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A Comprehensive Study of Nirgundi (*Vitex negundo* Linn.) As A Krimighna (Anthelmintic) Dravya - A Review



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ABSTRACT

The world's oldest medical system is Ayurveda and it has taken the foremost place in the management of various diseases, one of them is *Krimi roga*. According to modern view, "Krimi" may be correlated with helminths or parasites or microbial agents. The greater infestations of these in our country are due to improper unhygienic diet and behavior due to illiteracy triggered by environmental and socio-economic status make the burden of severe nutritional deficiencies, anaemia and death. There are several medicinal plants which have been mentioned by the Ayurvedic classics as *krimighna* or anthelmintic agent, among them *Nirgundi* (*Vitex negundo* Linn.) is described as *krimighna dravya* as per Charaka Samhita, Dhanwantari Nighantu, Kayadeva Nighantu, Bhavaprakash Nighantu etc. So, in present study *Nirgundi* has been taken into consideration for its literary review through different classical texts from ancient era to till date. The information regarding its pharmacodynamics as well as procedure of therapeutic uses to be placed here in a methodical manner with the conceptual legitimacy. This review will give an idea about the properties, *dosa karma* and therapeutic uses of *Nirgundi* as a *krimighna dravya*.



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INTRODUCTION

According to modern view, “*Krimi*” may be correlated with helminths or parasites or microbial agents. More than 1.5 billion people, or 24% of the world’s population are infected with soil-transmitted helminth infections worldwide¹. Intestinal parasitic infections are a major source of health concern in India like in any other developing nations. The overall prevalence of intestinal infections, caused by enteric parasites ranges from 12.5-67% in India. Lot of complications can occur in helminth infection, which may include-anaemia, malnutrition, growth retardation, intestinal obstruction, gastrointestinal haemorrhage, etc. Ayurveda, the most ancient medical system of the world has dealt with the prevention and cure of the disease by introduction of herbs, minerals, organic compounds etc. As *krimi* is responsible for causation of several diseases and there are several herbs have been used in Ayurveda to kill *krimi*, or to restrict the multiplication of *Krimi* and also to wash out *krimi* from the host’s intestine. *Nirgundi* (*Vitex negundo* Linn.) is one of such *krimighna dravya* (Anthelmintic agent) which has been mentioned by different ancient classics. So, in the present study it has been aimed to collect all those information and to present those in a methodical manner with conceptual legitimacy.

Krimi roga in Ayurvedic literature has been reviewed thoroughly from Vedic period to till date. The Vedas have accepted the existence of *Krimi* through the word *Adrishta*. According to modern view, “*Krimi*” may be correlated with helminths or parasites or microbial agents. *Nirgundi* (*Vitex negundo* Linn.)² is a Sanskrit word, means which protects the body from diseases. This plant of Verbenaceae family is commonly known as *Nirgundi* (Hindi) and five leaved chaste tree (English). *Nirgundi* (*Vitex negundo* Linn.) is a very useful herb and used for its medicinal values for thousands of years all over the world. The medicinal value of *Nirgundi* is mentioned in most of the Ayurvedic literatures such as the epic Mahabharata (3000 BCE), Charaka Samhita (2500-1000) BC, Bhel Samhita (1000BC), Harita Samhita (1000BC), Susruta Samhita (500BC), Kautilya’s Arthashastra (321–296)BC, Kashyapa Samhita (100-300AD), Astanga Samgraha (7th Century AD), Astanga Hridaya (7th Century AD), Madhavanidanam (900AD), Sarangadhara Samhita (1300-1400AD), Bhavaprakasha Samhita (16th Century AD), Vaidyamanorama (800–1000) CE, Chakradatta (1055CE), Rasaratnasamuccaya (1300 CE), Yogaratnakara (1400 CE), Bhavaprakasha (1550 CE), etc. Vishnu dharmasutra quotes *Nirgundi* (61/3). The term *Sephalika* is also found in the works of Panini (P.V.G. 4/3/167 & P.M. 5/3/55).

Brihat Trayi have described this plant with the synonyms *Sinduvarya* and *Nirgundi* for most of the times. Susruta mentioned *Sita Sindhuvara* (white variety) (S.S.K.5/ 66 & 77) indicating existence of two varieties of *Nirgundi*. The synonym *Sephalika* is quoted twice by Susruta (S.S.Su.8/15 &18) and once by Vagbhaṭa (A.H.Utt. 9/5). Charaka mentioned *Nirgundi* in *Krimighna* group and *Sinduvarya* in *Visaghna*³ group. *Sinduvarya* is also considered in the texts as *Visaghna* at various places. Besides this, the roots and flowers of *Sinduvarya* have been accepted for use, while the leaf juice is only used in case of *Nirgundi*. According to *Charaka Samhita*⁴, *Sutra sthana* /4/15,

“*akṣīva marica gaṇḍīra kebuka viḍaṅga nirgūḍī*

kiṇihī śvadamṣṭrā vṛṣaparnīkākhuparnīkā iti

daśemāni krimighnāni bhavanti”

Ten *krimighna dravyas* are *akshiva*, *maricha*, *gandira*, *kebuka*, *vidanga*, *nirgundi*, *kinihī*, *swadamstra*, *vrisaparnika* and *akhuparnika*.

Its *rasa*⁵ is *katu* & *tikta* so it pacifies *Vata* and *Kapha*, it's property is *laghu* and it is *usna virya* and it is used in the treatment of *krimi roga*, *pliha roga*, *gulma roga*, *kustha*, *vrana*, *visha* and *aruchi*. It is found in moist area, often on banks of rivers, throughout India, up to an altitude of 1500 meter, also grown in Mediterranean countries and Central Asia.

Mythological story of *Nirgundi*

Nirgundi is considered as a sacred plant and it is used in rituals in India, is thought to have originated from the abdomen of Ganesha. The leaves are offered to Lord Shiva & Gouri on Nithya Somavara Vrata.

Scientific Classification (Wealth of India,1948-76)

Kingdom-Plantae

Sub Kingdom-Tracheobionta

Class-Magnoliopsida

Sub Class-Asteridea

Order-Lamilates

Family-Verbinaceae

Genus-Vitex

Species-negundo

Scientific Name-*Vitex negundo* Linn⁶.

Vernacular Names⁷

Hindi : Samhalu

Telugu : Vavili

Tamil : Nochchi

Bengal : Nishinda

English : Five-leaved chaste tree

Gujarati : Nagod

Marathi : Nirgundi

Sanskrit : Nirgundi

Sanskrit Synonyms⁸-

Nirgundi

Rogabhyaha

Sindhuvara

Suvaha

Sinduka



Surasa

Svetapuspa

Bhutakesi

Sephalika

Nilamanjari

Vanaja

Botanical Description⁹:

Vitex negundo is a shrub or small tree. Branchlets and underside of leaves pubescent. Leaves- Tri or penta-foliolate, leaflets- lanceolate, entire or crenate. glabrate, dark above and pale beneath, central leaflets larger. Flowers- in lateral cymes, small, bluish purple, Fruits- drupaceous and black when ripe. Seeds-obovate or oblong. Flowering and fruiting between March-August.



Nirgundi (*Vitex negundo* Linn.)

Major Chemical Constituents¹⁰-

Phenol, dulcitol, alkaloid-vitricine, B-sitosterol, camphene, angoside, aucubin, casticin, artemetin, orientin etc.

Properties¹¹-

Rasa: Katu (pungent) & *Tikta* (bitter)

Guna: Laghu (light) & *Ruksha* (dry)

Virya: Ushna (hot)

Vipaka: Katu (pungent)

Doshakarma-Vata-Kapha Shamaka

Karma: Vata-Kaphahara, Krimighna, Caksushya, Keshya, Vranaropana, Mutrala.

Indication¹²: *Krimiroga (useful in intestinal worm infestation), Kustha (useful in skin diseases, eczema, ringworm), Aruchi, deepana, shulahara, sothahara, amahara, medohara, amavata, vranahara, Visarpa, gridhrasi, netra roga, visa roga etc.*

Part used-Leaf, root, seeds.

Nirgundi is a versatile and multipurpose herb. It is used for both external application in form of oil ointment as well as for oral administration in form of churna (powder), leaf juice extract or water decoction.

Doses:¹³

Leaf powder: 3-6 gm

Leaf juice: 10-20 ml

Root bark powder: 3-6 gm

Seed Powder: 3-6 gm, in divided doses per day, is the adult dose.



MATERIALS AND METHODS

The medicinal value of *Nirgundi* is determined by its pharmacological properties. Ayurvedic physicians generally follow Charaka Samhita, Susruta Samhita, Astanga Sangraha, Dhanwantari Nighantu, Raj Nighantu, Kayadeva Nighantu,¹⁴Nighantu Adarsa¹⁵, Bhavaprakash Nighantu¹⁶, etc. to know the pharmacological properties of *Nirgundi*. In traditional practice, *Nirgundi* is used in the management of various diseases. This review will throw a light to be rich with the knowledge on the different properties, classification and therapeutic action of *Nirgundi* as a *Krimighna dravya* mentioned in various Ayurveda text books and described in table 1, 2, & 3.

Table No.1: Showing that *Nirgundi* has been classified into different *Ganas*¹⁷ according to Brihatrayee are as follows:

Brihatrayee	Ganas
Charaka Samhita	<i>Krimighna, Vishaghna</i>
Susruta Samhita	<i>Surasadi gana</i>
Vagbhata	<i>Surasadi gana</i>

Table No.2: Showing types¹⁸ of *Nirgundi* in different Ayurvedic classics-

Susruta	<i>Svetapushpa</i>	<i>Nilapushpa</i>	-
Dalhana	<i>Nirgundi</i>	<i>Sinduvata</i>	-
Dhanvantari Nighantu	<i>Sveta</i>	<i>Nilapushpa</i>	-
Bhavamisra	<i>Svetapushpa (Sinduvata)</i>	<i>Nilapushpa(Nirgundi)</i>	-
Kaiyadeva	<i>Nirgundi</i>	<i>Sinduvata</i>	<i>Sephalika</i>
Sephalika	<i>Sinduvata (white)</i>	<i>Sephalika (blue)</i>	-
Raja Narahari	<i>Sinduvata</i>	<i>Nilanirgundi</i>	<i>Sephalika</i>
Nighantu Ratnakara	<i>Kartari Nirgundi</i>	<i>Aranya Nirgundi</i>	-

Table No.3: Showing therapeutic action of *Nirgundi* in Charaka Samhita, Susruta Samhita, Astanga Hridaya & Astanga Samgraha-

Samhitas	Sthanas	Reference	Mode of Administration	Therapeutic Action
Charaka Samhita	Sutra Sthana	Cha/su/4/15	<i>Kashaya</i>	<i>Krimighna Gana</i> (Destroys Krimis)
Charaka Samhita	Vimana Sthana	Cha/vi/7/21	<i>Pupalika</i>	Destroys <i>Krimis</i>
Charaka Samhita	Siddhi Sthana	Cha/si/4/18-22	Medicated oil for pana, abhyanga and anuvasana vasti	Vidangadhi Taila (Skin disorders, worms, prameha, grahani disorders, etc.)
Susruta Samhita	Sutra Sthana	Su/su/38/16	According to condition	<i>Surasadi Gana</i>
Astanga Hridaya	Chikitsa Sthana	Ast.Hri/chi/20/30	<i>Pupalika</i>	Sirogata krimi
Astanga Samgraha	Sutra Sthana	Ast.Sam/su/15/17	According to condition	<i>Krimighna Gana</i> (destroys krimis)
Astanga Samgraha	Chikitsa Sthana	Ast.Sam/Chi/22/49	<i>Pupalika</i>	Cures <i>svitra, krimi</i> .

RESULTS AND DISCUSSION

Nirgundi (*Vitex negundo* Linn.) is one of the most used herbal plants in the field of Ayurveda. It is a plant of Verbenaceae family and is commonly known as five leaved chaste tree. *Nirgundi* (*Vitex negundo* Linn.) is described as *krimighna* as per Charaka Samhita, Dhanwantari Nighantu, Kayadeva Nighantu, Bhavaprakash Nighantu etc. Results from above studies, it is found that the plant, *Nirgundi* has a dominance of *katu* and *tikta rasa*; *laghu*, *ruksha gunas*. It has *ushna virya* and *katu vipaka*. The specific action of *Nirgundi* is *Vatakaphahara*, *Krmighna*, *Caksushya*, *Keshya*, *Vranaropana*, *Mutrala*. Though it is *Vata kaphahara*, so it can be used in the treatment of *Vataja* and *Kapha vikara* and it cannot be used in the treatment of *pittaja vikara* because the drug will increase *Pitta dosa*. It is indicated in *Krimi roga*, *Kustha*, *Aruchi*, *deepana*, *shulahara*, *sothahara*, *amahara*, *medohara*, *amavata*, *vranahara*, *Visarpa*, *gridhrasi*, *netra roga*, *visa roga* etc. According to different authors, *Nirgundi* will increase agni (enzymes) when taken internally. The information regarding the pharmacodynamics of *Nirgundi* is highly significant, because the *Vatakaphahara* action of *Nirgundi* plays a great role to restrict the *kleda janaka* environment of the *kostha* (intestine) in proper and other *srotas* in general. It is known that *kledojanana* environment causes genesis and multiplication of *krimi*. As *vayu* related to cellular division and growth, so by *Vatakaphahara* action *Nirgundi* is able to restrict genesis as well as multiplication of *Krimi*. As *Nirgundi* is *usna virya*, so it is against *ama* or *kleda*. So, as an antagonist to those factors it is effective as a *krimighna*. As it carries the properties like *katu-tikta rasa* and *katu vipaka*, so definitely it enhances the *agneya guna* of intestine or *kostha* and prevents from production of *ama* and simultaneously helps in clearing channels, i.e., *Srotasodhana*. So conceptually as well as from literary references, *Nirgundi* is *deepaka*, *pachaka*, *srotosodhoka*. *ama pachaka*, *kleda nasaka* as well as *krimighna dravya*.

CONCLUSION


From above literary references, it could be concluded that *Nirgundi* is a potent, *Krimighna* (anthelmintic agent) *dravya*. The *Nirgundi* leaf *churna* in a dose of (3-6) gm daily could be helpful to kill *Krimi* and also may show the additional beneficial effects like *deepana* (enhances enzymatic action), *pachana* (digestive), *rochana* (appetiser), *srotosodhana* (channel clearing), *yakrit uddipaka* (hepato-stimulant) like actions.

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