



## REVIEW OF GUNJA W.S.R. AGADTANTRA

## Ayurveda

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## ABSTRACT

*Gunja* is also known as jequirity bean or rosary pea, is an herbaceous flowering plant in the bean family Fabaceae is widely described *Up-Visha* drugs. In *Ayurveda* it is described as *vanaspatij visha* as in modern science, it is organic irritant vegetable poison. All the parts are toxic mostly seeds are more hazardous due to its irritant property. By shodhan *samskara*, its seeds traditionally used for the treatment of sciatica, leprosy and alopecia contains the toxic protein, abrin, a type 2 ribosome inactivating protein. The purified (detoxified) *Gunja* seeds exert pharmacological actions such as antimicrobial, diuretic, expectorant, purgative, emetics, aphrodisiac, hair growth stimulator and abortifacient. This article explain the *ayurvedic* and modern review of *Gunja w.s.r. to agadtantra*.

## KEYWORDS

## INTRODUCTION-

*Abrus precatorius* L.(Fabaceae), commonly known as Rosary pea is an ornamental, twining, woody vine .Flowers are pinkish and seeds are present in seeds pots. Each seed pot contains 3 to 5 seeds. Seeds are egg shaped with 5mm in diameter and having weight of 105mg. Seeds has an attractive hard glossy outer shell. The seeds are of two types 1. Scarlet red seeds with a black spot at one end 2. Black seeds with a white spot at one end'. It is commonly known *Gunja* in *Sanskrit*, Jequirity in English, *Gunchi* and *Gunja* in hindi. By various acharyas different shodhan methods are described in *samhitas* by purification it is used to treat various disease and it can use externally or internally. The image of *Gunja* is as a highly toxic plant, but the *Ayurveda* provides precious uses of it.

Effect of *Shodhana* on *Gunja* seeds with cow's milk and *Kanji* reveals that the process of *Shodhana* resulted in depletion of more toxic alkaloid Hypaphorine and protein Abrin and it is also reported that *Gunja* seeds after *shodhan* with *godhugdhi* shows more significant antimicrobial activity than raw *Gunja* seeds.

*Acharya charak* mentioned this drug in *vajikaranaAdhyaya* and *Acharya sushruta* classified *Gunja* under *Moolavisha*. IN *Bhavprakash Nighantu* it is mentioned under *guduchyadvivarga .Yogaratanakara* and other *rasashastra* text mentined it *upavisha*. The two varieties of *Gunja* are mentioned i.e *Shweta Gunja* and *RaktaGunja* in which *ShwetaGunja*(white variety) is considered as highly toxic.

*Gunjaditaila, Gunjapralepa, GunjabhadraRasa, Mahalaxminar ayantaila, Gunjaphalagnichurna, mritsanjivanigutika* are the formulations where *Gunja* is extensively used and *Gunjataila* is indicated in *shiroroga, darunaka, ardhavabhedakaetc.*<sup>14</sup>

**AIM-** To study the *ayurvedic* and modern aspects of *Gunja*.

## OBJECTIVE-

To collect the literature review of *Gunja*  
To study the systemic effect of *Gunja*  
To study the toxicity of *Gunja*

## Gunja Synonyms-

**Sanskrit Name** - *Gunjika, Chudamani, Uchchatta, Vanya, Raktala, Raktika, Kakini, Kamboji, Krisnala, Shvetabija, Saumya, Shitapaki*

**English Name** – Indian liquorice, Jequirity seed, Coral pea, Crabs eye, Rosary pea

**Hindi name-** *Ghughhachi, Charmoli, Chirmitti, Rati, Ratigiri*

RASA	GUNA	VIRYA	VIPAKA	DOSHA KARMA	KARMA	ROGHNATA
<i>Kashay(astringent) Tikta(bitter)4</i>	<i>Laghu Ruksha Tikshna4</i>	<i>Ushna(hot potency)4</i>	<i>Katu(undergoes pungent taste conversion after digestion)4</i>	<i>Kaphavata shamak</i>	<i>Balya Vrushya Keshya8 Vatahara Ruchikara Viryavardhak</i>	<i>Daurbalya Shukravakar Khalitya Palitya Vataroga Aruchi</i>

**Marathi Name-** *Gunchi, Gunj, Kunch, Lahangunj<sup>1</sup>*

## Vargikaran-

*Ayurvedic- Sthavarvish-vanaspatijvisha*  
Modern- organic irritant vegetable poison

## Swaroop-

Climbing vine(*shakhayuktagulmavatlata*)  
Seeds- Egg shaped and scarlet in color, with black spot at one end and are each about 0.83 cm long and 0.62 cm broad, having an average weight of 105 mg.

## Rasayanikasanghatan(chemical composition)-

Seeds contain Toxalbumin- Abrin, ricin, croton  
Root – Precol, Abrol, and two alkaloids(abrasine and precasine), abrusgenic acid, abrusgenic acid methyl ester, abruslactone, calcium.  
Leaves- Trigonelline, abruslactoneA ,hemphloin, precatorine, glycyrrhizin  
Other composition – poisonous proteins, fat splitting enzyme, abrusic acid haemogglutinin and a quantity of urease.

Abrin is a thermolabile toxalbumin, similar in action to ricin extracted from castor oil seeds. Abrin is a tasteless, amorphous solid, having a pale grey color, when taken orally; the gastric juice has some inactivating action on it. Abrin loses its activity when boiled results in no harmful effects. The powdered seeds, boiled with milk are used as a nervine tonic in 60-200 mg doses. If administered uncooked cause vomiting and diarrhea.

## Purification Method-

## GunjaShodhan-

The *Gunja* seeds are tied in a two layered cloth, kept suspended in cow's milk taken in a *dolayantra*. The milk is then boiled with the *Gunja* seed pack suspended for 1 *Yama*(3 hours). This procedure is called *swedana*.



After this, the seeds are taken out, washed in hot water, dried and preserved.



Even *kanji* fermented liquid can also be used in place of milk<sup>13</sup>.

## Antidote-

There is no specific antidote for abrin poisoning, and treatment is mainly supportive with intravenous fluids and correction of electrolyte abnormalities.

					<i>Krumighana</i> <i>Kandughna</i> <i>Ruchikarak</i> <i>kushthghana</i>	<i>Viryavikar</i> <i>Netravikar</i> <i>Vrana vicar</i> <i>Krumiroga</i> <i>Indralupta</i> <i>Aruchi</i> <i>Urustambha</i>
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#### Therapeutic uses described in samhita-

*Aushadhimatra- Beejachurna- 60-200mg*

*Mula and patra churana- 2-3g*

*Vishaktalakshana-* According to *Ayurveda- daurbalya*(weakness), *raktasrava*(bleeding), *tandra*(fatigue), *moha*(stupor), *gatravrana* (ulcerations)

**According to Modern-** When injected ( extract of seeds) – A painful swelling with ecchymosis occur near the site of the injection. This swelling rapidly increases with inflammation like those of snake poisoning with necrosis<sup>7</sup>.

Other symptoms- faintness, vertigo, severe irritation of upper gastrointestinal tract, abdominal pain, vomiting, dyspnea, bloody diarrhea with cold perspiration, trembling of hands, miosis and rectal bleeding with delayed cytotoxic effects on CNS, liver, kidneys and adrenal glands 2-5 days after exposure<sup>3</sup>.

Convulsions may precede death from cardiac failure.

#### *Vishaktachikitsa- According to ayurveda-*

*Meghanadasvarasa* along with *sarkara* should be consumed and followed by gulping of *dugdha* along with administration of Dates, Grapes or tamarind *amalaki* juice or decoction with honey based in sign and symptoms<sup>12</sup>.

According to Modern gastric lavage, use of purgatives, injection of antiabrin, Sodium bicarbonate 10g orally per day helps in maintaining alkalinity of urine and prevents agglutination of red cells and blocking tubules with haemoglobin<sup>3</sup>.

#### Postmortem appearance-

- Congested GIT mucosawith submucoushaemorrhage.
- Fragments of needle found with edema.
- Petechial haemorrhage under skin, pleura, pericardium and peritoneum.<sup>12</sup>

#### Medicolegal aspects-

- Used as cattle poison with the help of fine needle shaped structures called suis<sup>11</sup>. Suis are prepared by decorticated seeds alone or mixed with *dhatura*, *opium* and onion are made into paste with spirit and water, and small sharp pointed spikes or needles are prepared. The needles are 15mm. long and weigh 90 to 120 mg.
- For homicide, the needle is kept between two fingers and the person is slapped which drives the needle into the body.
- Powdered seeds used to produce conjunctivitis.<sup>10</sup>
- Seeds used as abortifacient and as arrow poison<sup>10</sup>.

#### *Ayurvedic formulations of Gunja*

- *NEELIBHRUNGADI TAILAM-* Herbal oil used for improving quality of hair, to treat split hairs, premature graying and baldness.
- *SARIVADI VATI-* an *ayurvedic* tablet used in treating hearing problems such as tinnitus, ear infection etc<sup>14</sup>.

#### DISCUSSION

As per drugs and cosmetics act, *Gunja* is a schedule E1 classified herb. This means, the oral *ayurvedic* medicines containing *Gunja* can only be taken under strict medical supervision. It is best to avoid *Gunja* or medicines containing it during pregnancy, lactation and in children below 5 years of age<sup>13</sup>.

As after purification the toxin abrin is in the indian licorice (*Gunja*) consists of two protein sub units, A&B. The proteins are denatured when subjected to high temperatures which remove its toxicity<sup>13</sup>.

Purified *Gunja* shows Anticataractic and Anti-oxidant effects- The ethanolic seeds extract of *Abrus precatorious* protected the lens against calcium induced oxidative damage which might be helpful in delaying the progression of cataract.<sup>14</sup>

Gold smith - Accidental poisoning

Children—due to its attractive color

Sui- use of sui in cattel poisoning

#### CONCLUSION-

*Abrus precatorious* is a poisonous herb used in *ayurvedic* medicine after detoxifying process. Here *shodhanaSamsakar* have a prime role as it reduces its toxicity and makes it fit for therapeutic use without producing any adverse or toxic effects. Its seeds and roots are used in treating hair fall, arthritis pain, as an aphrodisiac and more. As per modern science it is organic irritant vegetable poison. It is also used as abortifacient due to its hot nature. Research and more efforts on *abrusprecatorious* gives us more uses of the plant and its effectiveness in various disorder. A proper knowledge regarding its quantities, toxic properties, pharmacodynamics and use of *samskaras*, therapeutic knowledge of this drug may produce the results we want.

#### REFERENCES:-

1. Dr.V.V.Pillay "Modern Medical Toxicology"
2. Dr Phadke and Dr.Deshmukh Pratakshik Pustika- Agadtantra
3. K. Kannan, Modi medical jurisprudence and toxicology, 26th edition pg no 152
4. Dravyaguna Vidnyam Dravyaguna vidnyan, volume 2, acharya priyvat sharma choukhambha bharaati academy –varanasi.pg no 211
5. <https://en.wikipedia.org/wiki/Abrus-precatorius> cited at 26 feb 2020
6. Kviraj Ambikadatta shastri, sushrutasamhita, part 1, chaukambha Sanskrit sansthan, 12th edition, 2001, kalpasthana 2/5, pg. no. 17.
7. Shastri Lalachand, Ashtanga Sangraha Uttarsthan, Baidyanath Ayurved Bhawan Pvt. Ltd., 1st edition, 1988,uttarsthan 40/7, pg no.620
8. Bhavmishra, Bhavprakasha Nighantu, Chaukambha Sanskrit Sansthan 2nd edition, 1994, purvardha 126-128 pg no. 354-355
9. Apande A.P., jawalgekar R.R., Ranade Subhash, Dravyagunavidnyana part I & II, Anmol Prakashana, 5th edition 1999, pg no. 791.
10. Principles of forensic medicine and toxicology- Rajesh Bardale pg no 467
11. Essentials of forensic medicine and toxicology, Dr. K.S.Narayan Reddy pg no 516
12. Ayodhya Prasad achals, agadtantra- text book of Ayurveda toxicology translated and revised by Dr. jinapattanai, edition- 1, p-89
13. Sudipta Roy, Shodhana of gunja seeds with godugdha.a pharmaceutical analysis/ International journal of ayurvedic medicine/0976592/vol.3 No 2/pg no-70
14. <https://www.easyayurveda.com> accessed on 16march2020
15. Brijesh k. Kamath M./A Review on Toxic Drug- Gunja/journal of Ayurveda and integrated Medical Sciences/24563110/vol 2 issue 3/pg no 181