

MEDICINAL PROPERTY OF RAKTA CHITRAK (*PLUMBAGO ROSEA* LINN.) AND ITS TOXICOLOGICAL EFFECTS-A REVIEW**¹*Dr. Sameer D. Dhawale, ²Dr. Amrapali Patil and ³Dr. Sagar Sudhakar Narode**¹PG Scholar, ²Associate Professor and ³Professor

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Rakta Chitraka based Ayurvedic medicines are commonly used by Ayurvedic physicians. *Plumbago rosea* Linn. (Plumbaginaceae) commonly called Ceylon leadwort or Rakta Chitrak, has good medicinal potential, hence enjoys important place among medicinal plants around the world for treatment of various diseases. It possesses wide range of phytochemicals showing various pharmacological activities. *Rakta Chitraka* is toxic in nature even then it is used as a medicine after *Shodhana* (purification) and in therapeutic dose. *Shodhana* procedure is not only represent a process of purification, but also in addition to a process of detoxification and the ultimate objective of *Shodhana* is to enhance the biological efficacy of the drug. This review gives us opportunity to understand the toxic effects and medicinal importance of *Plumbago rosea*. This article gives an

overview of medicinal uses and poisonous properties of *Rakta Chitraka*.**KEYWORDS:** *Plumbago rosea* Linn., Ayurveda, Medicinal uses, toxicity.**INTRODUCTION**

Ayurveda provides medicine to large section of our population. Government of India is actively encouraging our country to use Ayurvedic medicines which we have been traditionally used for centuries. Ayurveda renaissance is happening all over the world. Ayurvedic products are safe in contrast to allopathic synthetic drugs. The world is endowed with a rich wealth of medicinal plants.^[1]

Plumbago rosea Linn. (Plumbaginaceae), commonly known as Rakta Chitrak, grows wild and abundantly in India. Traditionally, it is used in inflammatory disorders, skin diseases, stomachache, acidity, constipation, abdominal pain, and as abortifacient. The roots of the plant have been reported to possess antitumor and antiatherogenic activities.^[2]

The active constituents reported in this plant are plumbagin, hydroxy-1,4- naphthaquinone, sitosterol glycoside, fatty alcohol, and tanni.

Botanical Name- *Plumbago rosea* Linn. Family – PLUMBAGINACEAE

Vernacular Name

Hindi Name – Lal cheetha, Lal chitraka, Lal chitavur Bengali Name- lal chithaa, raktho chitho

Marathi Name – laal chitraka Kannada Name– kempu chitramoola Malayalam Name- chekikotuveri

English Name – Rose colored lead wort Telugu Name – Yerrachitramoolam

Tamil Name – Shivappu chitramoolam, Chiturmol, Kodimooli.

Physical properties

Ras: Katu

Guna: Laghu, Ruksha, Tiktsna Vipak:Katu

Virya: Ushna

Effect on Tridosha

Because of its hotness, it balances Vata and Kapha Doshas.^[3]

Classical Categorization

Charak: Dipanya, Sulaprasmana, Arsoghna, Lekhanya Susruta: Pippalayadi, Mustadi, Amalakyadi

Vagbhata: Pippalayadi, Mustadi, Varunadi, Aragvadhadi.^[4] It is found in Sikkim.

Medicinal benefits

It is stronger when compared to *Plumbago zeylanica*. It is a well known digestive and carminative herb.

It is used for rasayana – Anti aging and rejuvenation therapies. Part used- Root Bark

Dosage: In a small dose of 500 mg to 1 gram it acts as stimulant. In higher doses it may

exhibit toxic effects.

Vishishta yoga

1. Chitrakadi gutika (Ch.S.Chi.15)
2. Chitrakadi leha (Ch.S. Chi.18)
3. Chitrakadi ghrita (Chakradatt 4)
4. Chitraka rasayana (Shu.S.Chi 28)
5. Chitrakadi choorna (Sharandhar madhayam kand 56)
6. Chitrakadi lep (Ch.S.Chi 7)
7. Punarnava mandur (Chi.S.Chi.16)
8. Yograaj (Ch.S.Chi. 16)
9. Vyoshadi gutika (Sha.S.Madhyam khand 7)
10. Aryogyovardhini vati (Rasratn samucchaya kusthe)

Toxicity

The roots of these plant contain an active principle plumbagin, a highly acrid crystalline glycoside, which exists as fine glistening needles of a golden yellow colour. It is insoluble in cold water, moderately soluble in hot water and freely soluble in ether, chloroform, alcohol and benzene. plumbagin is a powerful irritant and has a well marked germicidal action on bacteria and unicellular organism. when the bruised root or twigs are applied externally, the skin becomes red and vesicates. Taken internally in small doses, the plant acts as a sudorific and stimulates the contraction of the muscular tissue of the heart, intestine and uterus. Taken internally in large doses, the plant acts as an irritant poison and produces abdominal colicky pain. Other symptoms are dilated pupils, itching of the skin which becomes reddened and is covered with perspiration. hypotonia and slow or irregular pulse and gasping respiration. myotonia, collapse and death from respiratory failure.^[5]

Fatal dose-178gm of powdered

Fatal period is not certain.

Medico legal aspects: The root is ingested as an abortifacient or applied to the -cervix directly or as a paste via the abortion stick. Malingerers use it to produce artificial bruise. it is rarely used as a homicidal poison.^[5]

Treatment

1. Gastric lavage with warm water

2. Administration of demulcents, stimulants and other drugs as indicated by the symptoms.^[6]
3. Oxygen and artificial respiration is to be given if necessary.
4. About 2mg of atropine should be given for broncho-spasm and slow pulse.^[6]

Antidote

Pittashamaka, *Snighda*, and *Sheeta* preparations should be given. Example -*Kshira* and *Chandana*.^[7]

Rakta Chitraka Sodhana (purification)

“रक्तचित्रकमूलं तु चूर्णातोये निमज्जयेत् ।

ततो निदाघसंशुष्कं शुद्धिमायात्वनुत्तमाम ॥”

- (र.त.575)

Small pieces of *Citraka mula* are soaked in lime water and thereafter washed, dried under the sun.^[8]

CONCLUSION

Plumbago rosea Linn is widely accepted medicinal plant in ayurveda, unani and many countries. Overall literature survey indicates its use against wide range of diseases and as rejuvenator (Rasayana). Though *Rakta Chitraka* is taken into account as a toxic plant, it has been used for thousands of years in Ayurvedic medication after purification. The various experimental studies on *Plumbago zeylanica* has shown its different activities such as, Anti-viral, Anti-fungal, Anti-cancerous, hypo-lipidemic, Hypo-glycemic and Anti-plasmodial and Anti-oxidant effect.

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