

Gunja (*Abrus Precatorius*): A Review

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ABSTRACT

Gunja (*Abrus precatorius* Linn.), also known as Indian liquorice, is regarded as one of the most toxic but also visually stunning seeds in the world. It is classified as an Upavisha (semipoisonous medication) and is utilised widely in several Ayurvedic formulations with significant medicinal value.

According to Ayurveda, Gunja should only be administered after appropriate Shodhana (purification techniques) using various media, including Godugdha (cow's milk), Kanji (sour gruel), etc.

Common names for *Abrus precatorius* Linn. include Gunja and Jequirity, and it is widely distributed throughout India's plains. It is classified as an Upavisha (semi-poisonous medications) and is widely utilised in several Ayurvedic formulations with significant therapeutic value. It has been noted that Gunja's seed, root, fruit, and leaves are used as an ingredient in many formulations. Netra roga (Eye Diseases), Khalitya (Alopecia), Sarpa Visha (Snake Poison), Jwar (Fever), Indralupta (Alopecia), Keshya (Hair Tonic), Prameha (Urinary Disorder), etc. are some of the diseases. Different dosage forms are used to administer different parts of the Gunja plant, including swarasa (juice), kwatha (decoction), lepa (paste), anjan (application in the eye), avaleha (semi-solid preparations), taila (oil), rasa (mineral preparation), vati (pills), modaka (solid dosage form) ghrita (fat soluble preparations) & churna (powder).

KEYWORDS: Ayurveda, Gunja, Medicinal value, Shodhana, Upavisha.

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INTRODUCTION

With a very extensive materia medica, Indian medicine uses pharmaceuticals from all three sources—plant, mineral, and animal—for a variety of different purposes. The majority of medicines are, however, of plant origin. Gunja, one of the traditional medications derived from plants.

The Vaidyas of Ayurveda use a plant known botanically as *Abrus precatorius* Linn., a member of the Fabaceae family, for the management of various illness situations.

In addition to Jequirity in English, Gunja and Gunchi in Hindi, and Gumchi and Gunja in Gujarati, it is also known as Gunja in Sanskrit. It has several branches and is a creeper. The leaves have 20–40 leaflets and resemble tamarind leaves. Flowers are clustered and pink with bluish undertones. Legumes range in size from 1.5 to 3.5 cm.

MATERIALS & METHODS

The synonyms, qualities, and other information about use were alluded to in several samhitas (classical books), nighantus (lexicons), samgraha granthas (compendia), and other literature.

The primary indication of actions and different formulations were collated, critically examined, and organised in a methodical way.

List of the several synonyms for Gunja.

1. Shweta Gunja - White-colored Gunja is a variation.
2. Rakta Gunja - Red-colored Gunja is a variety.
3. Uchhata - It can readily access regions that are higher up.
4. Krishnala - Seeds' eye is black.
5. Kakachincha - Gunja seeds produce sound similarly to tamarind seeds.
6. Kakananti - When ripe, Gunja fruits make a rattling sound.

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7. Raktika - Crimson variety seeds are red in colour.
8. Kakadani - Black variety seeds are dark in colour.
9. Kakapilu;
10. Kakavallari;
11. Chudamani;
12. Tamra;
13. Kakanantika;
14. Shikhandika looks cresty when it blooms.
15. Sheetpaki - Winter is when seeds ripen
16. Sughata being in good health
17. Rati In order to weigh jewellery, a specific amount of seed (120 mg) is used.
18. Rakta Phalika - It produces fruits with red seeds.
19. Krishna Raktika - One of its varieties features seeds that are black and red.
20. Manufacturing of Gunja Resembling tamarind fruit sound of rattling when ripe
21. Ghunghuchi - It belongs to the group.
22. Addaravalli and
23. Gunjika
24. Kakajangha
25. Shikhandini
26. Kakini
27. Kanchi
28. Kakasha are the remaining candidates. Its black variation resembles crows in colour.
29. Kanichi
30. Chhontali- It is an acrobat.
31. Shangushta- When shaken, the dried fruits will produce an odd sound.
32. Kakatikta - seeds that are black and have tikta rasa.
33. Kakatundika -similar to the tamarind fruit sound of rattling when ripe.
34. Kaka- bearing a religious stigma.
35. Sauma -Saumya, its white variation.
36. Shikhandi .
37. Aruna.
38. Tambika.
39. Krishnachudika- is somewhat orange red in colour. Its seeds are black and beneficial to health.
40. Raktakamboji- Crimson seeds' red colour is the reason why.
41. Vanya -It's simple to locate in untamed jungle.
42. Shyamalchuda- Fruits grow in clusters.
43. Kakashimbi - After ripening, legumes turn black .
44. Raktala- It has red seeds of the red variety.
45. Dhvankshanakh
46. Raktasalya -It's a crazed creeper.
47. Dhvankshanakh
48. Durmoha - excessive doses that can make you lose consciousness
49. Vaysadini
50. Chatoki
51. Tulabiji
52. Angavallari

PHARMACOLOGICAL QUALITIES

Gunja's pharmacological qualities Include

- kashay-tikshna rasa,
- laghu-ruksha-tikshna virya,
- katu vipak.
- It calms the vata and kapha doshas.
- To treat a variety of illnesses, including
- Daurbalya,
- Shukravikar,
- Khalitya,
- Palitya,
- Vataroga,
- Aruchi,
- Viryavikar,
- Netravikar,
- Vrana vikar,
- Krumiroga,
- Bhrama roga,
- Indralupta,
- Aruchi,
- Urustambha,
- Kushtha roga.¹

CLINICAL FEATURES

Ingestion of seeds or extract: When the seeds are swallowed raw or after cooking, they are not poisonous. Seeds must be crushed or chewed for harmful effects to occur. Ingestion of seeds or extract causes:

1. Severe irritation of upper GIT
2. Abdominal pain
3. Nausea
4. Vomiting
5. Bloody diarrhoea
6. Rectal bleeding
7. Weakness
8. Cold perspiration
9. Trembling of the hands
10. Weak rapid pulse
11. Tachycardia
12. Headache
13. Dilated pupils
14. Hallucinations
15. Drowsiness
16. Tetany and
17. Circulatory collapse ²

AAMAYAKA PRAYOGA OF GUNJA

1. Gunja + Jala - Prepare paste and apply in case of Sandhishota
2. Gunjakalka Lepa - Do Siraprachanna in Grudrasi and apply Gunjakalka Lepa to reduce pain. ³

TOXIC EFFECTS

Though it is having all such therapeutic values like any other drugs due to its potential toxicity, and improper S

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hodhana, 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).

MANAGEMENT OF GUNJA VISHA

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. ⁴

MODE OF ACTION

Abrus seeds are harmless when ingested whole, since the hard outer shell resists digestion. But chewing or crushing of the seed release abrin. The "B" polypeptide chain binds to the intestinal cell membrane while "A" polypeptide chain enters the cytoplasm. In cytoplasm "A" act on 60S ribosomal subunit and prevents binding of elongation factor EF-2 thus inhibiting protein synthesis, thereby causing cell death.⁵

CONCLUSION

Ayurveda refers to Gunja as an irritating organic vegetable poison under the term Sthavara vanaspathic visha. All plant

components are poisonous, but the seed is the most dangerous.

Gunja seed has a lovely appearance. It accidentally poisons because of its appealing seeds. It is utilised as an ingredient in many Ayurvedic preparations after adequate purification and is applied both internally and externally for a variety of ailments, including shotha, kandu, kustha, krimi, etc. Traditional folkloric medicinal plant parts are such the root, seed, and leaf. This plant exhibits a wide range of pharmacological traits and activities. It is important to be aware that using plants improperly or excessively might be dangerous.

DISCUSSION

Animals and humans both rely on plants and vegetables for nourishment. Some plants are poisonous to both humans and animals, which can have fatal consequences. The deadly plant known as gunja is widely distributed throughout India. There are two varieties of it: Sweta Gunja and Rakta Gunja (red variety) (white variety). Both have medical use.

Gunja is crucial for forensic purposes. The seeds are employed as an abortifacient, a homicide weapon, and a toxin for livestock. Many therapeutic preparations, including Gunja bhadra rasa, Gunja taila, and rajamrighanka rasa, utilise this plant's seed, root, and leaves. Despite this plant's deadly effects, it is a well-known medicine having therapeutic applications in the Indian medical system.

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