www.ayurpharm.com
ISSN: 2278-4772

Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

Review Article

A REVIEW ON MEDHYA KARMA OF KUSHTHA (*Saussurea lappa*) FROM VEDAS TO PRESENT SCENARIO

Shalini[1*], Tanuja Nesari[2], Shivani Ghildiyal[3], Rana CS[4]

1. *PG Scholar, Dept. of Dravyaguna, All India Institute of Ayurveda, Sarita Vihar, New Delhi, India.*
2. *Professor & Head, Department of Dravyaguna, All India Institute of Ayurveda, Sarita Vihar, New Delhi, India*
3. *Assistant Professor, Dept. of Dravyaguna, All India Institute of Ayurveda, Sarita Vihar, New Delhi, India*
4. *Sr. Research Scientist – Bio Resources, Dabur Research & Development Centre, Ghaziabad, Uttar Pradesh, India*

Received: 13-09-2019; Revised: 26-12-2019; Accepted: 21-01-2020

Abstract

Kushtha [*Saussurea lappa* C.B.Clarke.], commonly known as Kut, belongs to family Asteraceae, is a reputed plant mentioned in Ayurvedic classics. It is widely distributed in India at an altitude of 2500 to 3000 m among the region of Himalayas, Kashmir, Jammu and Western Ghats. The drug was found to have chemical constituents i.e. costunolide, lappadilectone, saussureal, saussurien, tannins, essential oil and sugar. It is an important plant mentioned to be beneficial for treating various mental disorders i.e. Unmada (psychosis), Apasmara (epilepsy), Shirashoola (headache). In Kashyapa Samhita and Chakradatta it is mentioned as one of the ingredients of Medhya Yoga. Ayurvedic lexicon Madanpala Nighantu has enumerated its Medhya (memory enhancing action) and Rasayan Karma (rejuvenation).

Keywords: Kushtha; Medhya Karma; Rasayana.

***Address for correspondence:**
Dr. Shalini,
PG Scholar,
Dept. of Dravyaguna,
All India Institute of Ayurveda,
Sarita Vihar, New Delhi, India – 110 076
E-mail: dr.shalinirajput@gmail.com

Cite This Article

Shalini, Tanuja Nesari, Shivani Ghildiyal, Rana CS. A review on Medhya karma of Kushtha (*Saussurea lappa*) from vedas to present scenario. Ayurpharm Int J Ayur Alli Sci. 2020;9(4):48-54.

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

INTRODUCTION

Vedas are the most primitive source of knowledge regarding plants and their rational use as food, fodder and medicine. The history of kushtha [*Saussurea lappa* C.B.Clarke.] dates back to the vedic period. According to Atharvaveda, the place and origin of Kushtha are Himalayas. Which possess superfine qualities, destroys all types of fever and all sorts of painful diseases. Atharva veda refers three synonyms of kushtha viz. Nadhyamar (cures all disease caused by impure water from the rivers), Nadhyarisha, Nadhya. Kushtha is also called as takmanashana (which cures fever). It is specific against all types of fevers and it is a principal medicine for fever. Kushtha was praised in Atharva veda for its qualities and it is best among the herbs. It stands along the Soma (the very essence of all medicines). It destroys all kinds of takman (fever). There is a request made to kushtha in Atharva veda to drive away all the diseases of the head and the fever attacking every third day. Kushtha is the mighty source of quelling mental disease and also useful in Netraroga (eye disease) and all types of bodily ailments due to its miraculous properties.[1] Ayurvedic classics starting from Samhita period up to the Nighantu period also mentioned the plant for health promotion, disease prevention and management of disorders. However, the drug is beneficial for a wide range of diseases but looking in to the increasing graph of mental disorders, the plant kushtha is reviewed from all available Ayurvedic classics for its effect on mental diseases.[2] The contemporary review of the plant was also done about its botanical source and the scientific studies conducted which gives evidence for its effect on mental disorders.

MATERIAL AND METHODS

The information was gathered from Vedas, Samhitas, Nighantus and published literature.

OBSERVATIONS

Vernacular names

Kushtha is commonly known as Kut, Kushtha, Agad, Amaya, Twagdosh, Kushtha etc. in Sanskrit. In Hindi Kut, Kushtha. In English Costus root. In Tamil Goshtam. In Kannada Changal koshtha. In Telugu Changalva Koshtu. (Table 1)

Taxonomical classification

Kingdom: Plantae
Order: Asterales
Family: Asteraceae
Tribe: Cynareae
Genus: Saussurea
Species: *S. costu*

Botanical description

Kushtha [*Saussurea lappa* C.B.Clarke.] is an upright, robust, tall, perennial herb growing to a height of 1-2 m having the stem erect. The leaves are lobate, stalked and are about 1 m long. Flowers are dark bluish purple to black coloured arranged in axillary and in terminal clusters. The flower heads are stalkless, hard and round in shape. Fruit is about 3 mm long, curved cupped and compressed. Root is stout of about 60 cm having a strong, characteristic odour. (Figure 1)

Organoleptic characteristics of Kushtha Root

Drug greyish to dull brown, thick stout, fusiform to cylindrical. Thicker roots with collapsed centre, occasionally ridged, wrinkles longitudinally and anastomosed. Rootlets rarely present, cut surface shows two regions outer periderm ring thin, inner porous woody portion lighter in colour showing fine radical striation. Fracture short horny. Odour strong, characteristically aromatic. Taste slightly bitter. (Figure 2)

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

Table 1: Synonyms according to various nighantu

	Dhanvanrtri Ni.	Sodhala Ni.	Madanpal Ni.	Kaiyadeva Ni.	Bhavaprakasa Ni.	Raj Nighantu	Nighantu Adarsh	Priya Nighantu
Agad	+					+		
Amaya		+		+		+		
Divya			+					
Gad		+		+				
Kapal				+				
Kashmiraj							+	
Kauber	+	+	+					
Kushtha		+	+	+	+	+	+	+
Kushthak				+				
Kutsa						+		
Neeraj				+				
Otpal		+						
Padibhavya			+					
Padhyam						+		
Pakal	+	+					+	
Palak				+				
Paribhadra		+		+				
Paribhadrak	+		+	+		+		
Paribhavya					+			
Pariharya		+	+					
Parav						+		
Ram	+					+		
Rog		+		+				
Rogahvya			+		+			
Roma		+						
Ruk				+			+	
Ruja	+	+				+		
Saam				+				
Twagdosh				+		+		
Utpal	+	+	+	+	+	+		
Vapya	+			+	+	+	+	
Vaniraj	+	+				+		
Vyadhi	+	+				+		

Table 2: Rasapanchaka according to various nighantu

Nighantu	Rasa	Guna	Virya	Vipaka	Karma
Dhanvantari Nighantu	Katu, Tikta	-	Ushna	-	Tridoshnashak, vishanashak, kandunashak
Madanpal Nighantu	Tikta, Katu	Laghu	Ushna	Madhura	Medhya, rasayan, lekhan, kantikar
Kaiyadeva Nighantu	Tikta, katu, madhura	Laghu	Ushna	-	Kaphavatanashak, shukravardhak
Bhavaprakasha Nighantu	Katu, tiktta, madhura	Laghu	Ushna		Dipan, pachan, rasayan, kaphnisharak
Raj Nighantu	Katu, Tikta	-	Ushna		Kaphnashak, grahi

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

Figure 1: Kushtha plant

Figure 2: Kushtha root

Macroscopic characteristics of Kushtha Root powder

The powder is yellow in colour with characteristic odour, *Tikta* (bitter) in taste, fibrous in texture.

Microscopic characteristics of Kushtha Root powder

The powder microscopy of Kushtha root part has showed presence of spiral vessels, oleoresin canal, fibre, fibre with vessels, cork cells, resin masses, crystal, secretory canal. (Figure 3)

Distribution

The plant is widely distributed wild in India at an altitude of 2500 to 3000 m among the region of Himalayas, Kashmir, Jammu and Western Ghats.

Chemical constituents

The chemical constituents like costunolide, lappadilectone, saussureal, saussurien, tannins, essential oil, sugar.

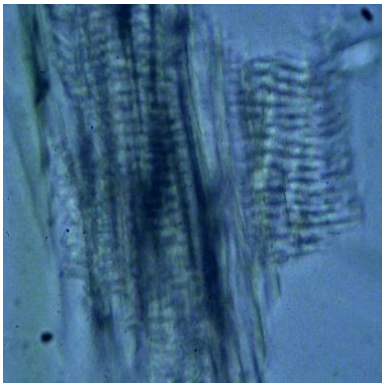
Ayurvedic properties and pharmacological effect

According to various Nighantu Kushtha is Tikta (bitter), Katu (pungent), Madhura (sweet) in Rasa (taste). (Table 2)

Laghu (lightness), Ruksha (dry), Tikshna (piercing) in Guna (properties). Ushna (hot) in Virya (potency), and Katu (pungent) in Vipaka (after digestion).

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

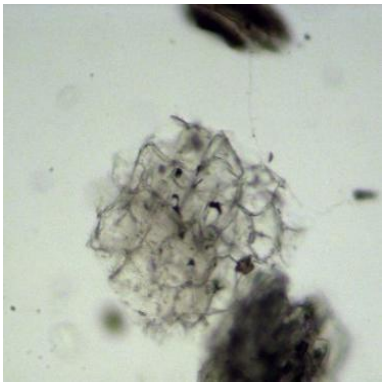
Figure 3: Microscopic characteristics of *Kushtha* Root powder

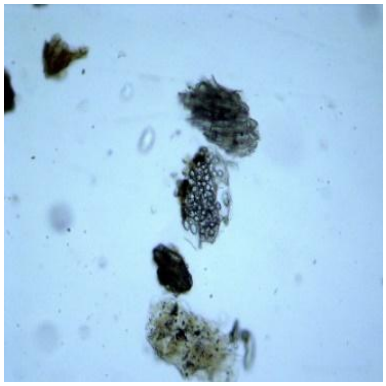

Spiral Vessels


Oleoresin canal

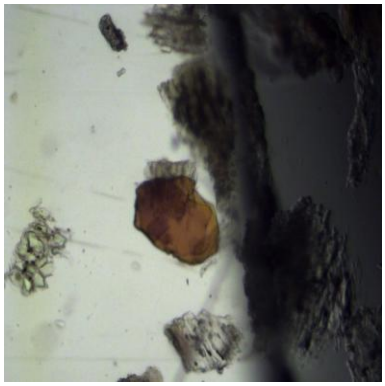

Fibre


Fibre with vessels


Cork cells


Resin masses


Crystals


Secretory canal

www.ayurpharm.com
ISSN: 2278-4772
Ayurpharm Int J Ayur Alli Sci., Vol. 9, No. 4 (2020) Pages 48 – 54

Due to these properties, it pacifies Vata and Kapha. Pharmacological effects of Kushtha are Deepana (increasing digestive fire), Pachan (using digestive), Rasayan (rejuvenation), Vajikara (aphrodisiacs), Mutrala (diuretics), Shukrajanaka (increase sperm count).[3][4][5][6][7]

Substitutes and adulterants

Root of Puskarmool (*Inula racemosa* Hook.f. and *Inula royleana* DC.) of the same family mistakenly gets mixed up in the Kashmir material. These can be easily distinguished by the absence of characteristic odour and taste of Kushtha root.

Two varieties of the material occur in the trade. Out of these roots collected from Jammu and Kashmir are larger in size, ridged and darker in colour, while those from Lahaul area of Himachal Pradesh are thinner and lighter in colour. The former obtained from wild plants are preferred for medicinal use.[8]

Research Study

Anticonvulsant activity

- Anticonvulsant activity of Petroleum ether, alcoholic and water extract of *S. lappa* was evaluated against pentylenetetrazole and picrotoxin - induced convulsion and maximal electroshock test in mice. It was found that petroleum ether extract of *S. lappa* root showed potent anticonvulsant activity against pentylenetetrazole and picrotoxin induced convulsion in mice by elevating the seizure threshold through the GABAergicmechanism.[9]
- The alcoholic extract of the root of *S. lappa* was reported to show significant anti-epileptic activity.[10]
- The different extracts of *S. lappa* root for the anticonvulsant activity by picrotoxin induced convulsion, pentylenetetrazol and maximal electroshock tests performed on mice. It was proved potent anticonvulsant activity at a dose of 100 and 300 mg/kg.[11]

Immunomodulator

- Higher doses of *S. lappa* extract have shown potentiation of immunomodulatory activity in both humoral as well as cellular arms of the immune system.[12]

DISCUSSION AND CONCLUSION

Kushtha [*Saussurea lappa* C.B.Clarke.] is a widely mentioned drug in Ayurvedic classics. It is the drug mainly beneficial in Apasmar (epilepsy), a disease of mano vahsrotas (psychosomatic disorders) in which Medhya drugs (memory enhancer) are used as a treatment protocol. The drug Kushtha has been mentioned by Chakradatta and Kashayapa Samhita as ingredients of Medhya Yoga (memory enhancing formulation). Madanpal Nighantu also highlighted the Medhya karma (memory enhancing action) of Kushtha. The modern research studies conducted on Kushtha [*Saussurea lappa* C.B.Clarke.] to study its effects showed the Anticonvulsant activity of it and it proved as an Immunomodulator also. The alcoholic extract of the drug's root showed the potent anticonvulsant and anti-epileptic activities. Increased doses of drug extract showed the immunomodulatory effects on the immune system. Hence the contemporary preclinical and clinical studies also supported the claim of Ayurveda.

REFERENCES

1. Bindu, Satyadev D, editors. Vedo me Aushadhiya sutra. 6th ed. Varanasi: Chaukhambha Bharati Academy; 2010. p.108.
2. Kashyapa. Kashyap Samhita (Vidyotini Hindi commentary). Hemaraja S, editor. 1st ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2015.p.7.

3. Lucas DS, editor. Dravyaguna Vigyan (Study of Dravya Materia Medica). 19th ed. Varanasi: Chaukhambha Vishvabharati; 2015.p.214.
4. Jharkhande O, Umapati Mishra, editors. Dhanvantari Nighantu, 26th ed. Varanasi: Chaukhamba Surbharati Prakashan; 2014.p.134.
5. Gyanendra P, editor. Madanpal Nighantu, 1st ed. Varanasi: Chaukhamba Orientalia; 2016. p.128-129.
6. Sharma PV, Guru Prasad Sharma, editors. Kaidev Nighantu. 4th ed. Varanasi: Chaukhamba Orientalia; 2016.p.244.
7. Cunekar KC, editor. Bhavaprakasha Nighantu. 1st ed. Varanasi: Chaukhamba Bharati Academy; 2015.p.87-89.
8. Tripathi I, editor. Raja Nigantu (Dravya guna prakashika Hindi Commentary). 5th ed. Varanasi: Chaukhamba Krishadas Academy; 2016.p.419.
9. Ambavade S, Bodhanka S. Pharmacological evaluation of anticonvulsant activity of root extract of *Sassurea lappa* in mice. European journal of Integrative Medicine 2009;1(3):131-137.
10. Gupta P, Jadhav S, Ghaisas M, Deshpande A. Anticonvulsant activity of *Sassurea lappa*. Pharmacologyonline, 2009;3: 809-814.
11. Harish B, Mohana L, Saravana K. A review on traditional system of medicine for treats Epilepsy. International Journal of Biological and Pharmaceutical Research, 2010;1(1):1-6.
12. Pandey R. *Sassurea lappa* extract modulates cell mediated and humoral immune response in mice. Der Pharmacia letter, 2012;4(6):1868-1873.

Source of Support: Nil Conflict of Interest: None Declared