

**AYURVEDIC ASPECT OF BHALLATAK IN AGADTANTRA****¹*Dr. Madhura Vinay Fadanavis and ²Dr. Akshara Akash Patil**¹PG Scholer, Agadtantra Evam Vidhi Vaidyak Department²Guide and Associate Professor, Agadtantra Evam Vidhi Vaidyak Department

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Bhallataka (*Semecarpus anacardium* Linn) is a plant in the family Anacardiaceae. It is called marking nut tree. Bhallataka (*Semecarpus anacardium* Linn) is mentioned in the group of Sthavar Vanaspatika Visha in different Ayurvedic textbook's also it is irritant organic vegetable poison. All the parts are poisonous mostly seeds are hazardous to human, due to its irritant property. The Bhallataka nut contain bhilwanol and semecarpal as toxic ingredient show some medicinal properties. By its hot potency it has some local action like Sphotjananam (Ushna-Virya In Ayurved system of medicine though it is poisonous plant & fruits of it is poisonous useful part but when used in purified form have been recommended for the treatment of hemorrhoids, worm, irritable bowel disease, constipation, ascites, bronchitis, skin diseases etc. A number of Ayurvedic formulation includes this drug after the proper Shodhana (purification) as in judicious use of Asuddha (impure) Bhallataka may results in toxic effect like burning sensation of skin blister formation, ulcer and so on.

Treatment of toxic effect of Bhallataka is described various texts of Ayurveda. Modern toxicology also describes manifestation, treatment, autopsy finding and medico legal aspect of *Semecarpus anacardium* linn.

KEYWORDS: Ayurveda, Toxicology, Bhallataka, *Semecarpus anacardium*, Medico-legal.**INTRODUCTION**

Agadtantra is the branch of Ayurveda which is meant for diagnosis and treatment of various poisoning such as bites by snakes, insect, spider, rats, etc. and also other poisonous

substances like plants and minerals.^[1] Bhallataka (*semecarpus anacardium* linn.) Popularly known as marking nut, tree-dhobis nut, belonging to the family Anacardiaceae. It has many therapeutic application in Indian system of medicine. Preparation of the nut from Bhallataka were used in ancient medicine and still find a place indigenous medicine we are getting different of opinions on the properties of marking nut which is stated in Ayurveda scripture's and text books that is Bhallataka having typical properties, it is used in various diseases, which described in Ayurveda.^[2]

AIM:- To Study The Ayurvedic Aspect Of Bhallatak In Agadtantra.

OBJECTIVES

1. To study the toxicity of bhallatak.
2. To study the systematic effect of bhallatak

Vernacular Name

- English - Marking nut tree.
- Hindi - Bhilawa, Bhela.
- Bengali - Bhela, Bhelatuki.
- Gujarati - Bhilamu.
- Kannada - Bhallataka, Goduguru, Karigeri.
- Malayalam - Chera, Cheru, Alakkucheru.
- Marathi - Bibba, Bhilava.
- Tamil - Tatamkottai, Scramkotati, Senkottati, Erimurgi.
- Arabia - Beladin, Habbul-fahm.
- Assam - Bhelaguti, Bhala, Bholaguti.
- Oriya - Bhollataki, Bholai, Balia.
- Urdu - Baladur, Bhilavan.

Type of Poison

1. Ayurveda - Sthawarvanaspatic Visha.^[4]
2. Modern science - Irritant organic vegetable poison.^[5]

Plant Description

A moderate sized deciduous tree, exuding a dark juice. Young branches, inflorescence, petioles and underside of leaves pubescent.

Leaves - rounded at apex, cartilaginous at margin, very coriaceous.

Flowers - fasciculate, arranged in erect, compound, greenish yellow coloured.

Fruits - drupes, obliquely oval or oblong, smooth, shining, purplish-black, when ripe, cup orange-red.^[6]

Synonyms of Bhallataka^[7]

Bhallataka, Dahana, Arushkara, Krimighna, Vatari, Prthagvija, Agni, Tapana, Anala, Taila-bija, Sphotakabijaka, Dhanurvija.

Characteristic of Bhallataka fruit^[8-11]

1. **Guna (Qualities)** -Laghu, Snigdha, Teeksna
2. **Rasa (Taste)** -Madhur, Kashaya
3. **Vipaka**- Madhur
4. **Veerya (Potency)** -Ushna
5. **Karma (Action)**- Agnideepan, Pachan, Chedana, Medhya
6. **Doshaghnata** -Kapha-Vata
7. **Roga-ghnata** -Vrana, Udar, Kustha, Arsha, etc.

Chemical constituents^[12]

Bioflavanoids, Anacardic acid, Bhilawanols, Myristic, Oleic, Palmetic and steric acids, Nicotinic acid, Riboflavin, Thiamine, essential amino acids.

Toxic Part^[13]

Fruit

- Colour - hard, black rind within which brownish, oily juice known as Bhallataka oil is present.
- Weight - 1.5 to 3.5 gm
- Oil - Colour : Brownish, oily Medicinal Dose.^[14]
- Kalka - 3-6 gm
- Taila - 10-20 drop Fatal Dose - 5-10gm (pulpy juice) & 140-150 grain Fatal Period - 12-24 hours

Toxicity Evaluation

S. anacardium nuts can be given orally with milk, ghee, peanut oil etc. Toxic effects are not observed by such routes of administration. On the contrary, anabolic effects are obtained.

Traditional methods recommended in Ayurveda and Siddha should be closely followed so as to get therapeutic effects without toxicity. Various reports have mentioned the range of dosage from 300 to 9000mg in a graded manner.^[15] Toxicity studies were carried out with one Siddha preparation of *S. anacardium* and they found that, in rats, there was no adverse effect or mortality upto the oral dose of 2000mg/kg. The histopathological studies on liver, lung, kidney and heart did not reveal any significant pathological lesions even when the extract was administered at a high dose of 1000mg/kg. The animals looked healthy and active without any physiological disturbance and loss in body weight. Hematological picture was almost normal. The extract did affect total WBC count but there was no effect on RBC count and haemoglobin percentage.^[16] The toxic side effects of the very high dose of the drug are diarrhea and vomiting, swelling all over the body, ulceration and vesication on the skin. It should be used cautiously and in lesser doses in hot season.^[17] During use, whether external or internal the least appearance of a rash or redness of the skin or an itchy or uneasy sensation in any part of the body should be considered as a manifestation of undesirable effects and use should be discontinued immediately.^[18]

Therapeutic Evaluation^[19]

- Milk decoction of nuts was administered orally to 120 patients of rheumatoid arthritis for 27 days. Very good symptomatic relief was observed in 65% of the patients. Toxicity symptoms common in female as compared to male.
- Clinical trials of the drug, Bhallataka Vati (*semecarpus anacardium*) have shown spectacular effects on patients suffering from Amavata.
- Clinical trials have shown that the combined therapy with the three drugs, viz. Bhallataka (*semecarpus anacardium*), Gourakh (*Dalbergia lanciolaria*) and Guggulu (*Commiphora mukul*) in osteo-arthritis, frozen shoulder and sciatica, has better effects than the individual drugs.
- Clinical trials have shown that the combined therapy with the three drugs, viz. Bhallataka (*semecarpus anacardium*), Gourakh (*Dalbergia lanciolaria*) and Guggulu (*Commiphora mukul*) have shown a definitive evidence of improvement in patients suffering from rheumatic arthritis.
- A study was conducted with Bhallataka (*semecarpus anacardium*) to assess its utility in sciatica. Bhallataka was encouraging and the optimum dose was found to be 4g/day. This dose was found highly effective in Gridhrasi (Sciatica).

A controlled clinical trial was conducted with milk decoction of semicarpus anacardium in 20 patients of rheumatoid arthritis, 15 patients of ankylosing spondylitis, 25 cases of sciatica and 6 cases of knee joint arthritis. Among the 25 cases of sciatica of variable etiology treated with the drug and cases due to primary idiopathic sciatic neuritis responded well to therapy while those due to osteoarthritis of lumbar spine showed mild to moderate improvement. Anacardium forte - Bhilawa nuts and seeds in proportion of 1:200 was found to be beneficial in giving clinical relief to cancer patients, improve general condition and increases life span. No unpleasant or toxic symptoms were or toxic symptoms were observed in any case.

Clinical manifestation of Bhallataka poisoning^[22]

If Ingested Orally

- Burning sensation in mouth, throat, chest & epigastric region (upper GIT)
- Blackish blister containing acrid serum
- Excessive salivation, nausea & vomiting
- Pain & cramps in abdomen (Entire)
- Watery purgation, sometime with blood stains & mucus
- Excessive thirst, Oligourea, Anurea

Manifestation of toxicity of Bhallataka In Charaka Samhita one of the cause of Agantuja shotha is contact of fruits or flowers of Bhallataka with body.^[23] If juice of Bhalataka comes in contact with body, produces severe Daha, and Vrana. When it comes in contact with face, it produces acute burning sensation with Shotha and Visarpa.^[24] Some person have intolerance of Bhallataka and they show manifestation like dark urine, itching all over body, red patches, blister diarrhea, fever, bloody urine, blister are ruptured even show Unmada. Oligouria, cloudy urine, itching at anus and penis may also find.^[25]

Treatment of Bhallataka

Toxicity Bhallataka Shothahara Yoga - Local application of paste of Tila rubbed with buffalo milk and mixed butter or local application of paste of Yasthimadhu and Tila rubbed Shalapatra.^[26]

Arushkara Shothaghna Lepa - Paste of Tila with goat milk and butter or Krishna Mritika is used in Shotha caused by Bhallataka.^[27]

Local Application - For quick relief of Bhallataka Shotha are as follows - Mixture of Mehnad

Swarasa and butter or mixture of Devdaru, Sarshapa, Nagarmotha and Navneeta or mixture of Navneeta, Tila Mishri and milk or Neema, Tila, Tila Tail are boiled together and made concentrated to apply locally. When manifestation of toxicity observed, medication of Bhallataka is stopped and white albumen of coconut juice of leaves of Chinchā given to eat. Externally coconut oil, ghee, lead lotion is applied.^[28] The specific antidote for the toxicity of Bhallataka is Bibhitaka (*terminalia belerica*). The decoction of powder preparation with fruit rind and bark of *terminalia belerica* are effective for the sudden reactions and for systemic effects. Drug that mitigate Pitta like milk and clarified butter and other drugs with cold potency may also be used.^[29]

Pathya - Person should consume milk & rice and ghee in large quantity. **Varjya** - Walking in sun, excess sexual intercourse, meat consumption, salt, exercise and oil massage.

Contraindication of Bhallataka formulations in - Pitta disease, hemorrhagic tendency, pregnancy, child, old age, diarrhea, nephritis & summer season.

Medico - Legal Aspect / Circumstances of Poisoning^[30]

1. Accidental poisoning may result from the administration of juice internally by quacks.
2. Homicidal and suicidal poisoning is rare.
3. Sometimes the juice is introduced in vagina as a punishment for infidelity.
4. To support false charge of assault the juice is applied to skin which produce lesion stimulating bruises.
4. The juice may be thrown on the body to cause injury.
5. For criminal abortion, the bruised nut is applied to cervicalos.
6. Malingerers use juice to produce opthtalmia.

DISCUSSION

The *Semecarpus anacardium* nut shell liquid present in the pericarp of the fruit contains oil consisting of anacardic acid and cardol. Other isolated chemical constituents are bilawanols, semecaduflavanone, arachid acid. These are the chemical constituents responsible for the irritation and toxicity. In Ayurveda, it is clearly mentioned that the drug Bhallataka should be used after purification. Purification plays an important role to reduce the adverse effects during internal administration.

CONCLUSION

Semecarpus anacardium is mentioned in the group of *Sthavar Vanaspathi Upavisha* in different Ayurvedic text books also it is irritant organic vegetable poison. Synonyms of *Bhallataka* (*Semecarpus anacardium*) are *Shophahetu*, *Shophakrita*, *Vranakrita* which means it causes inflammation and ulceration. We find *Laghu*, *Ruksha* property & hot potency in *Semecarpus anacardium* which is similar to poison. So this review article aims to focus on local & systematic manifestation and treatment of *Semecarpus anacardium* (*Bhallataka*) are described in both Ayurveda and Modern texts.

REFERENCES

1. Maharsi Susruta, *Susruta Samhita* by Kaviraja Ambika Duttashasrti, part-1 published by Chaukhambha Sanskrit Samsthan, Varanasi, Reprint, 2015; 51.
2. Dr. Anita Sharma, *Agad Tantra Vigyan*, Chaukhambha Orientaliya, Varanasi, Edition 1st, 2016; 78,79.
3. The Ayurvedic formulary of India, part-II, I: 19.
4. Maharsi Susruta, *Susruta Samhita* by Kaviraja Ambika Duttashasrti, part-1 published by Chaukhambha Sanskrit Samsthan, Varanasi, Reprint, 2015; 51.
5. Singhal S.K., *Toxicology at a Glance*, The National Book Depot, Mumbai, Edition 7th, reprint, 2009; 86.
6. Dr. Shastri J.L.N., *Dravyaguna Vijnana*, Vol-2, Chukhambha Oriental, Varanasi, Edition 3rd, 2008; 135.
7. Shri Narhari Pandit Raj Nighantu by Dr. Satish Chandra Sankhyadhar published by Chaukhambha Bharti Academy, Varanasi, Reprint, 2012; 567.
8. Shri Bhavamisra commentary *Bhavprakasa Nighantu* by Prof. K. C. Chuneekar, vol-1 published by Chaukhambha Orientalia, Varanasi, Reprint, 2015; 139 base on Medicinal Plant, edition, 2005; 5: 9,10.
9. Shri Narhari Pandit Raj Nighantu by Dr. Satish Chandra Sankhyadhar published by Chaukhambha Bharti Academy, Varanasi, Reprint, 2012; 675, shloka-567.
10. Madanpal Nighantu by Prof. Gayanendra Pandey published by Chaukhambha Orientalia, Varanasi, Reprint, 2016; 301, shloka-199.
11. Prof. Priyavrata Sharma, *Kaiydev Nighantuh*, *Pathyapathya - Vibodhakah*, published by Chaukhambha Orientalia, Varanasi, Reprint, 2016; 90,91.
12. Dr. P.V.N.R. Prasad, *Illustrated Agad Tantra*, Chukhambha Sanskrit Sansthan, Varanasi, third Edition., 2016; 252.

13. The Wealth Of India – A Dictionary Of Indian Raw Materials And Industrial Products, Vol-5 National Institute Of Science Communication And Information Resoces. New Delhi India, Reprint, 2012; 66-67.
14. Dr. Sharad Porte, Agad Tantra Visha Chikitsa Vigyan, Ayurveda Sanskrit Hindi Pustak Bhandar, Jaipur, Edition 1st, 2016; 120.
15. Acharya Charaka, Charaka Samhita of Agnivesa by pt. Kasinatha Sastri, part-1, published by Chaukhambha Bharti Academy, Varanasi, Reprint, 2014; 18.
16. C.C.R.A.S. Dept. Of Ayush, Ministry of health & family welfare, Govt. of India, Database on Medicinal Plant, vol-5, edition, 2005; 9,10.
17. Sharma PV, Chaturvedi C & Bandhopadhyaya NG, A study on dosage and toxicity of Bhallataka (*Semecarpus anacardium* Linn.), J Res Indian Med., 1966; 1: 130.
18. Ghosh D, Thejomoorthy P, Shetty BMV & Veluchamy G, Certain pharmacological studies with SKx (a coded anticancer siddha preparation) with special reference to its toxicity, J Res Ayur Siddha 2, 1981; 150.
19. Vaishnav R, Sankarnarayanan A, Chaudhury RR, Mathur VS & Chakravarti RN, Toxicity studies on a proprietary preparation of *Semecarpus anacardium*, Indian J Med Res., 1983; 77: 902.
20. Sharma PV, Chaturvedi C & Bandhopadhyaya NG, A study on dosage and toxicity of Bhallataka (*Semecarpus anacardium* Linn.), J Res Indian Med., 1966; 1: 130.
21. C.C.R.A.S. Dept. Of Ayush, Ministry of health & family welfare, Govt.of India Database on medicinal plant, vol-5, edition., 2005; 12.
22. Acharya Charaka, Charaka Samhita of Agnivesa by pt. Kasinatha Sastri, part-1 published by Chaukhambha Bharti Academy, Varanasi Reprint, 2014; 18.
23. Pt. Kashinath Shastri, Rastarangini, Published By Motilal Banarashidas, Delhi, Repint, 009; 734: 474-475.
24. Prof. K. C. Chunekar, Shri Bhavamisra commentary, Bhavprakasa Nighantu, vol-1 published by Chaukhambha Orientalia, Varanasi, Reprint, 2015; 215, shloka-85.
25. Prof. Siddhi Nandan Mishra, Bhaisajya Ratnavali, Chaukhambha Surbharti Prakashan, Varanasi, reprint, 2012; 772.
26. Dr.Sharad Porte, Agad Tantra Visha Chikitsa Vigyan, Ayurveda Sanskrit Hindi Pustak Bhandar, Jaipur, Edition 1st, 2016; 120.
27. Prof. K. C. Chunekar, Shri Bhavamisra commentary Bhavprakasa Nighantu, vol-1 published by Chaukhambha Orientalia, Varanasi, Reprint, 2015; 215, shloka-85.
28. Dr. S. R. Inchulkar, Agada Tantra Evum Visha Vighyan, Published By Vaibhav

Prakashan, Raipur, 1st edition, 2017; 79.

29. Prof. K. C. Chuneekar, Shri Bhavamisra commentary Bhavprakasa Nighantu, vol-1 published by Chaukhambha Orientalia, Varanasi, Reprint-2015, shloka-85.

30. Jaising P. Modi, Modi A Textbook of Medical Jurisprudence and Toxicology, Lexis Nexis Publication Gurgaon-12202, Haryana, 26th edition., 2018; 335.