

AYURVEDIC REVIEW ARTICLE ON KUCHLA

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ABSTRACT

Strychnous nuxvomica A well-known toxic plant with several health advantages in the Indian medical system is linn, also known as kuchala in Ayurveda. It has been utilized as a common folk remedy in Ayurveda from ancient times under the name Upavisha. In the form of medicine, this Kuchala is still utilized in rural India. Kuchala, which was originally used for medicinal purposes in 1540, contains strychnine, which has since been utilized in several stimulants, tonics, and cathartics. It contains elements including flavonoids, iridoids, and phenolic glycosides together with alkaloids. According to research investigations, it has antiallergic, anti-inflammatory, antimicrobial, anticancer, antipyretic, gastroprotective, antidiabetic, antialcoholic, hepatoprotective, antioxidant, antinociceptive, anti-snake venom, and neuropharmacological effects. Despite being regarded as a plant with a high level of toxicity, it has several medical uses.

KEYWORDS: Kuchala, Strychnous nuxvomica, Upavisha, Therapeutic uses, etc.

INTRODUCTION

In the Agada tantra branch of Ayurveda, this idea of Visha and Upavisha is discussed. Kuchala is a medicinal herb from India that has been extensively used in Ayurvedic medicine. It falls under the upavisha varga or sub division and is also known as Kuchila or Kupilu. Upavishas are a term used to describe a class of medications that have a lower hazardous potential and are less fatal but nevertheless cause certain toxic symptoms when administered. The Upavishas, or poisonous medications, can be employed for medicinal reasons after being thoroughly purified (Sodhana), according to ancient Ayurvedic writings.^[1] These herbs have been used into a number of Ayurvedic illness care formulations. One such substance is

Kuchala, also known as *Strychnos nux-vomica*, which is widely grown not just in India but also in the US, Europe, and other places. According to ancient literature, Kuchala, also known as Kupilu or Kuchila, is a toxic deciduous tree. So, in the current study, we thoroughly investigated Kuchala's therapeutic, toxicological, and medical-legal aspects.^[2]

Properties of kuchala

Botanical name- *Strychnos nux-vomica* Linn. • Family - Loganiaceae • Common names - Nux-vomica, poison nut, snakewood • Synonyms - Kupeelu, Kuchala, Kakapiluka, Karaskara visha-tinduka • Rasa - Katu, Tikta • Guna - Laghu • Virya - Ushna • Vipaka - Katu • KarmaKapha - Vata hara, Grahi, Vishaghna

BOTANICAL DESCRIPTION The medium-sized deciduous tree *Strychnos nux-vomica* has solid, close-grained white wood. Trunk-The trunk is tall, thick, straight, and cylindrical, and it is coated in thin, smooth, scaly bark that ranges in color from light to dark grey. Branches-Uneven, with smooth.

DISCUSSION

Toxicological importance

- Strychnine can inhibit the spinal cord receptors for the inhibitory neurotransmitter glycine as well as the brainstem's post-synaptic absorption of glycine.⁵
- Glycine's inhibitory action is lessened, and decreased neurotransmitter concentrations stimulate neuronal impulses.⁶
- In the absence of an inhibitory effect, the motor neurons continue to fire stimuli, resulting in continuous muscular contractions (release excitation) in the victim.⁷
- Strychnine does not influence the neurotransmitter of presynaptic inhibitory neurons, and its major activity is in the Renshaw cells of the spinal cord, or the anterior horn cells.⁸

It is mostly processed in the liver. **STRYCHNINE:** 15–50 mg (1-2 mg/kg body weight) is the lethal amount. **FATAL DOSE** - A single smashed seed. **FATAL TIME:** 1-2 hours.

Sign & Symptoms

- A bitter flavor, A feeling of choking and rigidity in the neck and face.
- Restlessness,
- Increased acuity of perception,
- Increased rigidity of muscles and muscular twitching.
- Cyanosed Face
- Look is anxious
- Eyes are staring
- Convulsions: Because the threshold for CNS activation is decreased, any sensory stimulus—pain, touch, or noise—can cause a severe spasm of the muscles. Clonic at first, but ultimately turns tonic and affects every muscle at once.
- Risus sardonicus: This ailment is caused by the jaw and face muscles contracting, drawing the corners of the mouth together.

Therapeutic management of kuchala

• Maintain enough breathing and a clean airway. Controlling convulsions involves keeping a room dark, quiet, and distraction-free. The standard of care for strychnine-induced muscle hyperactivity continues to be benzodiazepines. 0.1-0.5 mg/kg IV of diazepam gradually. Ineffective general anesthetics should be followed by the use of muscle relaxants like gallamine. • Antidotes such pentobarbital sodium or sodium amytal (Barbiturates) are administered intravenously in doses ranging from 300 to 600 mg. • If no convulsions occur, careful gastric lavage with KMnO₄ may be performed. After one hour of consumption, strychnine is provided with activated charcoal to absorb it and lessen its absorption. • Ice water immersion, cooling blankets or spray, and fans are used to actively cool patients with hyperthermia.

Ekangavira rasa

Ekangveer Ras is a Rasaushadhi (Herbo mineral medicine) that constitute Bhasma as a main ingredient, most superior form of medicine. In Vatvyadhi Prakarana of Nighantu Ratnakar, Ekangveer Ras has been advised for the management of Pakshaghata and other Vatvyadhis.^[3]

Vishatinduka vati

Vishtindukadi vati is Ayurvedic drug mentioned in Rasa tantra sara and Sidha prayoga samgraha. The main content of Vishtindukadi vati is the Kuchla, along with Maricha, Chinchaphala and Phugphala, indicated in opium addiction.^[4]

Krimimudgara Rasa Krimimudgara rasa is a unique preparation that has been successfully used by traditional practitioners for the treatment of digestive impairment and ascariasis.^[5]

Navajeevanrasa The clinical study was conducted on two patients treated one group with Navjivan Rasa and Ropana Tailam and second control group treated with Diosmin 300mg BID. Navjivan Rasa and Ropana tailam possess sufficient efficacy in Vran shodhana and Vran ropana and shows better results in healing of venous ulcer.^[6] In this way, even a poisonous herb or a plant can be made into a potential medicine and applied in various medicinal preparations for the welfare of mankind. Ayurvedic methods of purification are very scientific and used even in the present day to remove the toxicity of the poisonous drugs and also to enhance the potency and efficacy of the same. This in turn makes the drug more effective in treating the disorders. Like the quote “Treasure out of Trash”, we can take this opportunity to

say “Treasure out of Poison” to this particular context of making a poisonous drug into a most effective drug to be applicable for medicinal purpose.

CONCLUSION

Kuchala, a Upavisha or a poisonous drug is very potential both as a poison and as a medicine. Being a poison, it is so powerful that it leads to death and when it is purified possesses enormous medicinal properties that can save a life of a person. With its vital phyto-chemical constituents, it has been used in various Ayurvedic formulations after proper purification method to treat various disorders successfully. More number of phyto-chemical and analytical studies including clinical studies are needed to approve its potentiality.

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