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Review Article

THE VISHAGHNA PROPERTIES OF MANJISHTHA (*Rubia cordifolia*) IN AYURVEDIC AND CONTEMPORARY SCIENCE: AN OVERVIEW

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ABSTRACT

The present concept is given to help for to establish as bridge between *Ayurveda* and contemporary science. The Concept of *Ayurvedic vishaghna* properties is near about detoxifying action (Antidote action) in modern era. It is may be beneficial integrated concept for metabolic toxicity, substance acquired acute and chronic toxicity, biological toxicity, cumulative toxicity etc. and it also help to understand the detoxifying phenomenon. The single and multiple preparations of *manjishtha* are available which indicates its utility in many poisoning. All aspects of *manjishtha* are studied in detail especially in field of detoxification. Selection of all logical references are done and collection, correlation and explanation as per requirement. According to indication and detoxifying therapeutic use of *manjishtha* are highlights, which described especially in *Ayurvedic* and modern text. All *ayurvedic* and contemporary references regarding *vishaghna* are collected from *Ayurvedic* fundamental books and various textbooks, research article, international journals. Theoretically, it will breakdown the pathogenesis of toxicity and progress forward to denatured any poison. It can be useful for disease which comes under area of any field of toxicity. We can prevent and treat much toxicological disorder. On the basis of concept of *vishaghana* properties of *manjishtha*, it can be broadly used in today's era for preventive as well as curative disease free life from toxicological agent.

Keywords; *manjishtha*, *vishaghana* properties, detoxifying uses

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INTRODUCTION

Rubia cordifolia (*manjishtha*) is most common *Ayurvedic* multi pharmacological action drug e.g. antidiabetic, antipyretic, anti-inflammatory, analgesic, antihistaminic, antimicrobial, immunomodulator, antiherpes, cosmetic ailments, menstrual disorder, cardio-gastro-hepatoprotective in nature¹. *Manjishtha* is classified in the group of *vishaghna mahakashaya dravya* which is mentioned in *shadvirechanshatashreeya* chapter of *sutra- sthana* of *Charak samhita*. The term

vishaghna and detoxification are functionally same. *Vishaghna mahakashaya dravya* are may be show the antitoxic effect by the neutralize toxin, denatured toxin and helps to release toxin outside from the body at the cellular level. Drugs of *vishaghna mahakashaya* are having potency to treat the all types of poisoning eg. *Gara visha*, *Dushi visha*, Snake bite, Scorpien bite, rat bite, Sting and Chronic cumulative biochemical toxicity. In *Ayurveda*, *Agad* is a multi herbo-mineral drug preparation which indicates in various types of poisoning.

COMMON DISCRPTION & SCIENTIFIC CLASSIFICATION OF RUBIA CORDIFOLIA²

It is a perennial, prickly climber with a stem, growing up to 12 m long. Leaves are highly variable, ovate lanceolate, 5-7 nerved, 2-10 cm long and 2-5 cm broad, occurring in whorls of 4-6. Flowers are fragrant, minute, whitish or greenish yellow. Fruit is minute, glabrous, 1-2 seeded, dark purplish or blackish when mature. During August-October plant carries flower and fruit. Roots are perennial, long, cylindrical, and rusty brown in colour.

Kingdom: Plantae

Class : Dicotyledons

Subclass : Sympetalae

Order : Rubiales

Family : Rubiaceae

Genus : Rubia

Species : *cordifolia*

Table 1: General & Vishaghna Classifications of Manjishtha in various Ayurvedic Literature

S.N.	Ayurvedic Literature	General classification	Vishaghna Classifications
1.	<i>Charak samhita</i> ^{3,4,5}	<i>Varnya, Jwarhar</i>	+
2.	<i>Sushruta samhita</i> ^{6,7}	<i>Priyangavadi, Ambashthadi gana</i>	-
3.	<i>Ashtang Samgraha</i> ^{8,9,10}	<i>Priyangavadi</i>	+
4.	<i>B.P. Nighantu</i> ¹¹	<i>Haritkyadi varga</i>	+
5.	<i>Raj Nighantu</i> ¹²	<i>Pippalyadi varga</i>	+
6.	<i>Kaideva Nighantu</i> ¹³	<i>Aushadhi varga</i>	+
7.	<i>Dhanvantari Nighantu</i> ¹⁴	<i>Guduchyadi varga</i>	+
8.	<i>Priya Nighantu</i> ¹⁵	<i>Pippalyadi varga</i>	+

Table 2: Ayurvedic pharmacodynamics of manjishtha (Textbook of Dravyaguna P.V.Sharma, Vol.2, P;800)

S.N.	Pharmacodynamics	Explanation
1.	<i>Rasa</i> (Taste)	<i>Tikta</i> (Bitter), <i>Kashaya</i> (Astringent), <i>Madhura</i> (sweet)
2.	<i>Guna</i> (Properties)	<i>Guru</i> (Heavy), <i>Ruksha</i> (dry)
3.	<i>Veerya</i> (Potency)	<i>Ushna</i> (Hot)
4.	<i>Vipaka</i> (Post digestive effect)	<i>Katu</i> (Pungent)
5.	<i>Dosha prabhava</i>	<i>Kapha-pitta shamaka</i>
6.	Pharmacological Action	<i>Varnya, Balya, Rasayan, Vishaghna, Raktaprasadaka</i>

Chemical Composition of Rubia cordifolia

Rubia cordifolia most known for its anthraquinones and naphthohydroquinones phytochemical constituents¹⁶.

The chief constituents of rubia cordifolia is Rubiadin¹⁷, Rubicordone A¹⁸, Rubiasins A-C¹⁹, Rubiatriol²⁰ and two pentacyclic triterpenoid- Rubicoumaric acid Rubifolic acid²¹.

Table 3: Therapeutic Vishaghna Yoga and Agad Preparation of Manjishtha

S.N.	Mention	Name	Indication	References
1.	Charak	Rajniadi Churna	Visha	C.S.Chi.23/50
		Mahagandhahasti agad	Visha	C.S.Chi.23/77-94
		Pipplyadi Pishthi	Visha	C.S.Chi.23/185
		Manjishthadi Pana	Mandali Sarpa visha	C.S.Chi.23/196
2.	Sushruta	Mahagada	Vishavegahar	S.S.K.5/61-62
		Rishabhagada	Sarpakeeta visha	S.S.K.5/68-72
		Drakshadi agad	Sarpavisha	S.S.K.5/76-77
		Ksharagada	Visha	S.S.K.6/3-7
		Kalyanak Sarpi	Visha	S.S.K.6/8-11
		Snukakshiradi lehya	Mushak damsha	S.S.K.7/22
3.	Vagabhatt	Manjishthadi churna pana	Sarpa visha	A.H.U.36/59
		Kashmaryadi pana	Sarpa visha	A.H.U.36/65
		Pathyadi lepa	Vraschika visha	A.H.U.37/38
		Champakadi agad	Luta visha	A.H.U.37/71
		Agardhumadi lepa	Mushaka visha	A.H.U.38/18
		Suryodaya agad	Visha	A.S.U.40/57
		Priyangavadi agad	Visha	A.S.U.40/59
		Mushkadi yoga	Visha	A.S.U.40/81

		Ajeya ghrita	Visha	A.S.U.40/98
		Mahagada	Visha	A.S.U.42/61
		Rishabh Agad	Visha	A.S.U.42/62
		Kshara agad	Visha	A.S.U.47/38
4.	Bhavaprakash	Jatyadi Taila	Vishaj vrana	B.P.M.47/90-95
		Mrityupasachhedi ghrita	Visha	B.P.M.67/82-87
		Rajniyugmadi lepa	Luta visha	B.P.M.67/89
5.	Yogaratanakar	Jatyadi taila	Vishaj vrana	Y.R. sadyovrana 46-50
		Grahadhumi yoga	Aakhu visha	Y.R. visha 111
		Rajnidvayadi lepa	Luta visha	Y.R. visha 138
		Mrityuchhardi ghrita	Visha	Y.R. visha 164-169

Some Pharmacological Action of *Rubia cordifolia* Related to Detoxification

1. Antioxidant activity against lead nitrate²² and radiation induced toxicity²³ were reported from *Rubia cordifolia*.
2. Alizarin Biomarker of *Rubia cordifolia* is responsible for Antigenotoxic activities²⁴.
3. The anti-inflammatory effects of *Rubia cordifolia* in rats with carrageenan paw edema. The plant showed significant anti-inflammatory activity at a dose of 10 and 20 ml/kg of the water extracts. The activity was comparable to that of phenylbutazone (100 mg/kg)²⁵.
4. Anti-adipogenic activity of 2-carbomethoxy-2, 3-epoxy-3-prenyl-1, 4-naphthoquinone (CMEP-NQ) isolated from the roots of *Rubia cordifolia* L., its effects on cell viability, apoptosis, and adipogenesis in 3T3-L1 preadipocytes were investigated²⁶.
5. Alcoholic extracts of *Rubia cordifolia* whole plant show enhance immune-modulating activity (Cell mediated and humoral) due to alkaloids, flavonoids, tannins and phenols of plant²⁷.
6. The alcoholic root extract of *Rubia cordifolia* provides protection against radiation-induced lipid peroxidation, hemopoietic injury and genotoxicity²⁸.
7. Purpurin (anthroquinone derivatives) constituents of *Rubia cordifolia* show antigenotoxic activity²⁹.
8. *R. cordifolia* has been shown to exert cell/neuro-protective properties via preventing the depletion and increasing GSH (glutathione) levels by inducing GCLC (c-glutamylcysteine ligase) expression, reducing oxidant levels by direct scavenging, and decreasing iNOS expression³⁰.
9. *R. cordifolia* extracts were also evaluated for antioxidant and lipid peroxidation inhibitory

activity by 1, 1-diphenyl-2-picryl-hydrazyl and TBARS Thiobarbituric acid reactive substances method respectively³¹.

10. Lipid peroxidation in the kidney and liver tissues was also considerably reduced in *Rubia cordifolia* extract treated animals³².
11. The hepato-protective activity of an aqueous-methanol extract of *Rubia cordifolia* (Rubiaceae) was investigated against acetaminophen and CCl₄ induced hepatic damage³³.
12. *R. cordifolia* also inhibited lipoxygenase enzyme pathway and production of cumene hydroperoxides as anti-inflammatory reaction^{34,35}

DISCUSSION

As we have seen in above literature that Manjistha have been used as a prominent content in many Agad (antitoxic) preparations. These Agad are mainly used for different types of toxicity as such Sarpa, luta, vrischika and mushaka etc. by our great sages of Ayurveda. By recent researches, we find that Manjistha have Antioxident, Anti-inflammatory, hepato-protective, nephro-protective, Antigenotoxic and immunomodulator effect also. By these researches, the concept of vishagna guna of Manjistha gets strengthen. As we seen that Manjistha protects the liver, kidney, neurons and different cells of body from many types of radiations / chemicals.

CONCLUSION

As per the above discussion, we conclude that Manjistha is a Vishagna (Anti-toxic) drug useful in different type of toxicity. It will be beneficial for metabolic toxicity; substance acquired acute and chronic toxicity, biological toxicity, cumulative toxicity etc. and diseases due to toxicity. Manjistha can be easily used in today's era for preventive as well as curative disease and make the life free from toxicological agents.

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