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Review Article

CRITICAL APPRAISAL ON FORMULATIONS OF KOUSHEYASHMA (ASBESTOS)

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<p>*Correspondence</p> <p>Dr. Sharma Govinda K Associate Professor, Department of Rasa Shastra and Bhaishajya Kalpana, SDM College of Ayurveda and Hospital, Hassan, India</p> <p>DOI: 10.7897/2321-6328.01321</p> <p>Article Received on: 12/07/13 Accepted on: 28/09/13</p>	<p>Abstract</p> <p>Number of Metals and Minerals are described in Rasashastra (Iatrochemistry). Kousheyashma (Asbestos) is one such mineral drug listed under group of Sikata varga (Silicates). The details of this drug are not found in authoritative texts of Ayurveda. Recent books of Rasashastra have a brief description of this drug. Few formulations described in Ayurveda books of Malayalam contain this drug as one of ingredient. More details about pharmaceutical processing of this mineral drug is mentioned in literatures of Siddha system of Medicine. Kalnar, Kannaram, Hiravi, Sangaresha, Ratinara and Asbestos are the vernacular names of the drug Kousheyashma. A thorough electronic and print search was done related to formulations of Kousheyashma. It was found that there were 18 formulations of the study drug of varied dosage forms.</p> <p>Keywords: Ayurveda, Rasashastra, Kaousheyshma, Kalnar, Kannaram, Asbestos</p>
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INTRODUCTION

Rasashastra is a branch of Ayurveda which deals with pharmaceutical preparations that contain metals and minerals for treating diseases as well as promoting health. Rasashastra gives a detailed account of purification, incineration, therapeutic application, dosage and antidotes of different mineral and metals. Parada (Mercury) is important among them. Other minerals and metals are categorized in to different groups namely Maharasa, Uparasa, Sadharana Rasa, Ratna, Uparatna, Dhatuvarga and Sudhavarga¹. The classification of this kind has a specific applicability based on the utility of these minerals with the mercury. Recent books of Rasashastra have included one more group of minerals under the heading of Sikata varga. Kousheyashma is a mineral raw drug included in Sikatavarga^{2,3}.

MATERIALS AND METHODS

In the present study an attempt was made to collect details of this mineral drug. A thorough electronic and print search was done related to formulations of Kousheyashma in Ayurvedic texts including few monographs, compilations and text books. Books of Ayurveda as well as Siddha system of medicine in Sanskrit, Hindi, English, Malayalam, Tamil and Kannada language were searched.

Observations

It is observed during this study that Kousheyashma does not find a place in any of the authoritative literatures of Ayurveda like Brihat trayis and Laghu trayis. In medieval literatures like Nighantu's also there is no reference about this drug. It is not recorded in the important books or commentaries of Rasashastra. From these observations it can be inferred that it was not known much during the earlier stages of Ayurveda.

In Ayurvedic books of Malayalam, the references of this mineral are seen^{4,6}. It is termed as Kalnar, Kannaram and Hiravi in these books. In the mineral index of old edition of Ayurvedic Formulary of India, it is named as Hiravi the equivalent name of which is given as Kannara and chemically as Silicate of Magnesia⁷. The recent editions however give some other synonym for the drug Hiravi⁸. It is called as Sangaresha in Hindi and as Ratinara in Telugu⁹ and Asbestos¹⁰ in English. Information regarding Shodhana (Purification) and Marana¹¹ (Incineration) of Kousheyashma is available in literatures of Siddha system of medicine. It is included under the list of sikata varga in the syllabus of Rasashastra and Bhaishajya kalpana of Bachelor of Ayurveda medicine and surgery (BAMS) of Central Council of Indian Medicine³. It is also included under group of Calcium compounds.¹² Kousheyashma is a mineral drug, which looks like a stone made of compressed fibers. It will be usually yellowish white in colour¹⁰. A number of minerals belonging to the Amphibole group exhibit the properties of Kousheyashma. Hence it may be considered as the equivalent of the industrial mineral name 'Asbestos'. The mineralogical studies have shown that physical properties resembles with Asbestos. The analytical studies have suggested that it is essentially a variety of Asbestos with composition of Silicate of magnesium and Calcium¹³. By all these observations it can be inferred that the first reference of this mineral medicine is found in Malayalam literatures of Ayurveda. The word Kalnar implies that it is a stone with fibrous nature. The equivalent English term given is Asbestos which is supported by the research studies. The asbestos, apart from its industrial uses is also used as a material for preparation of fire proof fabrics¹⁴. It gives an impression that the word Kousheyashma is a coined term in Sanskrit. Eighteen formulations of

Kousheyashma are found during this study which is detailed and analyzed here.

Kachuradi Churna

This formulation includes 30 other ingredients with Kousheyashma (3.22 %). This churna is indicated as an external application in Hidhma, Peenasa, Jwara, Shiroruja, Buddhibrama, Netraroga, Karnaroga, Kaphaja, and Sannipataja roga¹⁵.

Shirastoda Gulika

This tablet contains 4 other ingredients with Kousheyashma (14.28 %) and is indicated in Vataja shirashula with Tilataila, in Pittaja shrishula with Ghrita and in Kaphaja shirashula with Narikela kshira¹⁶.

Marma Gulika

The formulation consists of 43 other ingredients with Kousheyashma (5.2 %). This tablet is rubbed on grind stone and is used for external application with hot water in Marma vikara and Aghatha¹⁷.

Valiangadi Kashaya (Shresta Kashaya)

This Kashaya contains 43 ingredients including Kousheyashma (2.52 %) and is indicated specially in Sannipata Jwara¹⁸.

Tenginpookkuladi Ghrita

This Ghrita is composed of Kosheyashma (0.08 %) with 25 other ingredients. This ghrita is indicated in Rakthasrava and is usually used in Post natal period¹⁹.

Asrigdhara Chikitsa

Kousheyashma (25 %) and other three ingredients are taken in equal quantity and powdered well. This churna is indicated in Asrigdhara²⁰.

Atyagni Chikitsa

Kousheyashma (25 %) and other 3 ingredients are taken in equal quantity and powdered well. This is a formulation found under Atyagni chikitsa²¹.

Balashoolari Churna

This churna contains 11 ingredients in total including Kousheyashma (9.09 %). This powder is indicated in childhood disorders like Kshaya, Kasa, Shwasa, Kukshiroga; Udararoga, Gulma, Hridroga and Chardi²².

Vayu Gulika

32 ingredients including Kousheyashma (3.8 %) are taken in equal quantity and are triturated with Gulab Jal or Bringaraja rasa (*Eclipta alba*) for three days, rolled in gulika and are dried in shade. This tablet is known for its action on Mudhavata and Shula and acts as Anulomana²³.

Sannipata Chikitsa

71 ingredients with Kousheyashma (0.42 %) are cooked with Nimba taila. This formulation is used as Abhyanga in Sannipata roga²⁴.

Indralupta chikitsa

Kousheyashma (11.11 %) with other 8 ingredients are powdered well. This churna is externally applied over scalp on Indralupta²⁵.

Kasturyadi Gulika

This tablet includes 38 other drugs with Kousheyashma (3.13 %). It is known for its action on Vayu kshobha, Shwasa, Kasa and Angamarda²⁶.

Jalamanjari

10 ingredients including Kousheyashma (6.25 %) are melted on a shallow crucible and then solidified by cooling them. It is indicated in Obesity, Edema, Anemia, Chlorosis and Swelling²⁷.

Kshaya Kulantaka Chendooram

This is a bhasma formulation containing Kousheyashma (14.28 %) in it. This bhasma is indicated in all respiratory diseases including tuberculosis²⁸.

Nandhi Mezhu

This is a compound formulation with Kousheyashma (0.60 %) with other 50 ingredients. This will be like an Avaleha and is indicated in insect bite, rat bite, carbuncle, rheumatism, colic, skin diseases, cancer, eczema, urinary diseases, piles, paralysis, leprosy, anemia, spermatorrhea, edema, headache, fever, ascitis, fistula and dental diseases²⁹.

Kalnar Parpam

Parpam means Bhasma. This is a procedure of Marana in which Final product will have 100 % Kousheyashma. This Bhasma is indicated in Bilioussness, painful micturation, inflammation of urogenital tract; and leucorrhoea. Experimental studies on Albino rats have proved that kalnar parpam have anti-inflammatory property at a dose of 40 mg/kg body weight³⁰⁻³².

Kashayam for Madhumeha

Kousheyashma (2.16 %) with other 13 ingredients are boiled with water to prepare Kashaya. This is indicated in diabetes mellitus, relieves thirst and burning sensation of body associated with diabetes mellitus³³.

Amirtha Gandhi Kukkil Valathy

Kalnar (0.86 %) with 39 other ingredients are powdered well and are ground with honey. The medicine is useful in treatment of Osteoarthritis in a dose of 500 – 700 mg twice daily³⁴.

DISCUSSION

This study has shown that the mineral drug kousheyashma is an ingredient in 18 formulations. Out of 18 formulations discussed in this study, 12 are found mentioned in Ayurvedic literatures and 6 in Siddha literatures. The formulations included 7 Churna, 4 Gutika, 2 Kashaya, 2 Bhasma, 1 Ghrita, 1 Taila and 1 Lehya dosage forms. The percentage of Kousheyashma was ranging from 0.08 % to 100 % (Table 1).

Table 1: Percentage of Kousheyashma in Various Formulations

S. No	Name of the Formulation	Percentage of Kousheyashma	Indications
1.	Kachuradi Churna	3.22	Hidhma, Peenasa, Jwara, Shiroruja, Buddhibrama, Netraroga, Karnaroga, Kaphaja and Sannipataja roga
2.	Shirastoda Gulika	14.28	Shirashula
3.	Marma Gulika	5.2	Marma vikara and Aghatha
4.	Valiangadi Kashaya	2.56	Sannipata jwara
5.	Tenginpukkuladi ghrita	0.08	Rakthasrava in Post natal period
6.	A churna	25	Asrigdhara
7.	A churna	25	Atyagni
8.	Balashoolari churna	9.09	Childhood disorders like Kshaya, Kasa, Shwasa, Kukshiroga; Udararoga, Gulma, Hridroga and Chardi
9.	Vayu Gulika	3.8	Mudhavata and Shula
10.	Sannipata Chikitsa	0.42	Sannipata roga
11.	A churna	11.11	Indralupta
12.	Kasturyadi gulika	3.13	Vayukshobha, Shwasa, Kasa and Angamarda
13.	Jalamanjari	6.25	Obesity, Edema, Anemia, Chlorosis and Swelling
14.	Kshaya kulantaka chenduram	14.28	Kshaya
15.	Nandhi mezhugu	0.60	insect bite, rat bite, carbuncle, rheumatism, colic, skin diseases, cancer, eczema, urinary diseases, piles, paralysis, leprosy, anemia, spermatorrhea, edema, headache, fever, ascitis, fistula and dental diseases
16.	Kalnar parpam	100	Biliousness, painful micturation, inflammation of urogenital tract; and leucorrhoea
17.	Kashayam for Madhumeha	2.16	diabetes mellitus
18.	Amirtha Gandhi Kukkil Valathy	0.86	Osteoarthritis



Figure 1: Sample of Kousheyashma collected from Thiruvananthapuram, Kerala, India



Figure 2: Sample of Kousheyashma collected from Shimoga, Karnataka, India

Images of Kousheyashma

In Ayurvedic books single drug usage of Kalnar is not mentioned. Siddha books however, mention the use of Kalnar parpam as a single drug. In folklore practice, powder of Kousheyashma is used as tooth powder. This practice is seen in South India, especially in rural areas of Karnataka, Tamil Nadu and Kerala. They use it in the treatment of "Gingivitis"³⁵. The ranges of indications of these formulations were too wide. Different formulations of Kalnar are indicated in diseases like swellings, obesity, anemia, respiratory diseases; tuberculosis, insect bites; rat bites, carbuncles, rheumatoid arthritis, skin diseases, urinary diseases, piles; paralysis leprosy, cancer, fever, spermatorrhoea; edema; headache, ascitis, fistula, dental diseases, bladder stones and retention of urine. Kalnar, as a single drug, is not indicated for external use. In combination, a frequently used formulation 'marmani gulika' is used externally in marmavikara and aghata (injury). Kachuradi churna is used for external use in peenasa, jwara shirashula and bhrama. Shirastoda gulika also can be used in shiroroga as an external application. The specialty wise analysis of formulations shows that Balashulari churna is useful in Kaumarabhritya, Nandhi mezhugu in Agada tantra and Marmani Gutika in Shalya tantra. Tengin pookkuladi Ghrita and a Churna for Prasuti tantra and stee roga. Kachuradi churna, Shirastoda Gulika and a churna for indralupta are

useful for Shalakyta tantra speciality. Other formulations are useful in multi systemic diseases of Kayachikitsa. From the list of diseases for which Kalnar is used, it is evident that when used as a single drug it is indicated in pittaja vyadhi and in combination the application extends to tridoshas.

CONCLUSION

Kousheyashma is a mineral drug grouped under Sikatavarga. No much references of this mineral are available in authoritative books of Ayurveda in Sanskrit, Hindi or English. Malayalam books of Ayurveda mention about this drug as Kalnar. It has been included in BAMS Undergraduate syllabus. It is mentioned in Mineral index of Ayurveda formulary of India. In English this mineral is called as Asbestos. Siddha literatures also contain the description on this mineral drug. Studies have proved that it is essentially a variety of Asbestos with a major composition of Silicate of Magnesium and Calcium. 12 formulations of Kousheyashma are found in Ayurveda books and 6 in Siddha literatures.

REFERENCES

1. Madhulika Priya, Sharma Govinda, Ganti Basavaraj. Perception of Ayurvedic mineral raw drugs in the eye mineralogy, Ancient Science of Life 2012; 32(2 Suppl1): 81.
2. K Ramachandra Reddy. Text Book of Rasashastra. 1st ed., Chaukhamba Sanskrit Bhavan, Varanasi; 2007. PMID:17134865

3. Anonymous; CCIM Syllabus for BAMS, <http://ipu.ac.in/UnivSyllabus/syllabusmedical/syllbams221012.pdf>; 2013.
4. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996.
5. Nambudiri D. Chikitsa Manjari, 3rd ed., Vidyarambham Publishers, Alappuzha; 1996.
6. Nabudiri S. Yogamrutham, 2nd ed., Vidyarambham Publishers, Alappuzha; 1999.
7. Anonymous; Ayurvedic Formulary of India, 1st ed., Central Council for Research in Ayurveda and Siddha, New Delhi; 1978. p. 237.
8. Anonymous; Ayurvedic Formulary of India, IInd Revised ed., Central Council for Research in Ayurveda and Siddha, New Delhi; 2003. p. 413.
9. Anonymous, The Wealth of India, A dictionary of Indian Raw Materials and Industrial Products, 1st ed., Council for Scientific and Industrial Research, New Delhi; 1948.
10. Mishra SN. Ayurvediya Rasashastra, 9th ed., Chaukhamba Orientalia, Varanasi; 1981. p. 676.
11. Anonymous; Formulary of Siddha Medicine, 1st ed., Indian Medical Practitioners Commercial Co-Operative Pharmacy and Stores Ltd, Madras; 1993.
12. Dole Vilas, Paranjape Prakash. A Text Book of Rasashastra, 1st ed., Chaukhamba Sanskrit Pratishtan, Delhi; 2004.
13. Sharma Govinda, Rajendran N, George KT, Kumar SN. A study on analytical evaluation of mineral drug Kousheyashma, Proceedings of International conference on recent advances in Ayurvedic pharmaceuticals; 2011. p. 44.
14. Mishra SN. Ayurvediya Rasashastra, 9th ed., Chaukhamba Orientalia, Varanasi; 1981. p. 676.
15. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 544.
16. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 150.
17. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 138.
18. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 39.
19. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 333.
20. Nabudiri S. Yogamrutham, 2nd ed., Vidyarambham Publishers, Alappuzha; 1999.
21. Nambudiri D. Chikitsa Manjari, 3rd ed., Vidyarambham Publishers, Alappuzha; 1996.
22. Nambudiri D. Chikitsa Manjari, 3rd ed., Vidyarambham Publishers, Alappuzha; 1996.
23. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 145.
24. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 445.
25. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 434.
26. Vaidyar KVK, Pillai GS. Sahasrayogam, 21st ed., Vidyarambham Publishers, Alappuzha; 1996. p. 128.
27. Pillai C. Siddha System of Pharmacopoeia, 1st ed., Siddha medical literature research centre, Madras; 1992. p. 231.
28. Pillai C. Siddha System of Pharmacopoeia, 1st ed., Siddha medical literature research centre, Madras; 1992. p. 234.
29. Pillai C. Siddha System of Pharmacopoeia, 1st ed., Siddha medical literature research centre, Madras; 1992. p. 119.
30. Pillai C. Siddha System of Pharmacopoeia, 1st ed., Siddha medical literature research centre, Madras; 1992. p. 183.
31. Anonymous, Essential drug list Siddha Medicine, <http://indianmedicine.nic.in/writereaddata/linkimages/2297424207-Essential%20Siddha%20Medicines%20LR.pdf>; 2013.
32. V Raja Rajeswari, M Krishnaveni, Gaidhani Sudesh N. Anti-inflammatory activity of a Siddha drug Kalnar Parpam in albino rats, <http://openmed.nic.in/3142/01/Kalnar.pdf>; 2013.
33. Pillai C. Siddha System of Pharmacopoeia, 1st ed., Siddha medical literature research centre, Madras; 1992. p. 40.
34. Salaikarthikaiyan. Protocol, <http://dc397.4shared.com/doc/s9qphl8O/preview.html>; 2013.
35. Mishra SN. Ayurvediya Rasashastra, 9th ed., Chaukhamba Orientalia, Varanasi; 1981. p. 677.

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