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A REVIEW ON BHALLATAKA - AN AYURVEDIC TOXIC MEDICINAL PLANT

Dr. Mahesh Kumar Bairwa[1], Dr. Manpreet Kaur[2], Prof. P. L. Sharma[3], Dr. Ramprasad Meena[4]

1. P.G. Scholar, PG Department of Agad Tantra Evum Vidhi Vaidyaka – M.M.M. Govt. Ayurved College Udaipur Rajasthan.

2. Lecturer - PG Department of Agad Tantra Evum Vidhi Vaidyaka – M.M.M. Govt. Ayurved College Udaipur Rajasthan.

3. Professor & H.O.D., PG Department of Agad Tantra Evum Vidhi Vaidyaka – M.M.M. Govt. Ayurved College Udaipur Rajasthan.

4. P.G. Scholar, PG Department of Agad Tantra Evum Vidhi Vaidyaka – M.M.M. Govt. Ayurved College Udaipur Rajasthan.

Abstract

Bhallataka (*Semecarpus anacardium* Linn.) is a significant medicinal plant in Ayurveda, extensively described in classical texts for its wide therapeutic utility. It is employed both as a single drug and as an ingredient in numerous compound formulations. Classical Ayurvedic literature, including 13 *Nighantus*, 16 *Samhita* and *Chikitsa* granthas, and several *Rasa* texts, provide comprehensive information on its nomenclature, properties, and applications. More than 80 synonyms have been documented, reflecting its distinct morphological and pharmacological characteristics. Various parts of Bhallataka possess different pharmacological actions, although variations in opinion regarding its properties are noted in later *Nighantus*.

Bhallataka is incorporated into formulations prepared in about 23 dosage forms, with *Taila* (oil), *Ghrita* (ghee), *Churna* (powder), *Vati* (tablet), and *Kashaya* (decoction) being the most common. These formulations are predominantly indicated in conditions such as *Arsha* (haemorrhoids), *Kushtha* (skin disorders), *Gulma* (abdominal lump), *Grahani* (digestive disorders), *Prameha* (polyuria), and *Vataroga* (neuromuscular disorders). As Bhallataka is classified under semi-poisonous drugs, its therapeutic use is recommended only after proper *Shodhana* (processing). Classical texts also emphasize specific methods of collection, storage, use of antidotes, and dietary regulations to minimize adverse effects.

Keywords :- Bhallataka, Arushkara, Ayurveda, Bhallataka, Semecarpus anacardium, Marking nut, Pharmacological activity.

Introduction

Semecarpus anacardium Linn., belonging to the family Anacardiaceae and commonly known as the marking nut tree, is a toxic plant that is therapeutically used in Ayurveda with proper precautions. It is indicated in various conditions such as haemorrhoids, helminthic infestations, gastrointestinal disorders, respiratory ailments, skin diseases, and rheumatic conditions. Modern research supports its analgesic, anti-inflammatory, anti-helminthic, anti-oxidant, and anti-cancer activities, which are mainly attributed to active constituents like semecarpol and bhilawanol. Both classical Ayurvedic texts and contemporary studies recognize Bhallataka as a potent medicinal drug when used judiciously and safely.[i]

Bhallataka is used in Ayurveda for both internal and external applications; however, its fruit must be properly purified before therapeutic use due to its toxic and irritant nature. As an organic vegetable poison, *Bhallataka* is subjected to *Shodhana samskara*, a detoxification process that reduces its toxicity and enhances its medicinal efficacy. Classical texts such as the *Charaka Samhita* describe several formulations of Bhallataka, while the *Sushruta Samhita* documents the properties of its fruit, containers, and medicated oil. Detailed formulations are also found in texts like *Bhaishajya Ratnavali*, *Rasatarangini*, *Yogatarangini*, and *Rasamanjari*.

Bhallataka is an important Ayurvedic drug, used both as a single remedy and as a component of various polyherbal formulations, and is indicated in a wide range of disease conditions. Owing to its classification as an irritant organic poison, its use requires careful dosing and strict adherence to precautionary measures. Classical literature elaborately discusses guidelines to minimize adverse effects arising from improper administration.

Despite its extensive mention in Ayurvedic classics, modern published literature on Bhallataka remains limited. Comprehensive reviews addressing its properties, collection and storage practices, purification methods, antidotes, and precautions are still inadequate. Hence, this article aims to compile and systematically present available classical information on Bhallataka, covering its nomenclature, classification, pharmacological properties, therapeutic actions, indications, dosage forms, routes of administration, and safety measures.

Plant Description of Bhallataka (*Semecarpus anacardium*)[ii]

Botanical Aspect	Description
Botanical Name	*Semecarpus anacardium*
Family	Anacardiaceae
Common Name	Bhallataka, Marking nut tree, bhilawa, biba
Habit	Medium-sized deciduous tree
Height	Approximately 12–15 meters
Girth	Around 1–1.25 meters
Distribution	Drier regions of India from Sutlej to Sikkim; outer Himalayan tracts
Bark	Greyish to dark brown, rough and fissured
Leaves	Large, simple, closely clustered; obovate-oblong; rounded at apex
Flowers	Small, greenish-white, arranged in terminal or axillary panicles
Fruits	Nut (marking nut), heart-shaped with a rough basal outgrowth
Pericarp	Thick, contains bhilawan (marking nut) oil
Seed/Kernel	Single seed with edible kernel after proper processing

Special Feature	Pericarp oil used traditionally as ink when mixed with lime water or alum
Medicinally Useful Part	Fruit (nut), oil after purification

Features of Bhallataka

- Marking nuts are generally heart-shaped blackish nuts with rough projection at base.
- The nut bears thick pericarp and contains brownish-black, acrid, oily juice

Ayurvedic Properties of Bhallataka (*Semecarpus anacardium*)[iii]

Ayurvedic Parameter	Description
Dravya (Drug)	Bhallataka
Rasa (Taste)	Katu (Pungent), Tikta (Bitter), Kashaya (Astringent)
Guna (Qualities)	Laghu (Light), Ruksha (Dry), Tikshna (Sharp), Sara
Virya (Potency)	Ushna (Hot)
Vipaka (Post-digestive effect)	Katu
Dosha Karma	Kapha–Vata Shamana (pacifies Kapha and Vata), may aggravate Pitta if misused
Prabhava (Specific Action)	Lekhana (scraping), Deepana (enhances digestion), Bhedana

Chemical Composition of Bhallataka (*Semecarpus anacardium*), Pharmacological Actions[iv] and Therapeutic Uses

Chemical Constituent	Chemical Nature	Pharmacological Actions	Therapeutic Uses / Indicated Diseases
Bhilawanol	Phenolic compound (catechol derivative)	Anti-inflammatory, antimicrobial, cytotoxic, vesicant (irritant)	Skin diseases (*Kushtha*), chronic ulcers, rheumatism; caution due to irritant nature
Semecarpol	Monohydroxy phenol	Anti-inflammatory, analgesic, anti-cancer, antioxidant	Tumors (*Arbuda*), inflammation, pain, chronic skin disorders
Anacardic acids	Salicylic acid derivatives	Antimicrobial, anti-inflammatory, antioxidant	Infections, skin diseases, inflammatory conditions

Cardol	Phenolic lipid	Immunomodulatory, anti-inflammatory, antimicrobial	Autoimmune disorders, skin diseases, chronic inflammatory conditions
Cardanol	Phenolic compound	Antioxidant, anti-cancer, neuroprotective	Degenerative diseases, cancer, oxidative stress–related disorders
Flavonoids	Polyphenolic compounds	Antioxidant, anti-inflammatory, hepatoprotective	Liver disorders, inflammatory diseases, metabolic disorders
Tannins	Polyphenolic compounds	Astringent, antimicrobial, wound healing	Diarrhea, bleeding disorders, wounds, ulcers
Fixed oils	Fatty acids	Emollient, anti-inflammatory	External application in skin diseases and joint pain
Glycosides	Secondary metabolites	Digestive stimulant, anti-helminthic	Helminthic infestations (*Krimi*), digestive disorders
Steroids (phytosterols)	Plant sterols	Anti-inflammatory, immunomodulatory	Arthritis, autoimmune and inflammatory disorders

Classical Categorization of Bhallataka (*Semecarpus anacardium*) According to Different Nighantus and Acharyas

Classical Text / Nighantu	Acharya	Varga / Gana (Category)	Basis of Classification
Charaka Samhita	Acharya Charaka	*Kusthaghna*, *Deepaniya*, *Arshoghna* (functional grouping)	Therapeutic action in skin diseases, digestive stimulation, haemorrhoids
Sushruta Samhita	Acharya Sushruta	*Upavisha Varga*	Toxic nature with medicinal utility after purification
Ashtanga Hridaya	Acharya Vagbhata	*Upavisha*	Semi-poisonous drug requiring *Shodhana*
Dhanvantari Nighantu	Dhanvantari	*Guduchyadi Varga*	Based on therapeutic and pharmacological similarity
Madanapala Nighantu	Madanapala	*Abhayadi Varga*	Grouping based on clinical utility
Raja Nighantu (Abhidhana Chintamani)	Narahari Pandit	*Guduchyadi Varga*	Dravyaguna-based classification
Bhavaprakasha Nighantu	Bhavamishra	*Guduchyadi Varga*	Rasa–Guna–Virya predominance
Kaiyadeva Nighantu	Kaiyadeva	*Aushadhi Varga*	Medicinal utility
Shodhala Nighantu	Shodhala	*Guduchyadi Varga*	Therapeutic properties

Nighantu Adarsha	Bapalal Vaidya	*Upavisha Varga*	Toxicological classification
Rasa Tarangini	Sadananda Sharma	*Upavisha Dravya*	Rasashastra and toxicological importance
Yogaratnakara	—	*Upavisha*	Clinical and toxicological consideration

Therapeutic Indications of Bhallataka (*Semecarpus anacardium*) According to Ayurveda

S. No.	Ayurvedic Indication	Modern Correlation	Basis of Action
1.	**Arsha**	Haemorrhoids	Lekhana, Deepana, Bhedana
2.	**Kushtha**	Skin diseases (eczema, psoriasis, leprosy)	Kushthaghna, Shothahara
3.	**Gulma**	Abdominal lump, tumor-like conditions	Tikshna, Lekhana
4.	**Grahani**	IBS, malabsorption syndrome	Agnideepana, Aamapachana
5.	**Prameha**	Diabetes, polyuria	Medoghna, Kaphahara
6.	**Krimi**	Helminthic infestations	Krimighna
7.	**Vataroga**	Arthritis, neurological disorders	Ushna, Vedanasthapana
8.	**Shotha**	Inflammatory conditions	Shothahara
9.	**Amavata**	Rheumatoid arthritis	Aamapachana, Vata-Kapha Shamaka
10.	**Kasa**	Cough	Kapha Vilayana
11.	**Shwasa**	Bronchial asthma	Ushna, Kapha Shoshana
12.	**Udara Roga**	Ascites, abdominal disorders	Bhedana, Deepana
13.	**Vrana**	Chronic ulcers (external use)	Shodhana, Ropana
14.	**Shopha**	Edema	Lekhana, Ushna
15.	**Arbuda**	Tumors (as per classical view)	Lekhana, Tikshna

Properties and Actions of Different Parts of Bhallataka (*Semecarpus anacardium* Linn.) as Described in Various Nighantus

Part Used	Nighantu / Classical Source	Rasa–Guna–Virya (Properties)	Karma (Actions)	Therapeutic Uses
Fruit (Nut)	Bhavaprakasha Nighantu	Rasa: Katu, Tikta, Kashaya; Guna: Laghu, Ruksha, Tikshna; Virya: Ushna	Deepana, Pachana, Lekhana, Krimighna, Kushthaghna	Arsha, Kushtha, Gulma, Grahani, Prameha

	Raja Nighantu	Tikta–Katu Rasa; Ushna Virya	Medoghna, Arshoghna	Metabolic disorders, haemorrhoids
	Dhanvantari Nighantu	Tikta–Katu Rasa; Tikshna Guna	Bhedana, Shothahara	Gulma, Shotha
Pericarp (Fruit rind)	Bhavaprakasha Nighantu	Tikshna, Ushna, Ruksha	Vesicant, Lekhana	External use in skin disorders
	Kaiyadeva Nighantu	Tikta–Katu Rasa	Kushthaghna	Chronic skin diseases
Seed / Kernel	Madanapala Nighantu	Madhura Anurasa; Ushna Virya	Balya, Rasayana (after Shodhana)	Debility, chronic diseases
	Raja Nighantu	Snigdha Guna	Brimhana	General weakness
Oil (Bhilawan Taila)	Sushruta Samhita	Ushna, Tikshna	Shothahara, Vedanasthapana	Vataroga, Sandhishoola
	Bhavaprakasha Nighantu	Tikshna, Ushna	Kushthaghna, Krimighna	External application in skin diseases
Leaves	Kaiyadeva Nighantu	Kashaya–Tikta Rasa	Shothahara	Swelling, inflammation
Bark	Dhanvantari Nighantu	Kashaya Rasa	Stambhana	Diarrhea, bleeding disorders

Vishaakta Lakshana of Bhallataka

According to Ayurveda – Table Format

System / Srotas Affected	Ayurvedic Lakshana (Symptoms)	Description
Twak (Skin)	Daha, Kandu, Pidikaa, Sphoṭa, Vrana	Severe burning, itching, blister formation, ulceration and discoloration
Mukha & Jivhaa	Mukha-paaka, Oshtha–jivhaa daha	Inflammation, burning and ulcers of mouth, lips and tongue
Kantha	Kantha-daha, Shosha, Swarabhanga	Throat burning, dryness and hoarseness
Annavaha Srotas	Chardi, Atisarara, Udarashoola	Vomiting, diarrhea and abdominal pain
Udakavaha Srotasa	Tṛisnaa	Excessive thirst due to heat and irritation
Raktavaha Srotasa	Raktadaaha, Netra-roga	Burning in blood, redness of eyes, Pitta aggravation
Prāṇavaha Srotasa	Swaasa-kricchrata, Uraha-daaha	Breathing difficulty and chest burning (especially on inhalation of fumes)

Manovaha Srotasa	Bhrama, Moha	Giddiness, confusion
Sarvaanga (General)	Jwara, Daurbalya, Klama	Fever, weakness, fatigue

According to Modern– Table Format

Body System	Signs and Symptoms
Skin & Integumentary	• Severe irritation, redness, itching, burning sensation • Allergic dermatitis (rashes, blisters) • Contact dermatitis • Photosensitivity reactions
Gastrointestinal	• Burning sensation in mouth and throat • Nausea and vomiting • Abdominal pain • Diarrhea • Possible gastric mucosal irritation/ulceration in high doses
Respiratory	• Throat irritation and cough • Bronchospasm or asthma-like symptoms in sensitive individuals
Nervous	• Headache • Dizziness • Mild nervousness or agitation (rare)
Immune / Hypersensitivity	• Allergic reactions • Hypersensitivity responses leading to systemic symptoms in sensitized individuals
Cardiovascular	• No direct toxicity widely reported • Possible tachycardia or palpitations during severe allergic reactions

contraindications of Bhallataka (Semecarpus anacardium) use:

Condition / Situation	Contraindication Details
Pregnancy	Avoid use due to potential toxicity and risk to the fetus.
Lactation	Not recommended; safety during breastfeeding is not established.
Children	Use with caution or avoid; safety and dosing not well studied.
Hypersensitivity / Allergy	Contraindicated in individuals with known allergy to Bhallataka or related plants (Anacardiaceae family).
Skin Disorders with Active Lesions	Avoid external use on broken or severely inflamed skin to prevent irritation.
Severe Liver or Kidney Disease	Use cautiously or avoid due to potential toxic accumulation.
Peptic Ulcer or Gastrointestinal Irritation	Avoid oral use in patients with active ulcers or severe GI irritation due to its irritant properties.
Improperly Purified Formulations	Contraindicated as Bhallataka is toxic if not properly purified (Shodhana).

DISCUSSION

Semecarpus anacardium has been utilized worldwide to treat various illnesses since the dawn of civilization. Extensive literature review reveals that this plant possesses a broad spectrum of pharmacological activities, making it highly valued among medicinal herbs with diverse biological potentials. The fruit extract demonstrates multiple therapeutic effects, including antibacterial, anticancer, anti-inflammatory, anti-atherogenic, antioxidant, and hair growth-promoting properties, among others.

CONCLUSION

Semecarpus anacardium possesses a wide range of medicinal applications. Its fruit and nut extracts exhibit diverse pharmacological properties, including anti-atherogenic, anti-inflammatory, antioxidant, antibacterial, anti-reproductive, central nervous system stimulant, hypoglycemic, anticancer, and hair growth-promoting effects. Further research is essential to deepen the understanding of its traditional uses, validate its therapeutic activities, and elucidate the underlying mechanisms of action.

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