A LITERARY REVIEW ON MAKSHIKA (Copper pyrite)

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ABSTRACT
Rasashastra (Science of Mercury) is a unique branch of Ayurveda which deals with the pharmaceutics of medicines out of minerals, metals, animal products etc. Makshika (Copper pyrite) is one such mineral included among eight Maharasa (group of eight minerals) and used since time immemorial in treating various diseases like pandu (Anemia), kushta (Skin ailments), prameha (Diabetes) etc. Makshika (Copper pyrite) is the most abundant copper bearing mineral whose references are scattered in various Rasashastra texts like Rasa Tarangini, Rasa Ratna Samuchaya, Rasendra Purana, Anandakanda, Rasarmava, and so on. The current article is to highlight different references of Makshika (Copper pyrite) in Rasashastra (Science of Mercury) texts under one roof.

Keywords: Makshika, Shodhana, Marana, Amritikarana

INTRODUCTION
Rasashastra (Science of Mercury) is described as Ayurvedic pharmaceutics which mainly deals with drugs of minerals, metals, animal and plant origin, their pharmaceutics and their therapeutic uses. Various pharmaceutical procedures such as Shodhana (Purification), Marana (incineration), Satwa patana (extraction of the essence), Amritikarana (to enhance quality of medicine) etc. are employed to make these drugs deemed to be administered internally. Makshika (Copper pyrite) is one of the Maharasa (group of eight minerals) which is said as Prana (life) of Parada (Mercury). As explained in Rasa Ratna Samuchaya it acts as Rasayana (immune modulator), vrishya (aphrodisiac) and cures various diseases. Makshika has great importance in both deha vada (medicinal purpose) and dhatu vada (conversion of lower metals into higher metals). But the available references are scattered in different texts and there is a need to gather them at one place for superior understanding and the proper usage of the drug for the betterment of mankind. Hence an effort is made in this regard to gather all the available references of Makshika in this review article.

Mythological origin of Makshika (Copper pyrite):
The mythological origin of Makshika (Copper pyrite) is explained as follows:

1. Makshika (Copper pyrite) is said to have its origin from the drops of blood falling from the wound in the injured sole of Lord Krishna. The wound in the sole was caused by an arrow arched by a hunter by confusion with the animal when he was in yoganidra (deep sleep) in the forest, after completing his duty in Mahabharata.

2. The Kanchana Rasa i.e Makshika (Copper pyrite) is explained as follows:
per pyrite) is said to be brought by Lord Vishnu from the suvarnashaila i.e. Sumeru Mountains and kept on the banks of river Taapi and Kirata, cheena, yavana desha, which shines brightly in madhava masa due to intense sunrays.  

Makshika in Rasashastra text:
The Shodhana and Satwapaatana of Makshika (Copper pyrite) are described in detail and is explained that Makshika (Copper pyrite) is the best drug for incineration of Rajata (Silver) and also it is explained that it is very much useful in parada karmas (Mercurial processings). The parada (Mercury) after grasa of Makshika and Abhraka satva (Essence of Mica) becomes fit for ranjana and baddha karmas. The mythological origin of Makshika (Copper pyrite), description of Shodhana and satwapaatana are elaborately explained in Rasarnava. 

Rasaratnasamuchhayakaara: This book which dates 13th century gave detailed description of Makshika regarding its lakshana (desired attributes), guna (qualities), Shodhana, mararana and satwapaatana procedures etc. Author has placed Makshika (Copper pyrite) under Maharasa varga.

Laghutrayee: Have explained the Makshika in Upadhatu varga. Sharangadhara Samhitha (14th Cent) has explained under upadhatu varga, its Shodhana and Marana. Bhavaprakasha (16th Cent) has explained the Swarnamakshika in Upadhatu varga, the Ashuddha lakshana, Shodhana and Marana are described.

Rasajalanidhi: This is one of the compiled books of 20th century. Author has compiled almost all the literature pertaining to Makshika (Copper pyrite) from the available previous texts. Makshika (Copper pyrite) has been explained even in Nighantus viz.

Dhanvantari Nighantu, Madanapaala Nighantu etc. Makshika (Copper pyrite) is useful in Pandu, Kushta, Jeerna jwara and many other disorders. It is also very much useful in Parada karmas. 

Rasendra Mangala: Book of 8th century. During this period Acharya Nagarjuna, author of Rasendra Mangala explains about Shodhana and Satwapaatana of Makshika.

RasahridayaTantra: Is 10th Century book which explains the use of Makshika in Parada karma.


Sharangadhara Samhitha: (14th Century) has explained Shodhana and Marana of Makshika under upadhatu varga.

Bhavaprakasha: (16th Century). It has explained Makshika with reference to its Ashuddha lakshana, Shodhana, Marana and described it under Upadhatu varga.

Ayurveda Prakasha: (17th century) described Makshika in Upadhatu varga. He has explained types, synonyms, occurrence, therapeutic qualities, shodhana and marana procedures in detail.

Rasatarangini: (20th century) Shri. Sadananda Sharma explains Makshika (Copper pyrite) in Upadhatu varga and gives a detailed description about its occurrence, types, therapeutic qualities, Shodhana, Marana procedures.

Basavarajeeyam: (18th century) explains types of Makshika (Copper pyrite), apakva makshika doshas, it’s shuddhi in detail.

Rasendrasarasangraha: (13th century) explains about Makshika (Copper pyrite), lakshana, ashuddha makshika (Copper pyrite) dosha, shodhana, shudha makshika (Copper pyrite) guna.
**Rasayanasara:** explained about types of Makshika, shodhana and Marana. 19

**Anandkanda:** explained about Makshika, its shodhana, marana, types, Bhasma lakshana, dosha, apakva makshika guna. 20

**AdhyatanaRasashastra:** explains about Makshika, types, Grahya lakshana, Shodhana, Marana, uttama bhasma lakshana, guna, karma, matra, apakva makshika dosha. 21

**Rasendrachudamani:** (13th century) explained about Makshika types, prapthisthana, Shodhana, Marana, Bhasma guna, Satvapatana. 22

**Parada Samhitha:** explains about examination of Makshika, types of makshika, Shodhana, marana, Satvapatana, guna. 23

**Makshika Bheda (types):**
Makshika is of three types. Swarna makshika (Copper pyrite) and Rajata Makshika (white pyrite) Kamsya makshika (black pyrite), Swarna makshika (Copper pyrite) – Bearing golden tints was found in Kanyakubja. Roupya makshika (white pyrite) – Which resembles Panchvarna Suvarna, contains much of the stone was found in the banks of river Tapti. 24

**Occurrence of Makshika (Prapthi sthana):**
Classically, the is found on the banks of Taapi River and kirata, cheena, yavana desha and also kanyakubja pradesha.

The mineral sources of Makshika (Copper pyrite) are found mainly in Bihar, Rajasthan, Tamilnadu, Karnataka, Madhya Pradesh, Sikkim in India. And also found in America, Russia, Nepal, Burma, Chaina, Spain, Portugal, Italy, Norway and Cyprus.

**Makshika Shodhana (Purification):**
- Makshika becomes purified by boiling it in dolayantra containing kadalikanda swarasa and karkotikanda swarasas. 25

**Makshika Marana (Incineration):**
- Shuddha Makshika and equal quantity of Gandhaka are mixed together and ground well in Matulunga swarasas, (Citrus medica) then it is dried and kept in crusible or sharava samputa and subjected to three kurma putas 320°-350° c to obtain the bhasma of Makshika. 26

**Amritikarana of Makshika:**
By subjecting to puta, bhasma becomes teekshna, ushna, ruksha, etc. To nullify these and to produce snigdha, soumya, and sheeta gna in the bhasma, amritikarana process is done.

In most of the Rasa texts Amritikarana to Makshika (Copper pyrite) bhasma is not mentioned. The bhasma containing the Tamra (Copper) some time shows the untoward effect. Therefore it is necessary to conduct Amritikarana by using Panchamrita (dugda, dadhi, ghrita, madhu, sharkara). It also removes the remaining doshas from the bhasmas. 27

**DISCUSSION**
Makshika was included in Maharasa varga (mineral group) as it is useful in both Deha vada (medicinal purpose) and dhatu vada (metal conversion). For any study ideally the sample should be according to the classical grahya lakshana (suitable quality) and specifications, physical and chemical analysis is essential for the quality control of the drug as well as standardization. Vimala (iron pyrite) is being used in place of makshika now, as real Makshika is not available frequently. There is difference between vimala (iron pyrite) and Makshika. Vimala (iron pyrite) have edges and facets and Makshika is free from these characters and has no specific shape. Shodhana (purification) and Marana
(incineration) makes Makshika free from the doshas (morbid factors), as ashodhita (impure) Makshika is harmful to the body. Makshika Bhasma (incinerated powder) is a Rasayana (immune modulatory) and Shamanoushadha (calming medicine) as it contains Iron and Copper is useful in improving RBC count as well as Hb% in the blood and also copper promotes absorption of iron.

CONCLUSION

Makshika has unique place both in deha vada and loha vada. It has been in use for the treatment since samhita kala. In Vedic period and Koutilya Artha shastra also says about Tamra dhatu (Copper metal). But nowhere the name Makshika is seen, though it is an important Khaniya (ore) used as to extract tamra. By these we can impress that people had knowledge of Makshika 3000 years back, however Vedas lack the information. In purnas, samhitas also reference of this is unavailable. It is observed that Makshika is grouped under Maharasa varga (mineral group) in Rasashastra text by different Acharyas before 16th century.

Makshika is considered as “Rasendra prana” i.e its usage is inevitable in various mercurial operations. And it has been told that Makshika is best among all Rasayanas i.e Rasayanagrya. This might be the reason that earliest Rasacharayas have included that Makshika under Maharasa varga.

REFERENCES

13. Acharya pandith Radhakrishna parashara; Sharangadhara Samhitha of Sharanagadha; Madhyama kanda, Published by Baidyanath Ayurveda bhavan, Calcutta, 2nd edition, 11th chapter, shloka 53-56.
15. Acharya Sri Madhava, AyurvedaPrakaśa, Edited by Gulraj Mishra, Varanasi, Choukhamba Bharathi Academy, Reprint 1999, 4th Chapter, verses 1-17, Pp 407-12
17. Shivashankara Sharma shastri; Bassvaramjeeyam; uttardha, Rasayanabhavana, Delhi, ed1st, 1945, p 647.

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Source of support: Nil
Conflict of interest: None Declared