



Review Article

AN AYURVEDIC LITERATURE REVIEW ON THERAPEUTIC POTENTIALS OF KASISA

Dev Nath Singh Gautam *

Department of Rasa Shastra, Faculty of Ayurveda, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh, India

*Corresponding Author Email: drdngautam@gmail.com

Article Received on: 20/12/17 Approved for publication: 12/01/18

DOI: 10.7897/2230-8407.0912

ABSTRACT

Rasa Shastra, the ayurvedic alchemy (the science of metals) is an extensive branch of ayurvedic pharmacology. Kasisa is a mineral drug, comes under uparas varga & it is also distinguished as green vitriol. Screening of classical of texts revealed that shodhita kasisa was used in the treatment of various pathological symptoms since ancient times. Kasisa is also used in different pharmaceutical dosage forms like lepa, ghrita, anjana, vati etc. Kasisa and its various formulations are used in the treatment of various diseases like piles, fistula and anaemia etc. The information of kasisa presented in classics texts makes apparent that such minerals have unique role in diverse clinical conditions. Such types of minerals are made their distinctive place in ayurvedic pharmacopoeia and became essential part of ayurvedic therapeutics. The present literature review article compacts with the whole thing right from the earlier period to the current, related to the subject and a clear representation of the subject issue.

Keywords: Kasisa, Ghrita, Anjana, Pharmacopoeia

INTRODUCTION

Rasa Shastra, the ayurvedic alchemy (the science of metals) is an extensive branch of ayurvedic pharmacology. This chapter deals with the application of metals, minerals, gemstones and poisons and their processing to deliver highly valuable curative formulations, which assists in fighting acute conditions or grave diseases¹. In the classical Ayurveda, the importance has been over usage of the herbs, despite, later on, the animal products, metals, and minerals commenced to obtain favour in the Ayurveda as it was recognized that the minerals and metals are very efficient and powerful for immunity, stimulation and for the expulsion of complications. This science is frequently applied to as 'alchemy' and the consequential remedies are called rasa, which essentially contain metallic or mineral ashes called bhasma². These bhasma, or smaller forms of metal or minerals, are treated as organo-metallic or mineral that work as carriers³. This suggests they are worthy to carry the herbs combined with them accelerated to the desired site and commence the therapeutic action quickly. Kasisa is a mineral drug, comes under uparasa varga & it is also

distinguished as green vitriol⁴. Recently, apprehensions have been raised on the safety of the ayurvedic preparations utilizing metal, mineral and their bhasma prepared from them and attention is expressed regarding the metal and mineral toxicity of conventional preparations including metal, mineral and their bhasma⁵. Although Ayurveda organization argues that toxicity can proceed only from a metal or mineral while present in its free form and that a bhasma provided according to the traditional methods never contains a metal in free form and hence if practiced following proper guidance and administration the issue of toxicity does not occur, however, the conflict arises need to be determined⁶. The need of the hour is to alleviate such fears, by producing greater awareness and placing in the appropriate perspective, the perspective in which these drugs are proposed for use and the methods by which they were used as medicines. The existing review article is a simple collection focusing on the uses of minerals revealed in classical ayurvedic texts. This review is required to give the insight to consider the frequency of application of minerals during the ancient times.

LITERATURE REVIEW

Table 1: Kasisa in Charaka Samhita

Formulation	Ailment	Reference
Lepa	Leprosy	Ch. Su, 3/5, 3/10
Lepa	Leprosy	Ch. Chi, 7/102, 7/109, 7/114, 7/117, 7/167
Lepa	Erysipelas	Ch. Chi. 21/126
Lepa	Ulcer	Ch. Chi 25/115, 25/117
Dristi pradavarti mahanila taila	Eye disorder, alopecia	Ch. Chi, 26/154, 26/271
Yoni varti	Gynaecological disorders	Ch. Chi, 30/121, 30/79

*Ch. Chi- Charaka Chikitsa, Ch. Su- Charak Sutra

Table 2: Kasisa in Sushruta Samhita

Formulation	Ailment	Reference
Anjana	Myopia	Su. Utt. 17/43, 44
Rasa Kriya, Pralepa, Lepa	Ulcer, anemia, alopecia	Su. Chi. 1/60,96,97,103
Avachurnana	Goiter, disease of the genital organ	Su. Chi 18/54, 19/40
Pratisarana	Skin fungal infection	Su. Chi. 20/21, 22
Saireyakadi Taila	Used for hair dyeing	Su. Chi 25/32

*Su. Utt.- Susruta Uttartantra, Su. Chi- Susruta Chikitsa

Table 3: Kasisa in Ashtanga Hridaya

Formulation	Ailment	Reference
Anjana, Pratisarana	Acute dacryocystitis, Parasitic Blepharitis	A. H. Utt. 11/5,6
Anjana	Eye disease, Pruritus	A. H. Utt. 16/40,55
Lepa	Alopecia, wound healing	A. H. Utt. 24/28, 25/40, 34/15
Taila, Pichu, Churna	Pelvic Inflammatory Disease	A. H. Utt. 34/51, 55
Churna	Acute Hepatitis	A. H. Chi. 16/56
Lepa	Erysipelas	A. H. Chi. 18/26
Avachurnana	Skin diseases	A. H. Chi. 19/67, 71
Lepa	Leucoderma	A. H. Chi.19/73

A. H. Chi. - Ashtang Hridaya Chikitsa, A. H. Utt- Ashtang Hridaya Uttarsthan

Table 4: Kasisa in Ayurvedic Texts

Ayurvedic Texts	Explanation of kasisa
Rasa ratna samuchchaya	Sources, varieties, properties, shodhana, marana and satvapataana of Kasisa are mentioned ⁷
Ayurveda Prakasha	Shodhana and properties ⁸ of kasisa are mentioned
Sharangadhar Samhita	Kasisa is mentioned as kasisa ghrita ⁹
Rasa hridaya tantra	Kasisa is mentioned in uparasa varga ¹⁰
Rasa prakasha Sudhakar	Properties and shodhana (purification) methods of kasisa ¹⁸ is mentioned ¹¹
Rasa chintamani	Varieties, shodhana, and kasisadi lepa ¹² is mentioned
Rasa manjari	Shodhana and guna-karma ¹³ of kasisa are mentioned
Rasendra Chintamani	Kasisa is mentioned under uparasa ¹⁴ group
Rasendra sara sangraha	Synonyms, shodhana methods and indication are mentioned for kasisa. ¹⁵
Rasayanasara	Varieties, shodhana and marana of kasisa are mentioned ¹⁶
Rasarnava	Shodhana and varieties of kasisa ¹⁷ are mentioned
Rasendra chudamani	Sources, varieties, properties, shodhana, marana and satvapataana ¹⁷ of kasisa are mentioned ¹⁸
Rasayogasagar	Kasisadi rasa and kasisabaddha rasa ¹⁹ are mentioned
Rasa Kamdhenu	Varieties, properties, shodhana and marana ²⁰ of kasisa are mentioned
Rasatarangini	Synonyms, varieties, properties, shodhana and marana, therapeutic indication of kasisa are mentioned ²¹
Rasa jala nidhi	Shodhana, marana and satvapataana of kasisa ²² are mentioned
Rasamritam	Shodhana and marana of kasisa ²³ are mentioned
Bhavprakash Nighantu	Synonyms, types and properties ²⁴ of kasisa are mentioned
Dhanvantari Nighantu	Kasisa is mentioned under uparasa ²⁵ group
Kaiyadeva Nighantu	Kasisa is mentioned under dhatu varga ²⁶ along with synonyms and properties
Madanpala Nighantu	Synonyms, types and properties ²⁷ of kasisa are mentioned
Raj Nighantu	Kasisa is mentioned under uparasa ²⁸ group
Shaligram Nighantu	Kasisa is comes under dhatu and upadhatu ²⁹ varga.

Table 5: Name of Kasisa in different language²¹

Different language	Vernacular name
Hindi	Kasees
English	Green Vitriol, Ferrous Suplate
Sanskrit	Kasisa
French	Sulphate ferreux
Latin	Ferry Sulphas
Bengali	Hire Kasa
Gujarati	Hiro Kas
Kannada	Annabedi
Malayalam	Annabedi
Marathi	Hira Kas
Telugu	Annabedi

Synonyms of Kasisa

Table 6: Synonyms of Kasisa^{9-15,20-24}

Synonyms	RRS	AP	RJN	AK	RM	Ru T	RSS	RT	MPN	RN	KN	Ch.	Su.	AH
Ayogandhamla sambhuta	-	-	+	+	+	-	-	-	-	-	-	-	-	-
Amlamrittika	-	+	-	-	-	-	-	-	-	-	-	-	-	-
Ayogandhaka	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Balukakasisa	+	-	-	-	-	-	-	-	-	-	-	-	-	-
Chakshusha	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dantaranjana	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Dhatukasisa	-	+	+	-	-	-	+	-	+	-	-	-	-	-
Dhatusekaram	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hamsalomasa	-	-	-	-	+	-	+	-	-	+	-	-	-	-
Hirakash	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Kamsaka	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kaseesa	-	-	+	-	+	-	+	+	-	-	-	+	+	+
Kauseesa	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kechara	-	-	-	+	+	-	+	-	+	-	+	-	-	-
Kesara	-	-	-	-	-	-	-	-	-	+	+	-	-	-
Khaga	-	-	-	-	+	-	-	+	-	-	-	-	-	-
Lomas	-	-	-	-	-	+	-	-	-	-	+	-	-	-
Maliyasa	-	-	-	-	-	-	-	-	-	-	+	-	-	-
Nainosdham	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Pamsu kaseesa	-	+	-	+	-	-	-	+	-	-	-	-	-	-
Pita kusam	-	-	-	-	-	+	-	-	-	-	-	-	-	-
Pushpa kasisa	-	+	-	-	-	-	-	+	-	-	-	+	+	-
Shodhala	-	-	-	+	-	-	-	-	-	+	+	-	-	-
Shubhra	-	-	-	+	-	-	-	-	-	+	+	-	-	-

Classification of Kasisa

Table 7: Classification of kasisa in classical texts²¹

Name of Rasa Texts	Dhatu varga	Upadhatu varga	Uparasa
R.R.S	-	-	+
A.P	-	-	+
R.Ma	-	-	+
R.H.T.	-	-	+
R.Chu.	-	-	+
R.P.S	-	-	+
R.S.S	-	-	+
R.K.D	-	-	+
R.M	+	-	-
R.T	-	+	-

Kasisa Shodhana

Shodhana is not only a process of chemical purification but it is a specific process of addition and separation which causes physical, chemical and biological changes in the metals/minerals. These changes depend on the structure, constituents/constitution, impurity and properties of particular substance.³⁰

Table 8: Drugs used in Shodhana of Kasisa

Name of Dravya	Principle adopted	Reference
Bhringaraja swarasa (<i>Eclipta alba</i> juice)	Impregnated	R.R.S, R.Chu, R.J.N
Bhringaraja swarasa (<i>Eclipta alba</i> juice)	Levigation	R.S, R.M.
Bhringaraja swarasa (<i>Eclipta alba</i> juice)	Swedana	R.P.S, R.M, A.P, R.T.
Jambiri swarasa (lemon juice)	Levigation	B.R.R.S, R.P.
Kasamarda swarasa (<i>Cassia occidentals</i> juice)	Levigation	Ras. R.K.D.
Nimbu swarasa (lemon juice)	Levigation	B.R.R.S, R.J.N.
Rajakoshataki (<i>Luffa acutangula</i>)	Levigation	Ras. R.K.D.
Stri shonita (menstrual blood)	Impregnated	R.Chu, R.R.S, R.P.S, B.R.R.S, R.J.N.

Kasisa Marana

In these process minerals, drugs are suppressed to incineration to get the bhasma. In the method of marana minerals are converted into such a precise state of subdivision that when used orally they become quickly digested and assimilated.³¹

Table 9: Kasisa Marana in different Ayurvedic Texts

Name of Text	Levigated media	Type of Puta
Rasa ratna samuchchaya	Sulphur	Varaha puta
Rasayan sara	Mercury, sulphur, green vitrol	Kacha-kupi
Rasamritam	Lemon juice	Laghu puta
Siddha yoga samgraha	<i>Emblica officinalis, Eclipta alba, Gloriosa superba, Punica granatum</i>	Ardha gaja puta
Rasodddhar tantra	Triphala churna (mix powder of <i>Emblica officinalis, Terminalia chebula, Terminalia bellerica, Eclipta alba, Aloe vera</i>)	Varaha puta
Rasatantra sara	<i>Eclipta alba</i>	Laghu puta
Rasa yoga sagar	<i>Aloe vera, Solanum surattense, Argemone mexicana</i>	Gaja puta
Rasa tarangini	Sour gruel and lemon juice	Laghu puta
Rasa tarangini	Leaves juice of <i>Euphorbia neriifolia</i>	Laghu puta

Table 10: Property and Therapeutic action of Kasisa

Text	Rasa	Guna	Virya	Karma
R.R.S.	Amla, Kasaya	Guru	Ushna	Skin discoloration problems, eye disease, hair dyeing, detoxifier
A.P.	Amla, Madhura	-	Ushna	Urinary disorder, eye disease, detoxifier, Skin discoloration, spleen disorder, hair dyeing
R.J.N.	Amla	Ushna, Snigdha	Sita	Eye disease, skin discoloration problems, detoxifier
R.K.D.	Amla	-	-	Neurologic disorder, hair dyeing, skin discoloration, Eye disease
A.K.	Amla, Kasaya, Tikta	-	-	Eye disease
R.M.	Amla	Sita, Snigdha	-	Rasavadgunakaraka
R.S.S.	Amla	Snigdha	-	Rasavadgunakaraka, skin discoloration, eye disease
R.T	Kasaya	Grahi	Ushna	Eye disease, gynaecological disorders, kandughna, balya, keshya, visaghna, raktasanjanana
R.M.	Kasaya, Amla	-	Ushna	Eye disease, keshya, switraghna, rajapravartaka, balya, kandughna, pandughna, visaghna
M.P.N.	Amla	-	Ushna	Eye disease, switraghna, keshya, kandughna, detoxifier,
K.N.	Kasaya, Amla, Ksara		Ushna	Eye disease, krimighna, keshya, detoxifier, switraghna
B.P.N.	Amla, Tikta		Ushna	Eye disease, switraghna, keshya, kandughna, detoxifier
R.N.	Kasaya	Shita	Sita	Eye disease, kushaghna
S.N.	Kasaya	-	Ushna	Eye disease, switraghna, keshya, kandughna, detoxifier

Table 11: Treatment of diseases by Kasisa Bhasma with different Anupana

Sl. No.	Drug	Disease	Anupana
Internal administration			
1.	Purified kasisa	Spleen disorder	Aloe vera juice
2.	Purified kasisa with <i>Limonia acidissima</i>	Hiccup	Aloe vera juice
3.	Kasisa drava	Piles	Aloe vera juice
4.	Purified kasisa	Dysmenorrhoea	Aloe vera juice
5.	Purified kasisa with Twak (<i>Cinnamomum zeylanicum</i>)	Anemia	Aloe vera juice
6.	Purified kasisa with borax	Menstruation cycle	Aloe vera juice
External Administration			
1.	Purified kasisa with seed of <i>Datura metel</i> and <i>Abrus precatorius</i>	Vitiligo	Aloe vera juice
2.	Purified kasisa with alum, <i>Ferula assa-foetida</i> + <i>Cedrus deodara</i>	Dental caries	Aloe vera juice
3.	Purified kasisa with <i>Psoralea corylifolia</i> and purified red ochre	Vitiligo	Aloe vera juice

Table 12: Use of Kasisa Bhasma in different disease as per Rasa texts

Indication	R.R.S.	A.P.	R.J.N.	R.K.D.	R.Chu.	R.P.S.	R.M.	R.S.S.	R.T.
Piles	+	-	-	-	+	-	-	-	-
Urolithiasis	-	-	-	-	-	-	-	+	-
Acute diarrhea	-	-	-	-	-	-	-	+	-
Abdominal tumor	+	-	+	-	+	+	-	-	-
Fever	-	-	+	-	-	-	-	-	+
Jaundice	-	-	-	-	-	-	-	+	-
Germes	-	-	-	-	-	-	-	+	+
Leprosy	-	-	-	+	-	-	-	-	-
Urinary disease	-	+	-	-	-	+	-	-	-
Eye disease	-	-	+	+	-	+	-	-	-
Anemia	+	-	-	-	+	+	+	+	+
Splenic disorders	-	-	-	-	-	+	-	-	+
Amoebiasis	-	-	-	-	-	-	-	+	-
Pain	+	-	+	-	+	-	-	+	-
Vitiligo	-	-	+	+	-	+	+	-	+
Alexeterics	+	+	-	-	+	+	+	-	+
Wound	+	-	-	+	+	+	-	-	-
Tuberculosis	-	-	-	-	-	+	-	-	-

Table 13: Different Formulations of Kasisa

Name	Indication	Reference
Vati		
Kumarika vati	Pelvic pain	B.R – 67/ 61-62
Pleehari vati	Hepatoprotective, Abdominal tumor	B.R – 41/ 96-98
Rajapravartini vati	Amenorrhoea	B.R – 67/ 57-58
Vedavidya vati	Prameha	B.R - 37/ 79-83
Chandraprabha vati	Prameha	R.R.S – 17/ 41-42
Rasayoga		
Kasisadi rasa	Eye disease, Diabetes	R.R.S – 17/69
Kasisabaddha rasa	Leucoderma, ringworm	R.R.S – 20/169-171
Shvitrari rasa	Vitiligo	R.R.S – 20/ 180-182
Sankhadravaka rasa	Urticarial rashes	B.R – 41/170-174
Mahasankhadravaka rasa	Abdominal tumor, lever disease, Urticarial rashes	B.R – 41/ 175-188
Sheetapittabanjana rasa	Urticarial rashes, itchy red rashes on skin, leprosy	B.R – 55/ 29-33
Varti		
Ekatrishanga varti	Eye disease, Crohn's disease	R.R.S – 23/ 39-41
Anjana		
Kasisadi anjana	Reduce the aggravations of kapha dosha	A.H.U – 9/22-23
Lepa		
Kasisadi lepa	Vitiligo	R.Chi – 3/14-18
Kupipakwa Rasayan		
Rasa pushpa	Worms, Ascites, syphilis	R.T – 6/ 29-31
Ghrita		
Kasisadi ghrita	Piles	Sh. S. M.K. – 9/51-54
Taila		
Hingvadi taila	Amenorrhoea	B.R – 67/116-117
Kasisadi taila	Amenorrhoea	B.R – 67/116-117

CONCLUSION

The classical literature review in Ayurveda is a most important backbone of any research work in Ayurveda. The present review article is a simple collection focusing on the uses of minerals revealed in classical Ayurvedic texts. This review is expected to give the insight to presume the frequency of practice of minerals during the ancient times. The literature review facilitates in thoughtful and framing plan about the subject to be a deal. Vernacular names, synonyms, pharmacological properties, classification, shodhana, marana according to different texts are elucidated in detail. Screening of classics of charka samhita, sushruta samhita, ashtanga hridaya, rasayana sara, rasamrita, rasa prakash sudhakar, anandkanda, rasa ratna samucchya, ayurved prakash, rasa manjari, rasa tarangini, rasa jala nidhi, rasendra sara sangrah, rasa kamdhenu, rasendra chudamani revealed that shodhita kasisa were used in the treatment of various pathological symptom since ancient times. Shodhita kasisa is used in different pharmaceutical dosage forms like lepa, ghrita, anjana, vati etc. Formulations of shodhita kasisa are recommended in various

diseases of eye, skin, piles, fistula and anaemia etc. This information presented in classics texts makes apparent that such minerals have unique role in diverse clinical conditions. Such types of minerals are made their distinctive place in Ayurvedic pharmacopoeia and became essential part of Ayurvedic therapeutics. Thus, a detailed knowledge about kasisa from Ayurvedic perspective can be obtained from this section. It compacts with the whole thing right from the earlier period to the current, related to the subject and a clear representation of the subject issue. Therefore, for the whole knowledge of the subject, it is required to trace out its chronological background, which gives a substantial firm in the advance of stages from time to time.

ABBREVIATIONS

Ch. Su - Charaka Sutrasthana,
 Ch. Chi - Charaka Chikitsasthana,
 Su. Ch -Sushruta Chikitsasthana,
 Su. U -Sushruta Uttartantra,
 A. H Chi -Ashtanga Hridaya, Chikitsasthana,

A.H. Ut - Ashtanga Hridaya Uttartantra,
R.S - Rasayana Sara, RM. Rasamrita,
R.P.S - Rasa Prakash Sudhakar, K.- Anandkanda,
R.R.S - Rasa Ratna Samucchya,
A.P - Ayurved Prakash,
R.M. - Rasa Manjari,
R.T -Rasa Tarangini,
R.J.N - Rasa Jala Nidhi,
R.S.S - Rasendra Sara Sangrah,
R.K.D - Rasa Kamdhenu,
R.C - Rasendra Chudamani,
R.N -Raja Nighantu

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Cite this article as:

Dev Nath Singh Gautam. An Ayurvedic literature review on therapeutic potentials of kasisa. Int. Res. J. Pharm. 2018;9(1): <http://dx.doi.org/10.7897/2230-8407.0912>

Source of support: Nil, Conflict of interest: None Declared

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