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A Review on Toxic Drug - *Gunja*

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ABSTRACT

The *Visha Dravya Gunja* is mentioned in Samhita and other Ayurvedic texts. In Samhita it is mentioned under *Sthavara Visha* and in the texts of *Rasashastra* it classified is under *Upavishas*. The history of poisons and poisoning dates back several thousand years. *Abrus precatorius* is a severely invasive plant in warm temperate to tropical regions, so much so that it has become effectively pantropical in distribution. It has been estimated that some form of poison directly or indirectly is responsible for more than 1 million illnesses worldwide annually. Most cases of poisoning actually go unreported, especially in Third world countries. The incidence of poisoning in India is highest in the world. The causes of poisoning in India are highest in the world. The commonest agents in India appear to be plant toxins, pesticides, chemical and household poisons. The *Shodhana* of *Gunja* is also mentioned in Ayurvedic texts. In this manuscript the detail explanation regarding *Gunja* in Ayurvedic and contemporary texts has been compiled and critically analyzed.

Key words: *Gunja*, *Abrus*, Plant toxin, *Shodhana*.

INTRODUCTION

The history of poisons and poisoning dates back several thousand years. They were using poisons for hunting. Early poisons were exclusively plant, animal toxins and minerals. The ancient Indian text Rigveda also describes several plant poisons. An early treatise on plant poisons is *De Historia Plantarum*, by Theophrastus. The Greeks used some plant toxins as poisons of execution. Socrates were executed by the administration of hemlock. One of the earliest classifications of poisons was done by Greek physician Dioscorides (AD 40-80) who classified the poisons into 3 groups i.e., animal, vegetable and mineral.^[16] The

Gunja have been in use in Hindu medicine from very early times, as it is mentioned by Sushruta and other early Aacharya's.^[11]

Abrus or Liquorice is a glabrous wiry climber. It is common to tropical and subtropical countries. *Abrus* is from Greek word meaning graceful, in allusion to the flowers, *precatorius* - relating to prayer of petitions. *Abrus precatorius* - rosary beads.^{[1],[13]} The leaves are upto 10cm long. The seeds are ovoid, globular, 7mm in length, 5mm in diameter, hard, smooth and shining of two distinct colours. The outer hard shell-like and enclosing a light yellowish brown embryo. The flowering season is July-september. It is common in hedges and bushes.^{[1],[3],[12]}

Aacharya Charaka mentioned this drug in *Vajikarana Adhyaya* and *Aacharya Sushruta* classified *Gunja* under *Moola Visha*. In *Bhavaprakasha Nighantu* it is mentioned under *Guduchyadi Varga*, *Yogaratanakara* and other *Rasashashta* text mentioned it under *Upavisha*.^{[1],[4],[2],[7]} The two varieties of *Gunja* are mentioned i.e., *Shweta Gunja* and *Rakta Gunja*. Out of this *Shweta Gunja* (white variety) is considered as highly toxic.^[2]

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Several synonyms are mentioned in Ayurvedic and other contemporary texts. The *Rakta Gunja* synonyms are *Gunja*, *Chudamani*, *Tamra*, *Kakachincha*, *Kakanthika* and *Rati*. Whereas the synonyms of *Shweta Gunja* are *Shweta*, *Kakapiluka*, *Kakadani*, *Durmukha*, *Chakrika*, *Chakrashalya*, *Uchcata*, *Angaravalli* and *Billabushana*.^{[6],[8],[9]} The common names of *Gunja* are rosary pea, Indian beed, Buddhist rosary beed.^[16] There is a difference of opinion among our *Acharya's* regarding the identification of drug *Gunja* based on synonyms. Some controversial synonyms are *Uchchata*, *Kakadani*, *Chudamani* and *Swetakambhoji*.^{[10],[18]}

According to Ayurvedic texts *Gunja* weighs 1 ratti (approx 125mg) and according to modern toxicological texts *Gunja* weighs 105mg.^[15] Acc to modern texts it is an organic irritant poison. The seed contain active principle "abrin" resembling ricin in its physiological action. The abrin is similar to Viperine snake venom. The abrin is very toxic, soluble in sodium chloride and decomposes upon heating to 85°C.^{[1],[15]} The roots of abrus contain 1.5% substances resembling glycyrrhizin and leaves also yields glycyrrhizin. Hence *Gunja* root is used as substitute for glycyrrhiza.^{[1],[4]}

The properties of *Gunja* are,

- *Rasa* - Tikta, Kashaya.
- *Guna* - Laghu, Sheetala and Rooksha.
- *Veerya* - Kinchith Ushna
- *Vipaka* - Katu.^{[5],[7]}

The *Moola*, *Beeja* and *Patra* are used by *Vaidya's*. Acc to modern all parts of *Gunja* are considered as poison.^{[2],[11],[15]} For *Bahya* and *Aabhyantara Prayoga* the purified *Gunja* should be used.^{[2],[4]} If unpurified *Gunja* is used then it leads to *Vamana*, *Tivra Virechana*. If taken in large quantity it produces *Visuchika Lakshanas*, *Mada* and *Moorcha*.^{[2],[6]} According to modern toxicological texts it produces vomiting, bloody diarrhoea, miosis, cardiac arrhythmias, convulsions and bloody diarrhoea.^{[15],[16]}

Our *Acharya's* mentioned the purification of *Gunja* seeds. The *Gunja* seeds are pound it into small pieces and tie in cloth to make *Pottali*. Keep the *Pottali* in *Dolayantra* which consists of *Godugdha* and boil it for 6hrs. Another method is prepare *Pottali* by keeping *Gunja* seeds and keep the *Pottali* in *Dolayantra* which contains *Kanji* and *Swedana* for 3 hours and dry it in sunlight. Another method is keep the *Pottali* which contains *Shweta Gunja Beeja* in *Dolayantra* contains *Godugdha* for 3 hrs. Remove the outer shell of seeds and wash in hotwater.^{[2],[4]} By boiling the seeds in water the toxicity is reduced.^[4] The antidote is *Tanduliya Rasa (Amaranthus spinosa)* and sugar followed by milk.^[4] Acc. to modern gastric decontamination (lavage, charcoal), alkalinisation of urine and diazepam for convulsions.^[16]

Gunja Beeja used as *Balya*, *Vatahara Viryavardhaka*, *Kapha-Pitta Nashaka* and *Kamodeepaka*. It is beneficial in *Swarabheda*, *Galashota*, *Kantavedhana*, *Vrana*, *Trushna*, *Galashosha*, *Urusthamba* and *Indralupta*.^{[2],[4],[6],[7]} Acc. to *Rasa Tarangini* the therapeutic dose is ½ to ¾th *Ratti* and acc. to *Bhavaprakasha Nighantu Moola* - 2 to 4 *Masha* and *Beeja* – ½ to 1½ *Ratti*.^{[2],[4]} Acc to modern toxicology the fatal dose is 1 to 2 crushed seeds and 120mg of abrin.^[15]

Our *Acharys's* mentioned certain *Yogas* of *Gunja*. They are *Gunjadhya Taila*, *Gunjajeevana Rasa* (2 *Ratti*), *Gunjabhadra Rasa* (2 *Ratti*), *Gorancanadi Gulika*, *Nilibhringadi Tailam* and *Svetagunjadi Taila*.^{[2],[11],[12]}

The *Aamayika Prayoga*^{[2],[4]} of *Gunja* are

- *Gunja + Jala* - prepare paste and apply in case of *Sandhishota*.
- *Gunjakalka Lepa* - Do *Siraprachanna* in *Grudrasi* and apply *Gunjakalka Lepa* to reduce pain.

The anti-fertility properties of the seeds of abrus precatorius has been studied by Zia-ul-Haque et.al (1983).^[11] The other uses of *Gunja* are the jewellers in India use the seeds as a weighing measure for gold or precious stones. The needle which is prepared out of *Gunja* and other drugs is used to kill cattle. Hence it is famous as cattle poison.^{[15],[16]}

CONCLUSION

There are 2 varieties of *Gunja* are mentioned in Ayurvedic classical texts. Out of which the *Shweta Gunja* is more toxic. Both types of *Gunja* are used in medicine externally and internally. The *Aacharya's* mentioned different types of *Shodhana* for *Gunja*. If the *Shodhana* is not done properly it is going to exert toxic effects and its antidote is also mentioned. Based on the synonyms there is confusion regarding the identification of drug *Gunja*. Some author opines that the synonym *Uchchata* mentioned by Acharya Charaka in the context of *Vajikarana* is *Gunja*. The Dalhana in his commentary has clarified that the drug *Uchchata* is a small plant. He also mentioned that the persons who consumes *Uchchata* along with *Godugdha* will be able to copulate with hundred ladies. But in case of *Gunja* it a creeper and it is a mild aphrodisiac. Hence *Uchchata* mentioned in the context of *Vajikarana* by Acharya Charaka is not *Gunja*. According to Anandashram editor the synonym *Kakadani* is considered as *Gunja* but not in case of Dhanvantari Nighantu. The Dhanvantari *Nighantukara* considered *Chudamani* i.e., bangles of *Adivasis* and such hilly tribes as *Gunja*. He also consider *Shweta Kambhoji* as white variety of *Gunja* i.e., *Shweta Gunja*. The roots of *abrus* contain substances resembling glycyrrhizin and leaves also yields glycyrrhizin. Hence *Gunja* root is used as substitute for glycyrrhiza. Although *Gunja* is a toxic drug, if purified properly acc to classical texts and in proper therapeutic doses it will cure several ailments.

REFERENCES

1. Edmund N, Gather Coal, Elmar.H.Wirth, Pharmacognosy, 2nd Edition, Lea and Febiger, Philadelphia, USA, 1949;p.360.
2. Kashinath Shastri, Rasa tarangini, 12th Edition, reprinted edition, Mothilal Banarasidas, New Delhi, 2004;p.727-733,
3. K.Gopalakrishna Bhat, Flora of Udupi, 1st Edition, Indian Naturalist, Udupi, 2003;p.128.
4. Dr K.C.Chunekar, Bhavaprakasha Nighantu, Edited by Dr G.S.Pandey, Reprinted edition, Chaukhambha Bharti Academy, Varanasi, 2006;p.354-356.
5. P.V.Sharma, Dravyaguna Vijnana, Reprint edition, Chaukhamba Bharati Academy, Varanasi, 1998;p.771.
6. P.V.Sharma, Guruprasad Sharma, Kaiyadeva Nighantu, 2nd Edition, Chaukhamba Orientalia, Varanasi, 2006;p.148.
7. Vaidya Lakshmiapati Shastri, Yogaratnakara, edited by Brahmashankar Sastri, Reprinted edition, Chaukhambha Prakashan, Varanasi. 2007;p.167-168,
8. J.L.N.Sastry, Ayurvedoktha Oushadha Niruktamala, 1st Edition, Chaukhambha Orientalia, Varanasi. 2001;p.42.
9. P.V.Sharma, Namarupa Vijnana, 1st Edition, Satyapriya Prakashana, Varanasi. 2000;p.73.
10. S.D.Kamat, Dhanvantari nighantu, 1st Edition, Chaukhamba Sanskrit Pratishthan, Delhi, 2002;p.290.
11. V.V.Sivarajan, Indira balachandran, Ayurvedic drugs and their plant sources, Chaukhambha Publications, Oxford and IBH publishing Co. Newdelhi. 2004;p.158.
12. Illustrated manual of herbal drugs, p.230.
13. Botanical terminology, p.238.
14. Kaviraja Ambikadutta Shastri, Susruta Samhita, 14th edition Chaukhambha Sanskrit Sansthan, Varanasi. 2003;p.17.
15. K.S. Narayan Reddy, O.P.Murthy, The essentials of Forensic Medicine and Toxicology, 32nd edition, Omsai Graphics, Hyderabad. p.525,
16. VV Pillay, Modern medical toxicology, 4th edition Jaypee publication, New Delhi. 2013;p.1,127-129.
17. Langeland, K.A.; et al. (2008). "Identification and Biology of Nonnative Plants in Florida's Natural Areas - Second Edition" (PDF). University of Florida-IFAS Pub SP 257.
18. Bapalal Vaidya, Some controversial drugs in Indian Medicine, 1st Edition Jayakrishnadas Ayurveda Series, Chaukhamba Orientalia,Varanasi. 1982;p.169-171.

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