

DETAILED REVIEW OF HARIDRA-THE GOLDEN MEDICINE OF AYURVEDA

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ABSTRACT

India is a rich source by variety of flora both aromatic and medicinal plants. Among these herbs Haridra is one of the most extensively used drug in every Indian houses both in ritualistic and medicinal purpose. Haridra (*Curcuma longa* Linn.) is medicinal herb enlisted in the Dravyaguna. It is very commonly available drug with very high therapeutic uses. It has the properties of Tikta rasa, Ushna Veerya and Ruksha guna and indicated in Prameha, Kandu, Kustha, Krimi, Pinasa etc. The aim of the study is to collect and evaluate the information on haridra mentined in different ayurvedic texts Like Brihatrayee, Laghutrayee and Nighantus.

KEYWORDS: Tikta rasa, Ushna Veerya and Ruksha guna and indicated in Prameha, Kandu, Kustha, Krimi, Pinasa etc.

INTRODUCTION

In India the earliest mention of the use of medicinal plants to be found in Rigveda(4500-1600B.C). Haridra is one such medicinal plants explained extensively in Dravyaguna vijnana. It is one of the oldest spices that have been used in various states of India for thousands of years and is a major therapeutic use in Ayurvedic medicine. The drug Haridra is widely mentioned for the treatment of many diseases in compound form by the classics of Brihatrayi. In Nighantu kala, haridra is described with their Guna, karma and Paryaya. In Ayurveda, turmeric has been well documented for its therapeutic potentials and described in dashemani lekhanaya, kusthaghna, Vishaghna.

BOTANICAL NAME - *Curcuma longa* Linn.

1. **NATURAL ORDER**- Zingiberaceae
2. **CLASSICAL NAMES**- Rajani, Nisha, Gauri, Krimighna, Yoshitpriya, Kanchani, Varavarnini, Haldi, Hattavilasini, Haridra.

TAXONOMICAL CLASSIFICATION

- ❖ **Kingdom**-Plantae
- ❖ **Division**- Mangoliophytae
- ❖ **Class**- Liliopsida
- ❖ **Subclass**-Zingiberidae
- ❖ **Order**- Zingiberales
- ❖ **Family**- Zingiberaceae
- ❖ **Genus**-Curcuma
- ❖ **Species**- C.longa
- ❖ **Scientific Names**- Curcuma longa L.

VERNACULAR NAMES

- ❖ Eng. - Turmeric;
- ❖ Hindi - Haldi, Halda, Hardee;
- ❖ Beng - Halud,
- ❖ Guj. - Haldar, Halada;
- ❖ Kan.- Arisina;
- ❖ Mal. Marmal, Manjal, Marinalu, Paccamannal, Varattumannal;
- ❖ Mar. Halad;
- ❖ Punj. - Haldi, Halja,Haldar,
- ❖ Tam. - Mancal, Manjal;
- ❖ Tel. - Pasupu;
- ❖ Arabic- Kurkum, Zarsud,
- ❖ Uruk-essuff
- ❖ Kash. - Lidar,
- ❖ Kon. - Halad,
- ❖ Oriya - Haladi;
- ❖ Pers. Serd-Chubah, Zard Chobah, Daroserda.^[1]

NAMARUPA VIJNANA

- ❖ Haridra-हरिमहरितमवर्नम्हलीमकाख्य्यंद्रातिअपसरयतीति, "द्राकुत्सायांगतौ".
- ❖ Kanchani-स्वर्णबर्णा
- ❖ Krimighni-कृमिनाशिनी.
- ❖ Nisha-निशारजनीत्यादिनामभिव्यवहता.
- ❖ Pindaharidra-पिण्डरुपाहरिद्रा(नतुदारुरुपा), कैयदेवस्तस्मिन्नेवार्थे, पिण्डभद्रा, पिण्डाइतिचपटति।
- ❖ Mangalya-मान्गलिककृत्येषुप्रयोज्यमाना
- ❖ Mehaghni-प्रमेहरोगेशेषेणप्रशस्ता।मेहघातिनीइतिनिघन्टूशेषः।
- ❖ Yositpriya-योषित्प्रियास्त्रीणांप्रिया, उद्वर्तनादिकेप्रयोज्यत्वत्।
- ❖ Rajani-रज्जयतिवस्त्रदीनि, वस्त्रदिरनेप्रयुक्तेत्यर्थः।
- ❖ Lomasamulika-लोमशंमुलमस्याः।
- ❖ Varavanini-वरःश्रेष्ठोवर्णाअस्याः।
- ❖ Varnavilashini-वर्णविलासयतिप्रसादयतीति।
- ❖ Visaghni- विषंहन्तीति।
- ❖ Hattavilashini-हृत्मापणंविलासयतिशोभयतीति।
- ❖ Vaisya-वैश्याइत्यपिपण्यत्वमस्याःसुचयति।
- ❖ Haldi-लोकिकीसंन्जा.^[2]

HISTORICAL BACKGROUND**❖ VEDIC PERIOD-(6000 – 4000 BC.)**

Vedas are considered as the repositories of knowledge since antiquity. It is the oldest extant source of drug which may be called as oldest drug stock of Ayurveda. By searching the vedic literature, it was found out that the drug haridra was mentioned extensively. Hindu mythology revealed that the herb Haridra is included in Navapatrika and Devi Durga presides over that. In AtharvaVeda Haridra was used for the treatment of kushthaRoga, 1 commented

by Sayanacharya In Agnipurana (Second-Part) Haridrawas used for the treatment of Arsa, Prameha, Vrana ropan, Kamala.

❖ SAMHITA KALA

➤ CARAKA SAMHITA(400-200B.C.)

In this samhita, comprehensive depiction of Haridra is found. There is talked about rasa, guna, virya, vipaka, prabhava, dousika karma and therapeutic use of Haridra. Haridra is described in several mahakasaya, yavagu, different yogas like Nisa amlaki, Vasanta kusumakar rasa, Haridra khanda etc. in various aspects.

REFERENCE OF CHARAK SAMHITA

Sr.No	Disease	Formulation use	References
1.	Kustha	Tiktakhudakadi Tailam, Maha khadiradi ghrtam	Ch.Ci.7/108.Ch.Ci.7/13
2.	Shotha	Churna	Ch.Ci.R.11/41
3.	Udara	Patoladichurna	Ch. Ci.13/119
4.	Hikka-Shvaasa	Manahshiladighrita	Ch. Ci.17/145
5.	Arsha	Lepa	Ch. Ci.14/52.
6.	Pandu	Haridraghrita,Punarnavadighrita	Ch. Ci.16/53.Ch.Ci.16/94.
7.	Kasa	Guruchyaadighrita	Ch.Ci.18/161
8.	Prameha	.Kwath	Ch.Ci.6/31
9.	Visa	Amrita ghritam.	Ch.Ci.23/246
10.	Dwibaraniya	Lepa	Ch.Ci.25/114.
11.	Yunivyapad	KasamaryadiGhritam	Ch.Ci.30/53

➤ SUSRUTA SAMHITA(6 th century B.C.)

Acarya Susruta has mentioned haridra in 3 vargas- haridradi, mustadi & lakshadi gana. Rasapanchaka, therapeutic uses and dosakarmata are also described. It is used in various diseases like vrana, visa, medoroga, pratisyaya, etc.

REFERNCE OF SUSRUTA SAMHITA

Sr.No	Disease	Formulation	References
1.	Arsha	Lepa	Su.Ci.6/12.
2.	Bhagandar	Varti, Kalka	Su.Ci.8/30,41
3.	Kustha	Lepa, Churna, Mahavajraka tail	Su.Ci.9/45,46,56.
4.	Prameha	Swaras, Kwath.	Su.Ci.11/8,9.
5.	Vidradhi	Karanjyaadighrit	Su.Ci.16/17.
6.	Visarpa	Guducyaadighrita	Su.Ci.17/10.
7.	Pandu	Ghrita	Su.Ci.44/15.
8.	Svasa	Swarasa	Su.Ci.51/44

REFERENCE OF BHAVAPRAKASH NIGHANTU(16th century A.D.)-15.

Sl.No.	Disease	Formulation	References
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1.	Arsha	Punarnvadimandoor, Ksharsutra	B.P.5/30,144.
2.	Shwas		B.P.14/41.
3.	Kustha	Maha manjisthadi Kwath, Brihatmanjisthadi Kwath, Mahamaricadi tail.	B.P. 54/102,104,122

CLASSICAL CATAGORISATION AS PER SAMHITA

- ❖ **CharakaSamhita**:-Shirovirechandravaya, Lekhaneya mahakasaya, Kusthaghna, Vishaghna, Tiktaskandha.^[17,18,19]
- ❖ **SushrutaSamhita**:-Haridradi Gana, Mustadi Gana, Lakshadi Gana, Tikta Rasa dravya,^[22,23,24]
- ❖ **Vagbhata**:-Vachaharidradi^[26] MustadiGana, Tikta Rasa dravya,^[28]
- ❖ **Nighantu Period**

1. Dhanvantari-nighantu(10 th-13th CenturyA.D)

Described various 18 synonyms and different Guna karma of Haridra in Guduchyadi Varga.^[29]

2. Shodhanighantu(12th Century)

Described 10 synonyms and different qualities of Haridra under Guduchyadi Varga.^[30]

3. MadanpalNighantu(14th Century)

Mentioned 10 synonyms of Haridra and it's different Guna karma in AbhyadiVarga(Shloka no -228).^[31]

4. Kaiyadeva Nighantu(15 th Century A.D.)

Mentioned 20 synonyms and it's different Guna karma in AoushadiVarga(Shloka no 1113-1115).^[32]

5. BhavaprakasNighantu(15-16th Century A.D.)

Described 10 synonyms and varieties of Rasa panchakaand Guna karma in Haritakyadi Varga (Shloka no -196-197).^[33]

6. Raj Nighantu(17th Century A.D.)

Described 30 synonyms it's origin morphological description Guna karma in Pippalyadi Varga(Shloka no -196-199).^[34]

7. ShaligramNighantu (19th Century A.D.)

Described of 10 synonyms and it's Guna karma in Haritakyadi Varga.^[35]

8. MahaushadiNighantu(20th Century A.D.)

Described of 14 synonyms and it's different Guna karma in MahaushadiVarga.^[36]

9. PriyaNighantu(20th Century A.D.)

Described of 4 types synonyms and different Guna karma in Shatapuspadivarga.

10. AdarshNighantu(20th Century A.D.)

Described of Vernacular name, 6 types synonyms with each Nirukti and differentGuna karma in Adrakadi Varga.^[38]

11. HridayadipakNighantu

Mentioned synonyms and it's Guna karma in EkapadaVarga.

SYNONYMS OF HARIDRA IN NIGHANTU

Synonyms	RN	DN	MN	KN	BN	NA	SU.N	SN	PN	H N	MA.N	AN
Haridra	+	-	-	-	+	+	+	+	+	-	+	+
Visaghna	+	+	-	-	-	-	-	-	-	-	-	-
Varabarnini	+	+	+	+	+	-	-	-	-	-	+	+
Subarna	+	-	-	-	-	-	-	-	-	-	-	-
Siva	+	-	-	-	-	-	-	-	-	-	-	-
Varnini	+	-	-	+	-	-	-	-	-	-	-	-
Dirgharaga	+	+	-	+	-	-	-	-	-	-	-	-
Pita	+	+	+	+	+	-	-	+	-	+	+	+
Varangi	+	-	-	-	-	-	-	-	-	-	-	-
Gauri	+	+	+	+	-	-	-	-	-	-	-	-
Janistha	+	-	-	-	-	-	-	-	-	-	-	-
Para	+	-	-	-	-	-	-	-	-	-	-	-
Besava	-	-	-	+	-	-	-	-	-	-	-	-
Pindabhara	-	-	-	+	-	-	-	-	-	-	-	-
Pitanggi	-	-	-	+	-	-	-	-	-	-	-	-
Pinda	-	-	+	+	-	-	-	-	-	-	-	-
Aneshata	-	-	-	-	-	-	-	+	-	-	-	-

	RN	DN	MN	KN	BN	NA	SU.N	SN	PN	HN	MA.N	AN
Gandhapalashika	-	-	-	-	-	-	-	+	-	-	-	-
Gharsini	-	-	-	-	-	-	-	+	-	-	-	-
Hemaragini	-	-	-	-	-	-	-	+	-	-	+	-
Jvarantika	-	-	-	-	-	-	-	+	-	-	-	-
Kaveri	-	-	-	-	-	-	-	+	-	-	-	-
Mehagini	-	-	-	-	-	-	-	+	-	-	-	-
Nishakhya	-	-	-	-	-	+	-	+	-	-	-	-
Yyabtri	-	-	-	-	-	-	-	-	-	-	+	-

Varnaatri	+	-	-	-	-	-	-	-	-	-	+	-
Pabira	+	-	-	-	-	-	-	+	-	-	-	-
Harita	+	+	+	-	-	-	-	-	-	-	-	-
Rajani	+	+	+	-	-	-	-	-	-	+	-	-
Pinga	+	-	-	-	-	-	-	-	-	-	-	-
Varnadra	+	-	-	-	-	-	-	-	-	-	-	-
Mangalya	+	-	-	-	-	-	-	-	-	-	-	-
Lambi	+	-	-	-	-	-	-	-	-	-	-	-
Bhadra	+	-	-	-	-	-	-	-	-	-	-	-
Shifa	+	-	-	-	-	-	-	-	-	-	-	-
Shobhana	+	-	-	-	-	-	-	-	-	-	-	-
Shyama	+	-	-	-	-	-	-	-	-	-	-	-
Shobhana	+	-	-	-	-	-	-	-	-	-	-	-
Shayama	+	-	-	-	-	-	-	-	-	-	-	-
Jayanti	+	+	-	-	-	-	-	-	-	-	-	-
Kancani	-	-	-	+	+	-	-	-	+	-	+	+
Nisa	-	+	+	+	+	+	-	-	+	-	+	+
Krimighna	-	-	-	-	+	-	-	-	+	-	+	+
Haldi	-	-	-	-	+	+	-	-	-	-	+	-
YoshiPriya	-	-	-	-	+	+	-	-	-	-	+	-
Hattavilashini	-	-	-	-	+	-	-	-	-	-	+	-
Varnavati	-	+	+	+	-	-	-	-	-	-	-	-
Haldika	+	-	-	-	-	-	-	-	-	-	-	-
Bharalata	-	+	-	+	-	-	-	-	-	-	-	-
Ranjini	-	+	+	-	-	-	-	-	-	-	-	-
Romashmulika	-	-	-	+	-	-	-	-	-	-	-	-

+ denotes present and – denotes absent.

RN= Raj Nighantu, DN=Dhanwantari Nighantu, MN= Madanpal Nighantu, KN= Kaiodev Nighantu, PN= Priya Nighantu, Ni.A= Nighantu Adarsha, SN= Saligrtam Nighantu, Ma. N= Madhava Nidana

RASA PANCHAKA

A drug acts by its potency, which implies all the qualities of drug by which they act, viz. Rasa, Guna, Virya, Vipaka and Prabhava. It is emphasized in most of Nighantu that Haridra possesses Katu, Tikta. Rasa, Ruksha^[12-14,16,19,21,33] Guna, Ushna^[12,14,16,19,21,26,27,33] Veerya and Kapha-pitta Shamaka^[12,14,16,17,19,21,26,28,37] property. Some NighantumentionedHaridra having onlyTikta^[13,26,33] Rasa, and Kapha-Vata-Rakta Shamaka^[27,33] property.

A drug performs certain local and general actionseither by its Rasa, Guna and certain specific therapeuticactions by its Vipaka and Veerya. Acharya Charaka states that some substances act in accordance with their Rasa(taste), and some in accordance to their post digestiveeffects (Vipaka), Veerya (potency), or specific actions; Prabhava.

- ❖ **Rasa** – Tikta, katu.
- ❖ **Guna** –Ruksha, Laghu.
- ❖ **Vipak**–Katu.
- ❖ **Veerya** – Ushna.
- ❖ **Dosakarma** –Kapha pita nasaka.

REFERNCES OF RASA PANCHAKA AS PER NIGHANTU

		DN	K.N.	M.P	B.N	R.N	P.N	MAN	N.A
Rasa	TiktaKatu	+	+	+	+	+	+	+	+
Veerya	SheetaVeerya	+	+	+	+	+	+	-	-
Guna	Ruksha	+	+	+	+	+	+	+	-
Dosakarmata	Kaphanasak	-	+	-	+	+	+	-	+
	Pittanasak	-	+	-	+	-	+	-	-
	Vatanasak	-	-	-	-	-	-	-	+

+ denotes present and – deontes absent

RN= Raj Nighantu, DN=Dhanwantari Nighantu, MN= Madanpal Nighantu, KN= Kaiodev Nighantu, PN= Priya Nighantu, Ni.A= Nighantu Adarsha, SN= Saligrtam Nighantu, Ma. N= Madhava Nidana

BOTANICAL DESCRIPTION

Haridra is a Tall herb, root stock ovoid, tubers cylindric. Leaves upto 50 x 8 cm., oblonglanceolate, apex caudate-acuminate, base tapering. Spikes 10-15 cm. long. Corolla white, flowering bracts pale green; bracts of coma tinged with pink.

Rhizomes ovate, oblong or pyriform(round turmeric) or cylindrical, often short branched (long turmeric), former about half as broad as long, latter 2-5 cm long and about 1-1.8 cm thick, externally yellowish to yellowish- brown with root scars and annulations of leaf bases, fracture horny, fractured surface orange to reddish brown, central cylinder twice as broad as cortex; odour and taste charecterestics.^[3]

DISTRIBUTION

Plant is a native of South Asia and is cultivated extensively throughout warmer parts of the world, including India.^[2]

PART USED- Rhizome.

DIFERRENT VARITIES

There are mainly 4 varieties of Haridra found in Brihatrayi, Laghutrayi and Nighantus-

- ❖ Haridra (*Curcuma longa*)
- ❖ Amragandhi Haridra or Karpura haridra (*Curcuma amada*)
- ❖ Daru haridra (*Berberis aristata*)
- ❖ Vana haridra (*Curcuma aromatica*)

MAJOR CHEMICAL CONSTITUENTS

Chemical constituents of turmeric have been extensively investigated by many researchers. At the moment, more than 235 compounds, primarily phenolic compounds and terpenoids were identified from the turmeric, including diarylheptanoids and diarylpentanoids, phenylpropene and other phenolic compounds, monoterpenes, sesquiterpenes, diterpenes, triterpenoids, sterols and some alkaloidal compounds. Yellow coloring matter curcumins and other curcuminoids (diarylheptanoids) and essential oils were major bioactive ingredients showing various biological activities.^[15] The curcuminoids are polyphenols and are responsible for the yellow color of turmeric.

Curcuminoids contain mainly 71.5% curcumin (curcumin I) (demethoxycurcumin (curcumin II) (bisdemethoxycurcumin (curcumin III) (Curcumin R1 = OCH₃R₂ = OCH₃ Demethoxycurcumin R1 = OCH₃R₂ = H (3) Bis Demethoxycurcumin R1 = HR₂ = H Turmeric contains an essential oil (5%), which contains a variety of monoterpenes, sesquiterpenes and diterpenes. Major monoterpenes are p-cymene (4), terpinolone (6) and cineole (7). Important sesquiterpene is Ar-turmerone, β-turmerone Prafulla Sabale, et al. has a tough brown skin and bright orange flesh. Rhizomes are oblong ovate or colour having characteristic odour and slightly pungent, bitter taste, root scars and annulations are present at the surface of rhizome.

Subramanion et al^[23] Isolated “turmeric antioxidant protein” and found that this anti-oxidant principle is a heat stable substance. A comparative study on the pharmacological properties of curcuminoids 1, 2 and 3 was undertaken by Anto et al for evaluating cytotoxic tumor reducing and antioxidant activities. They found the Rhizomes have turmeric oil or turmerol (5–8%, C₁₅H₂₆O) (11) contains d-α-phellandrene, an alcohol (C₁₃H₁₈O or C₁₄H₁₂O), 0.1%, 0.1% veleric acid (C₆H₁₂O₂) (13) as a combined acid. Fractional distillation of oil yields 4% dphellandrene (C₁₀H₁₆) (12), 2.5% d-borneol (C₁₀H₁₇OH) from the lower

fraction. Middle fraction yields 30.5% zingiberene (C₁₅H₂₄) (15) and higher fraction shows mixture of sesquiterpene hydrocarbons and sesquiterpenes alcohols (50.5%, C₁₅H₂₆O). Other constituents include Steroids, fatty acids, sugars, resins, proteins, vitamins, and minerals (including iron and potassium). Ferulic acid is hydroxycinnamic acid derived from turmeric and it is known for its anti-oxidant property.^[16]

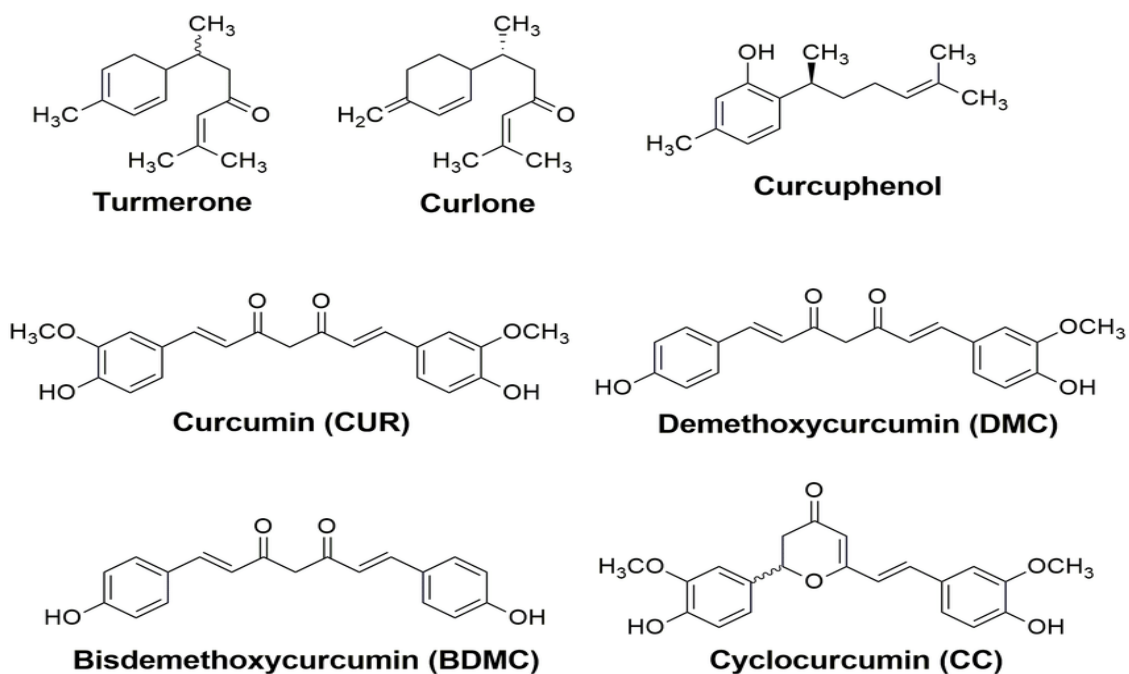


Fig 21: Chemical Compounds Present In Cucurma Longa.

ACTION AND USES

The rhizomes are bitter, acrid, thermiogenic, emollient, anodyne, antiinflammatory, antiseptic, appetiser, carminative, stomachic, anthelmintic, laxative, diuretic, expectorant, haematinic, styptic, antiperiodic, alterative, alexeteric, detergent, stimulant, febrifuge, ophthalmic and tonic. They are useful in inflammations, ulcers, wounds, leprosy, skin diseases, pruritus, allergic conditions and discolouration of skin, anorexia.

KARMA AND ROGAGHNATA(ACTION AND THERAPEUTIC INDICATIONS)

Haridra has been indicated in the management of 15 different disease conditions. Among these, maximum indications are for Prameha (Diabetes Mellitus) Meha (Increased frequency and turbidity of urine) followed by Tvagdosha (Skin disorders) Vrana (ulcer), Pandu (anaemia), Shopha (oedema), Visha (poison) Apaci (Chronic lymphadenopathy) [Kandu (itching) Kushtha (disease of skin), Krumi (worm infestation), Aruchi (tastelessness), Pinasa (chronic rhinitis), Abhighata (trauma), Jvara (fever), Shitapitta (urticaria) and four

Karma like Varnya (complexion promotor), Daha(burning sensation), Ruja(pain) and Vishodhani(cleansing of the body). Dhanvantari Nighantu, LaghuNighantu, Sodhala Nighantu and Rajavallabha Nighantuhave indicated Haridra in maximum disease conditions.^[12]

PHARMACOLOGICAL ACTIONS

Several medical properties have been attributed to *Curcuma longa* Linn. Rhizome of Haridra is known to possess therapeutic activities and has been used by medical practitioners as an anti-diabetic, hypolipidemic, anti-inflammatory, anti-diarrhoeal, hepatoprotective, anti-asthmatic and anti-cancerous drug. Haridra is widely used in cosmetology. The following section discusses its various therapeutic uses in medicine.

a) Anti diabetic activity

A beneficial role of turmeric in diabetes treatment has been known and practiced in Ayurveda medicine for thousands years. Scientists paid great attention to curcumin and after many research results prove that this compound lowered the level of glucose in blood in patients with diabetes type 2. During only one year about 200 turmeric-related studies were published. Most of them referred to curcumin usage as a glucose level controlling agent in rodent models (mostly rats). Commonly used models were alloxan-, streptozotocin-, streptozotocin with nicotinamide induced diabetes.^[13]

b) Anti- Inflammatory activity

Aqueous and alcoholic extracts showed anti-inflammatory activity in mice. The ethanol extracts and formulations exhibited significant anti-inflammatory activity in arachidonic acid-induced ear inflammations. The resulting anti-inflammatory activity was suggested to be due to effects on several mediators and arachidonic acid metabolism involving cyclooxygenase pathway. A study was also done on Antiinflammatory effect of the volatile oil from CA.^[14]

c) Wound healing activity

The powdered rhizome of CA exhibited wound healing activity in rabbits. Studies also showed significant wound healing activity in excision wound models, conducted to assess the wound healing activity of topical application of CA rhizome extracts and its cream formulations.

d) Anti-tumour activity

Germacrone is one of the major bioactive components of CA which has been proven to possess anti-tumor properties. In a study on the anti-proliferative effect of germacrone on human glioma cells and the molecular mechanism underlying its cytotoxicity concluded that Germacrone inhibits the proliferation of glioma cells by promoting apoptosis and inducing cell cycle arrest. It also suggested that germacrone may be a novel potent chemo preventive drug for gliomas via regulating the expression of proteins associated with apoptosis and G1 cell cycle arrest.^[8] Studies were also conducted on Antitumor effect and pharmacological actions of beta-elemene isolated from the rhizome of CA.

e) Anticancer activity

A study was conducted to evaluate the anticancer effects of aqueous extract of *Curcuma aromatica* (AECA) and related molecular mechanisms of CA in human colon carcinoma LS174-T cell line with wild-type p53 used as a model cell. AECA inhibited LS-174-T cell proliferation in a dose- and time-dependent manner and colony formation in a dose-dependent manner. This study suggested that AECA might be effective as an anti-proliferative herb for colon carcinoma.

f) Anti bacterial activity

It was found that the anti bacterial property of *C.longa* against gram positive and gram negative organism was lesser in degree as compared to penicillin and streptomycin.

g) Anti hepatotoxic effects

Sodium curcumine stimulated bile flow by acting as a hydrocholagogue. In spite of a decrease in the concentration of solids in the bile, the total amounts of solids excreted during the entire period of activity of the drug was found to be increase. Curcumene seemed to be combine the choleric and hydrocholagogic action with antiseptic property and thus would be an ideal therapeutic agent in conditions of the biliary system and gall bladder due to suppress staphylococcal infections.^[19]

h) Hepatoprotective effects

Ethanol extract of *C.longa* rhizome shows hepatoprotective effects on thioacetamide induced liver cirrhosis in rats by the assessments of hepatic cytochrome P450 2E1 & TNF α by the inhibition of progression of liver cirrhosis.

g) Anti fungul effects

Anti fungal spectrum of *Curcuma longa* alcohol extract was determined, and the resulting EC50 values of its extract on eleventh fungi. The anti fungal effect included fungal cell membrane disruption & inhibition of ergosterol synthesis, respiration, succinate dehydrogenase & NADH oxidase.^[20]

IMPORTANT PREPARATIONS

Avaleha-Haridra khanda,

Curna –Rajaniaadi churna

Taila-Vrana sodhana tailam, Chandanadi taila

Haridradi dhuma Varti.

Kasaya- Nisakatakadya Kasaya, Mahatiktakasaya

Asava arista-Dasamulaarista, Pippalasava

CONCLUSION

This study shows detailed pharmacological review of Haridra according to Ayurveda and Modern medicine aspects. Accharya Vagbhata says Haridra mainly helps in balance Pitta dosha but it also helps in Tridosha shamyam. Ayurveda since ancient times and continue to be seen Haridra as a golden medicine.

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