Gunja (*Abrus Precatorius. Linn*) as a Medicine & Its Preparations

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Abstract

Poisons are the toxic substances which are known to the mankind since ages. Each system of Medicine has its own approach towards *Visha*. Though the poisons are known harmful substances but in Ayurveda that drugs are utilizing them with a special procedure called *shodan* which turn them into potent medicine by removing its toxic effects. Charaka says even the poisonous drug becomes nectar when we use it in a suitable way and also a good medicine may become poisonous when we use it in an improper way. So having a depth knowledge regarding this plant will give more therapeutic effects. The success of the treatment depends upon appropriate *Shodhana*, dose, mode of administration, *Anupaana* and *Vyaadhi Avastha*. But Due to improper *Shodhana's* and inexperienced physicians, many toxic effects, or even death may prevail. *Gunja* is one *Upavisha* having abundant therapeutic values. With proper *Shodhana* and administration, it can be used in treating many diseases. Hence the present paper reviews about the potential toxic qualities and therapeutic utilities of the *Gunja* in Ayurveda.

Keywords: Gunja, Shodhana, Anupana, Upavisha.

Introduction

Poison (*Visha*) is any substance that can cause severe organ damage or death if ingested, breathed in, or absorbed through the skin. In*Ayurveda*, *Visha* is defined as "*Vishaadajananatvaat Cha Vishamityabhideeyate"* the drug which produces *Vishad* (ill effects).[1]In spite of poisonous nature, these drugs are having more therapeutic values. Thus, to implement such drugs to therapeutic practice, drugs were subjected for unique procedures called as *Shodhana Karma* (removal of unwanted qualities in a drug) they are, *Mardan* (trituration), *Kshalan* (washing) etc. [2] After such *Shodhana Karma's* the drugs become fit for the therapeutic usage. Then it can be used single or along with proper *Anupaana* (which is an adjuvant or the vehicle using along with medicine to increase action as well as palatability) [3] dose and mode of administration for getting a clinical success.

Among such poisons, *Gunja* is considered as one *Upavisha* (Drugs which are less toxic compared to *Mahavisha*). [4,5]

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Gunja is identified as Abrus precatorius Linn which comes under organic irritant Vegetable poison. [6] It is widely used in many diseases like alopecia (*Indralupta),* skin diseases (*Kushta*) etc after*Shodhana*, but if not purified properly will produce toxic symptoms like echymosis, necrosis etc.[7]

Though the drug is considered as a potential toxic form by the western world, Ayurveda stresses the utmost medicinal value of this drug. Hence, here is an attempt to highlight the both Therapeutic importance and as well as Toxic nature of the drug *Gunja* (*Abrus precatorius Linn)*.

Gunja :

Gunja is a slender climbing wine bearing compound leaves (Figure 1) belongs to the family fabaceae. It is known as Jequrirty (English); *Gunja* (Sanskrit); *Gulaganji* (Kannada).[8] Flowers are pinkish and each seed pod contains 3-5 seeds. Seeds (Figure-2) are egg shaped with 5mm in diameter has an attractive hard glossy outer shell.[9] It grows in tropical climates such as India, Sri Lanka, Thailand, the Philippine Islands, South China, tropical Africa and the West Indies.

Based on the Morphology, Actions, usage etc, this is called as, *Gunja* (making rattling

sound when ripe), *Angarvalli* (looking fiery), *Kaka–chinch* (resembles tamarind leaves), *Krishnala* (seeds with black eye), *Chakrashalya* (climbing in circular way), *Chakrika* (seeds are spherical in shape), *Durmoha* (causing loss of consciousness in high dose), *Bahuphala* (numerous legumes), *Raktala, Raktika* (seeds are red), *Choodamani, Bhillabhushana* (ornamental usage by tribes), *Tulabeeja* (unit of measurement), *Bahuveerya* (it is potent drug).[10] Varieties of *Gunja* are *Shweta* (white) *Rakta* (Red).[11] Its properties are *tikta* (pungent), and *Kashaya* (astringent) in taste, and *Ruksha* (dry) and *Laghu* (light) in nature and it have *Ushna* (hot) *Veerya* (potency) and it does *Kaphavata Shamana*.[12]

Many Phyto-chemicals are identified in the Gunja, they are in Rootprecol, abrol, glycyrrhizine, abranine, precanine. In Leaves – glycyrrhizine, pinitol and in Seeds-abrine, abrusine, haemagglutin, glucoside, abralin, choline, trigonellin etc. Abrin is a main toxic constituent which produces ill effects.[13]

As a medicine: Shodhana[2] (Figure 3) is a purification process which helps for removing toxic nature from the substances and makes it fit for treatment *Gunja* seeds are purified by *Swedana Karma* in *Dolayantra* (a pouch in which *Gunja* seeds are kept and immersed in cow's milk and boiled for 6 hrs) and later washed with hot water.[14] kanji also can be used in place of cow`s milk.[15] *Moola* (root),*Beeja* (seed) *Patra* (leaf), are used as a medicine, [16] in the dose of 60–170mg (Seed powder) and 1-3gms (Root and leaf powder).[12]

The root and leaves are emetic, diuretic and alexeteric used in diseases like cough, pharyngodyania, inflammation. Seeds are abortificient, aphrodisiac, and trichogenous and are useful in leucoderma, skin diseases, wounds, alopecia, asthma, stomatities.[17] Hot water extract of dried leaves and roots are applied to the eyes in case of Eye diseases. Hot water extract of root is taken orally taken for Emmenogauge. Seeds are boiled in milk and drunk by male it act as an Aphrodisiac. Seeds are used as a poultice in the vagina as Abortificient. Animal Experiments Showed Antifertility, Antimicrobial activity, Immuno-modulatory Activity, Antitumor screening, Anti diabetic effect, Anticancer, Antibacterial, Anti–inflammatory activity , Anti-oxidant activity, Bronchodilator activity, Anti –arthritic activities.

Gunjaditaila, Gunjapralepa, Gunjabhadra Rasa, Mahalaxminarayan Taila, Gunjaphalagni churna, Mritasanjivani Gulika [18] are the formulations where *Gunja* is extensively used and *Gunja Taila* is indicated in *Shiroroga*, *Darunaka*, *Ardhavabhedaka*, etc.[19] *Gunjadhya Taila* in *Arsha, Arbhuda, Vrana, Valmika.* [20] *Gunja Bhadra Rasa* indicated in *Urusthamba.* [21]

Toxic effects:

Though it is having all such therapeutic values like any other drugs due to its potential toxicity, and improper *Shodhana*, or accidental intake leads to *Gunja* poisoning which if not treated is a life threatening condition. It produces fatality in the dose of 90 to 120 mg, but death was reported even after one seed which was masticated well (budavari 1989) and Abrin (Active principle) in the dose of 0.0001 mg – 0.0002 mg/kg body weight sub cutaneously.The toxic effects are produced in 3-5 days,[22] signs and symptoms of the toxicity are ingested seeds affect the gastrointestinal tract, the liver, spleen, kidney, and the lymphatic system. Seed extract exposure causes eye damage, conjunctivitis and blindness. The poisoning symptoms are acute gastroenteritis with nausea, vomiting and diarrhea leading to dehydration, convulsions, and shock. In Ayurveda, Vishalakshana's are mentioned *Asamashay Antra Daha* (burning sensation in stomach and intestine),*Vamana* (vomiting), *Virechana* (purgation), *Mutraghata* (retention of urine or oliguria), *Hrudayaavasad* (affects heart).[16]

Management of gunja visha [23]:

Gunja Visha is managed by *Swarasa* of *Tanduleeyaka* with sugar or Cow's milk with sugar internally along with administration of Dates, Grapes, or Tamarind *Amalaki* juice or decoction with honey based in signs and symptoms. In Contemporary Science, Gastric Emptying, administration of Anti-

Abrin Inj. Along with Symptomatic management. Inj. of 10gm sodium carbonate to maintain alkanity and Inj.Ca.gluconate for tremors Heamodialysis if renal failure persists.

Conclusion:-

"Even a potent poison can be utilized as good medicine if utilized in a proper way, and medicine can shows fatality if they are not used properly" So concerned to poisonous drug, there is a necessity to have a knowledge regarding its *Shodhana*, properties and actions. Here *Shodhana Samskar* have a prime role as it reduces its toxicity and makes it fit for therapeutic use without producing any adverse or toxic effects and through this we can achieve good therapeutic effects. As *Gunja* is easily abundantly available and comprehensively used in day to day practice. A proper knowledge regarding its qutilities, toxic properties, pharmacodynamics and kinetics, and judicious use of *Samskaras*, therapeutic utility can make this drug as a best medicine otherwise the therapeutic knowledge of this drug may go in vain.

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Figure 1: Gunja –plant

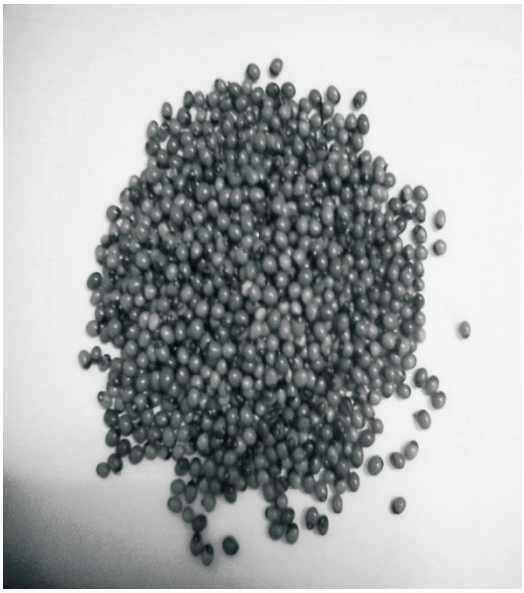

Figure 2: Gunja-seeds

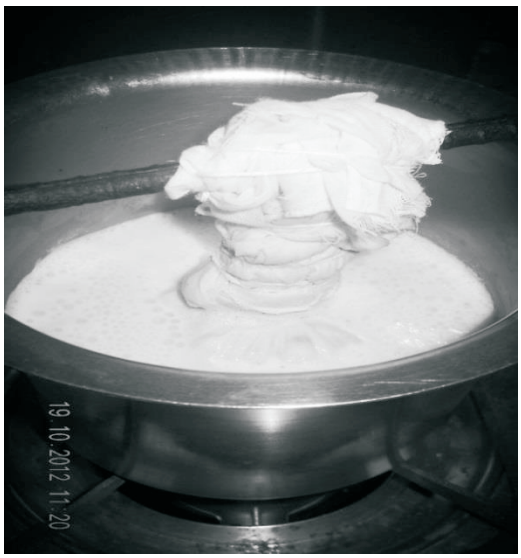

Figure 3: Gunja shodhan