detoxification, blood purification, and anti-pruritic effects, likely contributed to the alleviation of *Kapha*-related symptoms.

The burning sensation, associated with *Pitta* vitiation, was possibly reduced due to *Haridra's* *Pitta*-pacifying properties, *Manjistha's* sweet and heavy properties, and *Pattanga's* cooling potency, which collectively exhibited anti-inflammatory and soothing effects.

The pricking pain, resulting from *Vata* vitiation, may have been relieved by *Manjistha's* heavy property, while the discoloration was likely reduced due to *Haridra's* bitter taste, *Daruharidra's* blood-purifying properties, and its wound-cleansing effects.

Ghrita: The incorporation of *Ghrita* in this formulation synergistically enhanced the therapeutic properties of each constituent, leveraging its *Sanskaranuvartanam* attribute.^[20] The individual ingredients collectively exhibited a broad spectrum of pharmacological activities, including analgesic, antifungal, antibacterial, and anti-inflammatory effects. Moreover, the anxiolytic properties of *Tagar* contributed to stress alleviation in the patient, promoting overall well-being.^[21]

The combined external and internal administration of this medicine yielded desirable results in treating insect bites, underscoring the efficacy of this *Ayurvedic* approach.

This case analysis demonstrates the efficacy of *Ayurvedic* herbal medicine in managing *keetadamsha*, a condition characterized by insect bites. The study highlights the therapeutic potential of *Champakadi Agad*, a polyherbal formulation comprising *Haridra*, *Daruharidra*, *Pattanga*, *Manjistha*, *Nata*, and *Keshara*, blended with honey and ghee.

4. Results

This case analysis demonstrates the efficacy of the *Ayurvedic* approach in managing insect bite, a skin condition characterized by itching, burning sensations, and discoloration. The study highlights the therapeutic potential of *Ayurvedic* herbal drugs, particularly *Champakadi Agad*, in alleviating symptoms of *Keetadamsha* (Insect bite).

The treatment regimen involved the administration of *Champakadi Agad*, a

5. Discussion

The treatment regimen incorporated both topical and oral administration of *Champakadi Agad*, a formulation originally described in the ancient *Ayurvedic* text, *Ashtanga Hrudaya*. This therapeutic approach was advocated by *Acharya Vagbhata* for the management of *Keeta Loota Visha Damshana*, a condition characterized by a range of dermatological symptoms, including intense itching (pruritus), cellulitis, suppuration, and ulceration.

Keetadamsha can be correlated with *tvakvikara*, a skin disorder caused by the imbalance of the three *doshas* (*Tridoshaprakopa*). Imbalances in the three *doshas* contribute to various symptoms: *Kapha* imbalance manifests as edema and pruritus, *Vata* imbalance causes pain, and *Pitta* imbalance results in burning sensations and discoloration. Considering the involvement of *Rasa* and *Rakta dhatus*, a comprehensive treatment approach should incorporate herbs that possess *Rasarakta prasadak* (tissue nourishing), *Vishaghna* (detoxifying), *Rakta stambhak* (hemostatic), *Vranaropaka* (wound-healing), and *Tridoshashamak* (*tridoshic* balancing) properties to restore *doshic* equilibrium and facilitate healing.

6. Conclusion

This case study provides a promising basis for establishing a standardized *Ayurvedic* treatment protocol for *keetadamsha* (insect bites), addressing a critical need for evidence-based guidelines. Currently, *Ayurvedic* texts describe various remedies that require scientific validation, while conventional medicine relies on temporary symptom relief with antihistamines, highlighting the need for more effective and targeted treatments. To address this gap, further extensive research is necessary, involving larger sample sizes. This study serves as a starting point, and future researchers can build upon these findings to establish a comprehensive treatment protocol for *keetadamsha*.

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