

**BHALLATAK (SEMICARPUS ANACARDIUM) – A DRUG REVIEW**

Dr. Sethi Lincon Kumar^{*1}, Tiwari R. C.², Dikshit Manisha³, Singh Anoop Kumar⁴ and Sharma Ved Bhushan⁵

¹MD. Scholar at UAU in Agadtantra.

²Professor and H.O.D at UAU in Agadtantra.

^{3,4}Associate Professor at UAU in Agadtantra.

⁵Assistant Professor at UAU in Agadtantra.

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Corresponding Author*Dr. Sethi Lincon Kumar**

MD. Scholar at UAU in
Agadtantra.

ABSTRACT

Ayurved's magic as a medical science has been proved a blessing for us from an ancient period to till date. Any herbal or mineral drug, if purification process is properly conducted then it acts as a nectar otherwise may be havoc for mankind. *Bhallatak (Semicarpus anacardium)* is also one of them. Its therapeutic effects are also described in different texts. Various experimental studies has been conducted both in vitro and vivo models. Aphrodisiac, anthelmintic activity, anti-oxidant activity, anti-microbial activity and many more properties are found under this highly influenced traditionally acclaimed medicinal plant.

KEYWORDS: Ayurveda, Magic, *Bhallatak*, Nectar, Aphrodisiac.

Bhallatak otherwisely known as Marking nut as it is used for marking in clothes, timbers as a symbol.

Semicarpus anacardium,^[1] is the botanical name and it belongs to *Anacardiaceae* family.

Synonyms are:- Aruskar, Tapan, Agnik, Sophkrit, Agnimukh etc.^[2]

Semicarpus is derived from a greek word 'Simeion' means marking / tracing and carpus means nut. Anacardium means which looks like a heart i.e heart shaped marking nut. In India, it is mainly found in hot climate regions, lower regions of Himalayas, Bihar, West

Bengal, Odisha etc. It is 10-40 foot long in height, looks beautiful. *Bhilwa* is the fruit of this plant which is 1" long, less than 1" in width, oval in shape and reddish in colour.

The plants belonging to Anacardiaceae have proved producing skin diseases / allergic manifestations through contact dermatitis.

The main constituents of this drug is Bhilwanol and Semecarpanol.^[3]

Bhallatak seed (marking nut seed) which when sinks in water is said to be best for medicine formulations purposes.^[4]

Purification process (Sodhan karma)^[5]

Different purificatory process has been described in ayurvedic texts.

1. Impure *Bhallatak* and brick powder are taken in a clean cloth and tightened with a rope properly, then rubbed in hand gently. After a while, some black colour oil emits from the nut gets absorbed by the brick powder and the upper cover of *Bhallatak* gets detached, then it is properly washed in warm water and get it dried.
2. First of all thalamus of the fruit must be detached and cut it through knife. Before it, coconut oil should be applied all over the hands (both) properly. Then *Bhallatak* (cut) is kept in brick powder (istika chooran) and left for 24 hrs. On the next day, it is removed from powder and get it cleaned through clean cloth and then get washed with warm water.
3. The fruit of *Bhallatak* is cut and kept in a cloth and tied properly. Sudation is done in coconut water through dola yantra.
4. As per AFI^[6] *Bhallataka* fruits after removing the attachments of the thalamus are soaked in *Gomutra* for 7 days and thereafter in *Godugdha* for 7 days. The seeds are then put into a bag containing coarse brick powder with which they are rubbed carefully, with a view to reduce the oil content. Then the fruits are washed with water and dried in air.

Properties and uses^[7]

It has *madhur* and *kashaya ras*, *ushna virya*, *madhur vipak* and *tikshna*, *snigdha*, *laghu* and *ushna gunas*. It has also the properties of *kaph-vat samak*, *medhya*, *vrishya* (aphrodisiac), *mutrajanana*, *kusthaghna*, *agnivardhak* etc⁸. further it is also indicated in several diseases like *swasa* (asthma), *arsa* (piles), *firang* (syphilis), *gandmala* (lymphadenitis), *visuchika* (cholera), *gulma rog* (tumour), *aamvat* (R.A.), *jwar* (fever), *adhman* (flatulence) etc. it also acts as a *rasayan* (rejuvenant) as described in *Charak samhita*.

- External application of this drug is also seen in snake bite poisoning where a cut is given at the bite site and lepa is applied on it.
- Miscarriage is seen when applied externally on vagina or in cervix.
- Specially, In respiratory system it has properties of kaph-vat nashak, acts good in kasa (cough) and swasa (asthma).
- It is also very useful in reproductive system like in impotency, erectile dysfunction in males and dysmenorrhea.

Bhallatak formulations

The commonly used formulations are *Amrit Bhallatak Avaleha*, *Bhallatakasav*, *Bhallatak parpati*, *Sanjeevani vati*, *Narshima Choorna*, *Suran vati* etc.

Description of various formulations of *Bhallatak* has been done by three treatises of *Ayurved* i.e. *Charak*, *Sushrut*, *Vagbhat*.

Acharya Charak describes about the 10 different types of formulations of *Bhallatak* in *Rasayanadhyaya* part 2 i.e. in *Pranakamiya Rasayanpada* and further mentioned in the same chapter that there is no such *kaphaj vikar* that cannot be cured by *Bhallatak* and also helpful in increasing *agni* (digestive fire) and *medha* (intellectual power)⁹ while *acharya Sushrut* and *acharya Vagbhat* have mentioned about *vardhman prayog* of *Bhallatak* (use of 1000 *Bhallatak* seeds)

Chemical compositions

Bhilawanol and Semicarpol are the two main ingredients found in this drug.

Complications of Bhallatak

Deep colour of urine, burning sensation all over the body, itching and patch formation, dryness in *guda* (anal region) and prepuce of penis gets dry.

In the initial stage, coconut milk or tamrind leaves juice and coconut oil can be used both internally and externally to get rid from the above complications.

Phytochemistry^[10]

Phenolic compounds, sterols, alkaloids, bioflavonoids and glycosides. Bhilawanol is an alkaloid which is found in nut fruit. It has a mixture cis and trans isomers of ursuhanol. The nut of *Bhallatak* contains bhilawanol and leaves contain only one biflavonoids i.e.

amentoflavone. The flavonoids present in the fruit is A, A1, A2, C, Tetrahydro amento flavone, jeediflavone, jeediflavanone, tetra hydroamentoflavone, semicarpuflavone, anacarduf flavanone, tetra methyl biflavanone A1, O- dimethyl flavonone B, O- teramethyl biflavonone C etc. There are many such components that are isolated from the nuts like anacardic acid, cardol, alkenylcateehols, semecarpitin, anacardol, anacardoside, semicarpol, mono lefin1, dio lefin11, oleic acid, linoleic acid, palmitic acid, arichidic acid.

Pharmacology^[11]

Pharmacological effects of this drug has been significantly seen. Analgesic activity, anti inflammatory effect, anti cancer activity, anthelmintic activity, anti microbial activity, anti oxidant activity, anti tuberculosis affect etc and many more studies has been already experimented on animals successfully.

- It enhances the memory power by increasing the cholinergic functions.
- The sexual activity on mating performance was seen enhanced by the extracts of Semicarpus Anacardium in mice.
- The petreoleum ether and the chloroform extract of Semicarpus Anacardium shows a good result in anthelmintic activity.
- According to study petroleum ether, chloroform and methanol extracts of Semicarpus Anacardium shows a significant analgesic activity. Methanol extractat at 50 mg/kg has a better more analgesic effect than petroleum ether and chloroform.^[12]
- In recent studies it was revealed that the extracts of Semicarpus Anacardium helps in cardio protective effect. Hydro alcoholic extracts from the nuts of Semicarpus Anacardium significantly worked in induced myocardial damage in rats.^[13]

Clinical studies

Various dissertation are recorded in Ayurved on *Bhallatak* and its different formulations in different clinal conditions such as rheumatoid arthritis, ankylosing spondilysis, eczema, haemorrhoids, tumours, helminthiasis etc.

Role in Rheumatoid arthritis by various aspects of *Bhallatak* is the commonest topic.

Clinical trial of “*Vardhman prayog*” has shown good results on neurologia, sciatica etc.

In some cases irritation and burning of skin with redness, rashses, urethritis are seen in drug adverse reactions. This can be controlled by administration of anti histaminic or withdrawal of drug for certain period.

Improper purification of drug may also be a cause for the above problems.

According to Ayurvedic texts, pitta prakriti purush (predominance of pitta) should avoid in take of drug in large amount.

Contraindication of this drug is also mentioned in summer season.

In Aamvat, administration of *Amrit bhallatak* for a period of 28 days gives a wonderful result of 60% improvement due to its rasayan property.

Toxicity

Bhallatak is considered one of the toxic plant. In Sushrut Samhita it is included in Upvish Varg.^[14]

In Ayurveda text, contraindication of this drug is also mentioned. It should be avoided in Pediatric age group, pregnant women, pitta prakriti purush, people having allergy towards the drug. Therefore it has a narrow therapeutic range in treatment.

It has many adverse effects such as itching, stomatitis, gastritis, urethritis, etc. In such conditions, intake of drug should be avoided and physician should use antidotes either locally or systematically.

During the intake of drug, the patient should be advised not to take pitta aggravating substances.

In Ayurveda texts, it is mentioned that ghee, rice, milk, sugar should be taken as anupana.

In case of systemic toxicity- Coconut albumen, sarivadi gana, durvadi gana, tamarind leaves, coconut water is used or antidotes.

In local toxicity- Sesame oil, coconut oil, coriander, ghee can be used as antidotes.

According to Ayurveda, its toxicity can be managed through application of navneet mixed with til kalk (paste), paste of dhanyak, paste of leaves of arjun, paste of leaves of kasmard, paste of haridra and paste of coconut as lepa.

Therapeutic dose (acc. to Ayurved):- 1-3 ratti.

Fatal dose^[15]:- It is uncertain.

Fatal period:- 12-24 hours.

Treatment

- In case of any external skin lesions wash it with water and apply liniments.
- In case of any oral ingestion, gastric lavage is advised and demulscents are also given.
- Symptomatic treatment.

Post-mortem findings^[16]

- Small blister like formation and bruise like lesions are mainly found near the angle of mouth or lips. Blisters are also seen in mouth and throat internally.
- Congestion and inflammation of stomach is found.
- Degenerative changes are found in liver.
- Congestion of other organs are also found.

Medico-legal aspects^[17]

- Juice of Semicarpus Anacardium may be introduced into the vagina as a punishment for infidelity.
- Juice may be applied to the cervical os by means of abortion stick in case of criminal abortion.
- Administration of juice by quacks for the treatment of rheumatic pain and worm infestation may cause accidental poisoning.
- Juice of Semicarpus Anacardium may be thrown on the face to cause injury.
- Homicidal and suicidal poisoning is seen rare.
- Malingerers use this drug to produce conjunctivitis or to support a false charge of assault, lesions produced simulate bruises.

CONCLUSION

As described before in this article that it is widely found in lower Himalayan range and hot climate, but it has a narrow therapeutic range.

Proper purification of this drug is helpful to mankind and it has been used as a medicine from an ancient period. It is specially indicated as anti inflammatory, anti asthmatic, anthelmintic activity etc as said before.

Formulations like Sanjeevani vati in jwar, narshima choorna as a vajikarak(aphrodisiac) etc are very much effective in treating diseases.

Having ushna virya and properties of vat-kaph nasak, it is broadly used in many diseases.

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