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Original Research Paper

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A CASE REPORT ON AYURVEDIC MANAGEMENT OF CONTACT DERMATITIS DUE TO ACUTE TOXICITY OF SEMICARPUS ANACARDIUM.

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ABSTRACT Semecarpus anacardium, known as 'marking nut' is a common cause of allergic contact dermatitis producing symptoms like itching, redness, papules and blisters. Patients may even experience fever, chills, and fatigue in severe cases. The species has been elaborately mentioned in classical ayurvedic texts with its vast medical uses, allergic symptoms and treatment. When the fruit comes in contact or used internally without proper purifications, it can cause adverse drug reactions which are not uncommon in clinical practice. Sensitive people can even produce symptoms when they go near the tree or come in contact with it. This case report describes a 35-year-old male, presented with maculopapular erythematous itchy painful lesions in the bilateral arm with edema and burning sensation over the left forearm diagnosed as allergic contact dermatitis secondary to marking nut exposure. An ayurvedic approach in management could help the patient with marked improvements. Along with the usual line of treatment, a rarely used medicine mentioned in a regional text of Kerala, 'Kriyakaumudi' was found helpful in managing the symptoms. This case highlights the management of allergic contact dermatitis due to bhallataka visha using Ayurvedic medicines. Documentation, critical review and scientific validation of similar rarely used formulations would help physicians in improving patient care and drug selection.

KEYWORDS : Semicarpus anacardium, Bhallataka, Allergic contact dermatitis, kriyakaumudi

1. INTRODUCTION

Adverse cutaneous reactions secondary to mechanical or chemical irritants are not uncommon and the spectrum varies from mechanical injury, pharmacologic injury, primary irritant phytodermatitis, allergic phytodermatitis to phyto photodermatitis.

Semecarpus anacardium Linn. (Family: *Anacardiaceae*) is a tropical plant commonly known as 'marking nut' and in the vernacular as 'Ballataka' or 'Bhilwa[1]. The pericarp of fruit contains tarry oil and a variety of other chemicals including anacardic acid, cardol, and cardanol which can cause contact dermatitis in susceptible individuals[2].

In ayurvedic literature, this drug has been widely mentioned in the name of Bhallataka and has been classified as one among upavisha (semi poisonous plant)[3]. Explanation on its allergic signs, management, purification methods of the nut to reduce toxicity and its uses in medicine can be found in texts.

Semicarpus anacardium-induced contact dermatitis is commonly observed in people who work with the nut or its extracts, such as farmers, carpenters, and workers in the manufacturing industry. It can also occur in people who come in contact with the plant through occupational or environmental exposure.

The symptoms include itching, redness, burning sensation, swelling, papules, vesicles, blisters, and streaking. Sometimes it may result in an allergic eczematous contact dermatitis. The rash takes 1–2 weeks to run its course and normally does not leave scars. Severe cases have small (1–2 mm) clear fluid-filled blisters on the skin and patients may even experience symptoms such as fever, chills, and fatigue.

Pus-filled vesicles, containing a whitish fluid, may indicate a secondary infection. Excessive scratching may result in secondary infection, commonly by staphylococcal and streptococcal species[2].

The severity of the symptoms can vary depending on the concentration of the irritant, the duration of contact, and the sensitivity of the skin.

2. Case report

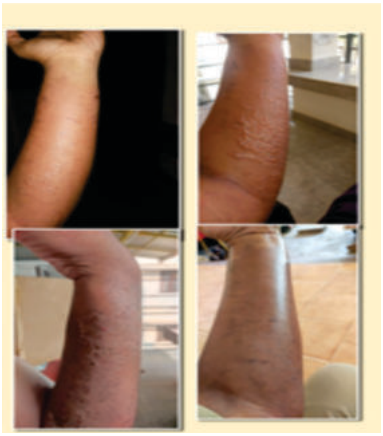
A 35-year-old male Fire and safety officer presented to the OP department of Ashtamgam Ayurveda Chikitsalayam on 4th March 2023. He was presenting with maculopapular erythematous itchy painful lesions in the bilateral arm with edema and burning sensation over the left forearm. Maculopapular blanchable rashes on the chest, inner thigh was also noticed. Lesions over the left forearm showed crusting. The patient revealed the history of suspected exposure to a *Semecarpus anacardium* tree as part of his job three days back. He started mild itching over the upper extremities within hours of exposure. By evening, papules appeared over the left upper limb which later turned to multiple blisters. At night he noticed swelling over the upper left limb. Similar severely itching lesions appeared on the right upper limb, abdomen and thighs by the next morning. Along with him, two other accompanying officers were also reportedly observed with mild itching red rashes over various aspects of the body. Considering history and clinical features, diagnosis of allergic contact dermatitis secondary to marking nut exposure was done.

He was advised to wash the affected area with vibheetaki twak kashaya. Lodhrasevyadi kashaya and gudoochyadi kashaya was given internally along with gopeechandanadi gulika for three times a day.

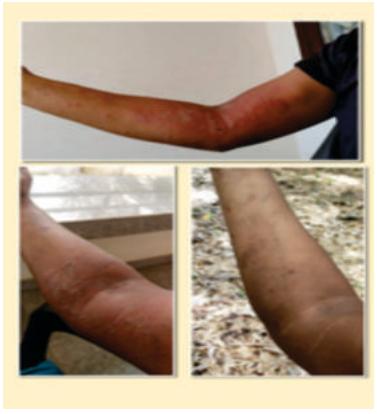
Patient came for a follow-up on the 3rd day (7/3/23) of exposure to address the worsening of condition with multiple vesicles over the skin, maculopapular rashes spread widely over the bilateral forearm with increased edema. Newly spreading multiple macular erythematous lesions over inner thighs and trunk region was found. Patient was complaining of severe itching and burning sensation which gets aggravated on exposure to sun. Medicines were revised.

Patient was asked to wash the area with pancha valka kashaya followed by repeated topical application of Sathadhouta ghritam. Kashaya made of gokshura, triphala, sariva, and chandana (gokshuradi kashaya) in equal quantity was given three times a day. Avipathy choornam[6] was given along with morning doses of kashayam and gopeechandanadi gulika along with other two doses of kashaya. 30 ml of Saribadyasavam was given two times a

day. On the followup visit on 17/3/23, patient was showing marked improvements. The hyperpigmented affected area was showing peeling of the superficial layer of skin. All other symptoms were completely resolved. Same medicines were asked to continue for one more week and follow-up showed a complete cure.



Pic No.1: Right upper arm on 4th, 7th, 17th and 20th of March 2023.



Pic No.2: Left upper arm on 7th, 17th and 20th of March 2023.

Table No.1: Prescribed Medicines with Name, Dose and Duration.

Cl.No	Medicine	Direction of use	Duration
1	Vibhitaki kashaya	Wash externally	4/3/23 – 7/3/23
2	Lodhrasevyadi kashaya	7.5 ml of kashaya with 30 ml of water is taken for three times a day before food	4/3/23 – 7/3/23
3	Gudoochyadi kashaya	7.5 ml of kashaya with 30 ml of water is taken for three times a day before food	4/3/23 – 7/3/23
4	Gopeechanda nadi gulika	1 tablet TID	4/3/23 – 7/3/23
5	Gokshuradi Kashayam	10 gm each of drugs are boiled in 1 L of water, reduced to 250 ml and to be taken in three divided doses before food.	7/3/23 – 20/3/23
6	Avipathy choorna	5gms daily once in morning along with kashayam	7/3/23 – 17/3/23
7	Gopeechanda nadi gulika	1 tab BD	7/3/23 – 20/3/23
8	Saribadyasav am	30 ml twice daily after food	7/3/23 – 17/3/23
9	Sathadhouta ghrita	To be applied externally	7/3/23 – 20/3/23
10	Panchavalka kashaya	Use to wash externally	7/3/23 – 20/3/23

3. DISCUSSION

Contact dermatitis can be divided into Irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD)[4]. ACD requires prior exposure to allergen for activation of antigen specific acquired immunity leading to the development of immune response and skin inflammation. It usually takes hours or even days after exposure for the lesions to develop. Morphology of ACD can vary from lichenoid, lymphomatoid, granulomatous, pigmented, purpuric, and erythema multiforme-like lesions. Allergic dermatitis resulting from direct exposure of the marking nut or occasional ADR caused due to medications containing bhallataka is not very uncommon in the OPD. Various texts give different topical and parenteral medicinal preparations for the bhallataka visha.

Pitta Shamaka Dravyas (drugs that alleviate Pitta) are advised internally and externally[7,8]. Vibhitaki (*Terminalia bellerica*)[8], albumin of coconut, Tila (*Sesamum indicum*), and Haritaki (*Terminalia chebula*)[9] are commonly documented as medicines internally, and coconut oil and ghee[10] are used externally. Panchavalkala Kwatha is indicated for cleaning the wounds[11], so can be used externally in the condition of Bhallataka blisters.

Commonly prescribed medicines like vibhitaki or panchavalkala were not showing encouraging results in this case. Careful selection of other formulations mentioned in texts according to the pathology and clinical presentations would become necessary in many instances. Along with other common formulations, we used a preparation mentioned in the malayalam regional text, Kriyakoumudi. The formulation contains drugs like haritaki, Vibhitaki, Amalaki, Gokshura, Sariba and Chandana indicated in Bhallataka visha[12].

Triphala is kanduhara and vranahara with proven anti-inflammatory and antimicrobial effects[5]. Sariva and chandana are seeta, visha- pitha hara and vranahara. Gokshura is sotha Hara and has been used at many instances of visha chikitsa even externally to treat vishaja sopha.

The combination would have helped in treating sopha, kandu, paka, srava and daha by managing visha and pitha. Nalpamaram, and avipathy choornam are drugs of choice when pitha and visha is involved. Saribadyasava and gopeechandanadi gulika also found effective in managing Dermatological issues caused due to pitha.

4. CONCLUSION

ACD due to *Semicarpus anacardium* can be managed in ayurveda if clinical condition is analyzed and drugs are selected according to ayurvedic principles. Treatment options of ACD and ADR due to exposure with various toxic substances are found in classical and regional literature related to Ayurveda, documented from the treating experience of the authors.

The formulation in discussion would probably be effective in other similar clinical conditions like cellulitis and infected ulcers where involvement of pitha, visha, sopha, kandu, vrana and paka are seen.

Kriyakoumudi is a work of detailed compilation of various regional text books and practices of Visha chikitsa (Ayurvedic toxicology) in Kerala. It discusses various clinical practices and formulations in different medical conditions. Documentation, critical review and scientific validation of similar practices is necessary to pinpoint the drug of choice in various clinical conditions.

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