International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Management of Paederus Dermatitis with Dashanga Agada: A Case Report

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Abstract

This case report shows that effective and timely management of a case of Paederus dermatitis using Dashanga Agada can reduce symptoms significantly and prevent the necrotizing stage of Paederus dermatitis along with secondary infection. Paederus dermatitis is an irritant contact dermatitis with vesicular erythematous lesions known as kissing lesions, with burning sensation, itching, and pain. It is caused by the toxin pederin released by the haemolymph of the Nairobi fly when it is crushed while coming in contact with human skin.

A 22-year-old female patient presented with complaints of pustular erythematous lesions with burning sensation and itching since she woke up in the early morning. The Ayurvedic diagnosis was pittaja keeta visha. The patient was advised to take Dashanga Agad internally twice daily, and Dashanga lepa 1 g with Aloe vera pulp was advised for external application as required. A five-day medication course was given. Within 2 days, burning sensation and itching were reduced, and the lesion was completely reduced by the 6th day.

Paederus dermatitis can range from mild to severe if not treated promptly and may lead to complications. Dashanga Agad, with its anti-inflammatory and anti-toxic properties, may be useful in treating insect venom reactions and irritant contact dermatitis caused by Paederus species.

Keywords: Keeta Visha, Paederus Dermatitis, Acid Fly, Dashanga Agada, Case Report

Key Message

Early management of Paederus dermatitis with Dashanga Agada rapidly reduces burning, itching, and lesions, preventing necrotizing progression and secondary infection, demonstrating its anti-inflammatory and anti-toxic therapeutic potential.

1. Introduction

Paederus dermatitis (also called linear dermatitis or dermatitis linearis) is an irritant contact dermatitis resulting from contact with the haemolymph of certain rove beetles, a group that is comprised of the genus Paederus. Other local names given to Paederus dermatitis include spiderlick, whiplash dermatitis, and Nairobi fly dermatitis [1, 2]. Haemolymph of the beetle contains paederine (latigaza), which is released on crushing of the insect onto the skin due to the reflex brushing away of the insect by humans [3].

Paederus dermatitis is characterized by erythematous vesicular lesions (kissing lesions or mirror image) with burning sensation, itching, pain, and redness. If not treated promptly, it can lead to secondary infection and complications, highlighting the importance of timely management.

Keeta visha chikitsa is a concept in Agad tantra on the management of all types of venomous and non-venomous bite or sting by insects that are under the largest phylum, Arthropoda. Dashanga agad is a formulation mentioned in Ashtanga Hridaya under Chapter 37, Keetavishapradishyada, which is exclusively used in the treatment of keeta visha (insect venom) [4]. The use of Dashanga Agad in the treatment of irritant dermatitis has not been extensively studied. Given the pathophysiological similarities between Paederus dermatitis and pittaja keeta visha, Dashanga agad may serve as a potential therapeutic agent for this condition. Investigating its efficacy could provide valuable insights into its therapeutic application.

2. Case Report

2.1 Case History

A 22-year-old, non-hypertensive, non-hypoglycemic female patient presented to Visha Chikitsa OPD of our Ayurveda medical college and hospital, with complaints of a lesion on the right forearm near the elbow with severe burning sensation and itching since morning. On history taking, it was known that the patient was asymptomatic until the previous night before going to bed. On waking up the next day, she noticed burning sensation on the dorsal aspect of the right arm near the elbow along with a linear erythematous papulo-vesicular lesion. The diagnosis of Paederus dermatitis was made following the clinical features, and the place was previously reported to have incidents of acid fly attack during warm, moist climate.

History of past illness: There was no history of past skin disease or any known allergies.

On examination: All vitals were stable, the patient was afebrile, and systemic function was normal.

Table 1: Local Examination of Skin

Site	**dorsal aspect of right arm**
Mode of spread	Linear
Colour	Reddish
Size	4- 5 cm in length
Discharge	Absent
Type of lesion	papulo vesicular
Demarcation	Present

Table 2: Ashta Vidhapareeksha

Nadi(pulse)	**76/min**
Mala(stool)	regular bowel movement
Mutra(urine)	3- 4 times a day
Jivha(tongue)	niram
Shabda(speech)	clear
Sparsha(touch)	anushnasheet
Drik (eye)	prakrut

Nadi(pulse)	**76/min**
Akriti(built)	madhyam

2.2 Treatment

Informed consent was taken prior to photography and publication. The treatment was planned with the involvement of dosha and dushyas, with predominance of pitta dosha lakshana.

Table 3: Details of Administration of Medicine

Medicine	**Dose**	**Anupana**	**Duration**
Dashanga Agad (gutika)_	1 tablet twice daily	Water	7
Dashanga lepa	Local application with Aloe vera pulp	-	7

Outcome and follow-up: Follow-up was taken after 7 days.

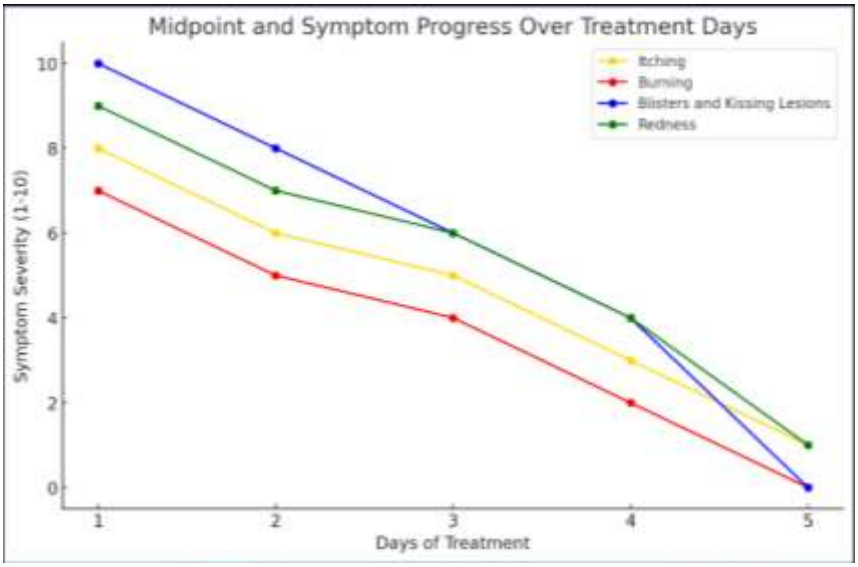


Figure 1: Midpoint and Symptom Progress Over Treatment Days

2.3 Result

Dashanga Agad has shown considerable efficacy in treating Paederus dermatitis. It helped in reducing the severe burning sensation caused by the acid fly within a short span of time. Dashanga Agad also helped in reducing the vesicles formed by the brushing of the acid fly (Figure 1).

Table 4: Observation Before and After Treatment

Observation	**Before treatment**	**After treatment**
Burning sensation	++	0
Erythema	++	0
Vesicles	++	0

3. Discussion

Paederus dermatitis is a self-limiting form of acute irritant contact dermatitis. This irritant dermatitis is caused by the genus Paederus, whose geographical distribution is worldwide, with a higher incidence in tropical areas [5, 6]. It is induced by direct skin contact with a molecule called pederin, a blistering and caustic substance found in the abdomen of these beetles and circulating in its hemolymph. Pederin is an extremely toxic substance capable of producing serious and difficult-to-heal injuries to the tissues that come into contact with it. Fortunately, the acute vesicular lesions heal completely in 10–12 days, with a transitory post-inflammatory hyperchromic patch [7, 8]. In severe cases, it can cause neuralgia, arthralgia, fever, and vomiting [9]. In this case, the clinical evolution was rather uneventful except for the development of a burning sensation and vesicular lesion.

The course of management for this pathological condition should start with washing the affected area with soap and clean water so as to remove the pederin. This should be followed by local application of lepa and oral medications that are both anti-toxic (vishagna) and anti-inflammatory in nature. Here, Dashanga agad is used for internal and external application. Dashanga Agad is a potent formulation for treating all types of keeta visha. Dashanga Agad has properties such as vishagna (anti-toxic), vrana ropana (healing of ulcer), Daaha prashamana (reduction of burning sensation), kandughna (reduction of itching), and anti-inflammatory activity. Aloe vera pulp is used as the base solution in mixing dashanga lepa, which may further enhance its properties. Aloe vera pulp has both anti-toxic and anti-inflammatory actions, which are beneficial in this case.

Table 5: Dashanga Agad Ingredients and Pharmacological Action

Sl no	Ingredients	Pharmacological action
1.	Vacha (Acorus calamus Linn.)	shothagna dravya, Hypotensive, antimicrobial, anti-inflammatory, antipyretic
2.	Hingu (Ferula asafoetida Linn)	Vedanaasthapana, shothahara, kandugna, krimighna, Antispasmodic,cardiac,Analgesic,Antibacterial
3.	Vidanga(Embelia ribes Burm)	Krimighna dravya, rakta shodhaka, shoolaghna, varnya, shothahara, Antibiotic, anti-inflammatory, hypotensive, antipyretic, immunostimulant
4.	Saindhavam (Rock Salt)	Cardiotonic, antiinflammatory, antioxidant
5.	Gajapippali (Scindapus officinalis Schott.)	Shothahara, vedanaa sthapana, Anti-inflammatory, analgesic, antibacterial.
6.	Patha (Cyclea peltata Linn.)	reduce shotha. vranashodhana and vranaropana dravya. Daaha prashamana, kandughna and kushtagha, rakta shodaka, anti inflammatory
7.	Prativisha (Aconitum heterophyllum Wall)	shothahara, vedanahara, raktashodhak, visharoga
8.	Sunthi (Zingiber officinale Rosc.)	shoola prashamana, Anti-inflammatory, Anti-allergic, Vishaghna
9.	Maricha (Piper nigrum	Sothahara, Anti-allergic activity, anti-

Sl no	Ingredients	Pharmacological action
	Linn.)	inflammatory agent, Analgesic activity, Antioxidant radical scavenging activities.
10.	Pippali (Piper longum Linn.)	Sothahara, vedana sthapana, Anti-inflammatory, Immunostimulatory, hepatoprotective, anti-narcotic, anti-ulcerogenic

Table 6: Properties of Kumari (Aloe Vera)

Rasa	Katu
Guna	Guru, snigdha, pichila,
Vipaka	Tikta
Virya	Sheeta
Dosagnata	Kapha Pitta shamaka
Pharmacological action	Rakta shodhak, twakdosha hara,shothahara, vedana sthapana,vrana ropana, krimigna

4. Conclusion

Acid fly-induced dermatitis has become a sporadic outbreak during the rainy season. Even though the insect neither bites nor stings, its unintentional brushing against the skin causes the release of coelomic fluid, causing the peculiar irritant dermatitis. The public should be made aware of the condition, and necessary steps should be taken to prevent it. Keeta visha can be of mild toxicity or life-threatening. In this case, it was of mild toxicity and could be treated with classical medicines mentioned under keeta visha chikitsa. Dashanga Agad, being a potent drug against most insect bites, has shown efficacy in treating Paederus dermatitis.

Ethics Statement

This case report does not require institutional ethics committee approval, as per standard guidelines for single case documentation where no experimental intervention is performed.

All procedures followed were in accordance with ethical standards of the responsible committee on human experimentation and with the Helsinki Declaration.

Written informed consent was obtained from the patient for publication of clinical details and images, with full assurance of confidentiality and anonymity.

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