



Chronological Development of Rasa Shastra

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ABSTRACT

Rasa shastra is a most important and popular branch of Ayurveda. It deals with the knowledge related to alchemy (Lohavedh) and Ayurvedic Pharmaceutics specially connected to the drugs of mineral origin with a view to remove poverty from the world and to strengthen the body and also to prevent their ageing process. History of Rasa Shastra can be traced in pre vedic period where metals are successfully employed in treatment of various diseases. Its development was rapid after Lord Buddha and the influence of the philosophy of Ahimsa. This was the era when Rasa Shastra flourished tremendously. It was recognized as a medical science with an independent philosophical background in 14th century, by Madhavacharya in his book Sarva Darsana Samgraha. Considering the importance of this discipline in Ayurvedic therapeutics and the fact that there is dearth of comprehensive review on the subject an attempt has been made in this review to provide a brief but all encompassing coverage of different aspects related to it.

Keywords: Alchemy, Ahimsa, Lohavedh

INTRODUCTION

Etymologically the word "Rasa" is used to describe the metal Mercury, also known as quicksilver. The word "Shastra" means knowledge or sacred scripture. The term Rasa shastra, therefore could be translated as the 'science of mercury'. Rasshastra or the Ayurvedic alchemy is an important branch of Ayurvedic pharmacology which deals with the metals, minerals the gemstones, animal products and herbal ingredients, highly medicinal compounds were formulated for rejuvenation, the cure for chronic

disease and ultimately life extension.¹ The Rasa dravya have the following three characteristic attributes: instant effectiveness, requirement of very small doses and extensive therapeutic utility irrespective of constitutional variation. The origin of Rasa shastra has its roots in the Indian alchemy. Alchemy was a form of chemistry studied in the medieval period, in which people tried to discover different ways to change ordinary metals into gold. This practice went on for centuries, yielding some of the significant findings in the field of alchemy.

Vedic Kala

- Rigveda reveals that copper, gold, Iron and some other metals and minerals have been used in that period.²
- Rigveda refers to Asvins substituting the lost leg of Vishala by a thigh made of iron.
- Yajurveda enumerated a list of metals & minerals – Ayas, Hiranya, Syam (copper), Loha, Sisa (Lead), Trapu (Tin).
- According to a quotation in Yajurveda Swarna is useful in improving longevity, lusture, Strength.³
- In Atharvveda Hiranyadarshanphala and its internal use are mentioned
- Chandogya Upanishad – Tikshnaloha used as medicine.
- Transmutation of lower metals into gold has been described in Taittiriyaabramhana.
- As per Manusmriti During the birth ritual of a baby Swarnaprasana is indicated.
- The description of metals like Swarna, Rajat etc. and precious stones like Manikya, etc. is available in Garuda Purana, Agni Purana, and Devi bhagvat.

CharakaSamhita

Charaka has classified drugs into three categories –

1. Sthavar
2. Jangam
3. Bhaum

The third category includes gold, iron, copper, tin etc.⁴

- Manhashila, Haratala, Kasis, are used for external application for purpose of external application.
- Shodhana of Parthivdravya are mentioned in charakasamhita.⁵
- Suvarna and Rouya are used for purpose of PunsavanSamsakara.⁶
- Lohadi Rasayana is indicated for Rasayana Karma⁷
- Vaidurya, Mukta, Manibhasma, Gairika, Shankha, Suvarnabhasma has used in udakakalpana for Raktaittachikitsa.⁸
- There is no direct reference of Parada is mentioned in Charaka Samhita. But in charakakushtha-chikitsa adhyaya the word “Ras” is used.
- Different types of Loha, Tapyas, Adrija, Rouya, Mamsika etc. has used in variety of *yogas* for Panduchikitsa.
- Mukta, Praval, Vaidurya, Shankh, Shatika, Anjana, Gandhaka has used in Shwasvyadhi as Muktyadyachurna with *Madhu* and *Sarpi*.
- Tamra used in garavisha for vamanas and suvarna with *Madhuasvishagna yoga*.⁹
- Vajra, Markata, Vishamushika, vaidurya are used for *sarpadanshanivaran*.
- Manhashila used as pradhmanasyain kaphajpratishtay.
- Pitakchurna (Manhashila, Hartala, Yavakshara, Saindhav has used in Pitakchurna to treat mukharoga.
- We see that Dhatus were administered in the form of powder (*Raja*) only and the concept of bhasmas was not developed during the classical age.

Sushruta Samhita

In this Samhita also references of Therapeutic applications of mineral and metallic substances are found abundantly.

- Trapvadigana and usakadigana are described, various dhatus are mentioned in these gana.
- Several Yantra and Shastra used in surgical process are made of different kinds of metals or alloys.

- Ayaskriti is the specific contribution of Sushrutasamhita.¹¹
- Surprisingly external application of mercury is also evident in Sushruta Samhita.
- Acharya Sushruta mention of pakas namely Sthalipaka. etc.
- Dhatuvish – Phenasma and Hartala were first time introduced in Sushruta Samhita.
- Internal administration of Anjana is first time indicated in Sushruta Samhita.
- Various Dhatus are mentioned for internal administration in Dravya Sangrahaniya adhyaya.
- Two bhedas of Lauha is described in SushrutaSamhita. *Tikshnalauha* and *kala Lauha*.
- Vibhitakkashtha is used for burning of Mandur.¹²
- Gandhaka is used in Mahavajrataila for kushthachikitsa.
- SwarnaPrashan is indicated in new born child.¹³
- The word bhasma mentioned in Sushrutasamhita (Sutra 2 & Kalpa 6) only the ash of vegetable drugs.
- The concept of Puta appears to be developed for the first time by Sushruta and the references regarding *tuvarakarasayana* reflects about it.
- The pulp of tuvaraka is to be burnt in closed vessel without letting out the smoke (Antardhuma method) and put.

A thorough review of SushrutaSamhita provides a sound opinion that application of metals and minerals are mentioned in this classic from the therapeutic angle as well as other purpose.

AshtangaSangraha and AshtangaHridaya

- Internal administration of Parada was first time mentioned in Ashtanga Sangraha Rasayana Prakaran.
- Bhasmanirmanavidhi is mentioned in Ashtanga Sangraha.
- For Lohamaran bhanupakvidhi is introduced.
- AstangaSangraha firstly enumerates ghatimusaand Andhamusa.
- The process of Dhatubhasma was conceived during the time of Vriddhavagbhatta.
- For lohamarana Bhanupakavidhi has introduced.
- *Shukravar dhanatm akkalpa* is explained in detail which contain Parada, Gandhaka and Shilajatu etc.¹⁴
- Sikh, Sindoor, Tutha, Tarkshya are used in taila form for treatment of vicharchika.
- Two types of Lauha – *Tikshnalauha* and *Krishna Lauha* has described.

- Ras, Veerya, Vipaka of various dhatu introduced by vridhavagbhata.
- The credit of using visa in therapeutics once again goes to vagbhata.

Kautilya Arthshastra

Kautilya arthashastra written by Chanakya, a great Academic, Economical and Political master of Gupta period. It may be composed in 4th century B.C.

- In this period lohavida is in its peak level of development.
- Several references of use of metal and minerals for purposes of preparation of utensils, armory and some medicinal objectives found in kautilyaArthashastra.¹⁵
- Sodhana and Mardavkara processes of dhatus were mentioned.
- Identification of Dhatu and Ratnas are introduced.
- Seven types of Loha mentioned- *Kalayas, Tamravritta, Kansya, sisa, Trapu, Vakrintak, and Aarkoot.*
- Three sources for occurrence of mukta mentioned- Shankh, Shukti and Prakirna.
- Even though metals and minerals were used both externally and internally for the preservation as well as promotion of positive health and cure of diseases.
- At that time three types of Suvarna used –
 1. Jatrop(Native)
 2. Rasavidha(from vedh of mercury)
 3. Akarodbhav
- Suvarna made from Rasa i.e. Parada is mentioned as Rasavidha.¹⁶
- This shows that even prior to his time this type of gold was available in the market and people knew the techniques of conversation of base metals into noble metals with the help of mercury.
- For Suvarna shodhan they used *siskam* and for *suvarna vikrutikaran* they used Hingula.

Varahmihira Period

Although he was the Acharya of Jyotishshastra, he had the basic knowledge of Ayurveda and also of Rasshastra.

- In his literature he explains all dhatu, Ratna, Manhashila, Gairika etc.
- He again explains the Payanavidhi of shastra.
- He also made a shukravardhakkalpa which includes Parada, Makshika, lohabhasma, Gandhaka, shilajatu. This kalpa resembles the Shukravardhak yoga of Ashtanga sangraha.¹⁷

Harsacarita

Harsacarita of Banabhatta gives a long list of companions and assistants of king Harsa this includes physicians, alchemist, mineralogists, priests etc.

- Here mineralogy was an art it belonged to one of the sixty four arts
- Its aim was to make some worthy minerals out of some worthless ones i.e. through alchemy; the term Jatarupaka for gold makes this clear.
- The knowledge of mineralogy was accomplished through tantras and mantras.

Kubjikantra

Manuscripts of this work were traced in ‘Nepal library. It may be composed in 6th century A.D.

- It is mentioned that therapeutic action of Parada increases due to incineration of it with sulphur for six times.
- The procedure of transmutation of copper into gold is mentioned in this book.

Development of Rasa Shastra in Medieval period

Nagarjuna: The systemic evolution of Rasa Shastra took place during the time of Nagarjuna. In this period number of most valuable Rasa preparations alongwith their pharmaceutical processing techniques have developed. He learned knowledge from Acharya Sarabha in Nalanda Vidyapitha. He knows about *Mayurividya* and *krutrim Swarna Nimana* from parada.¹⁸

Acharya Gorakshanath: He made the Khechari Gutika and Suvarnanirmanarthagutikakalpa.

Rasa Ratna Samucchaya: It is a well known comprehensive treatise of Rasa Shastra. Scattered knowledge of *Rasaśāstra* is well compiled by *Vāgbhāta*. It is the best available text on *Rasaśāstra* which describes not only pharmaceutical and therapeutical aspects but also covers the eight branches of Ayurveda. It is a compilation but has its own specialty and consequence.¹⁹

Rasa Hridaya Tantra: *Rasa Hridaya Tantra* is a unique text among a huge number of *rasa* literatures, which gives elaborate description of 18 special mercurial processing techniques (*Astadashaparada Samskara*). This manuscript is presented with a

guideline, how to make Mercury competent for transmuting base metals into a noble one and to produce therapeutic benefits with them.²⁰

Ras Ratnakara: He explained *krutim Manikyanirmana* and *Indranil Nirmana* in his book *RasRatnakara*.

Anandakanda: This text gives an elaborate description of *Rasa Shastra*. *Dehavada* as well as *Lohavada* concept of *Rasa Shastra* has been described in detail.

Development of Rasa Shastra in Modern Era

Bhaishajya Ratnavali: *Bhaishajya Ratnavali* is written by Kavi Raj Govinda Das Sen composed in 18th century AD. It is compiled book mainly from *Chakradutta*, *Rasendrasarasangraha*, *Charaka* etc. *Paribhasha Prakarana*, *Mana Paribbhasa*, various *Rasa dravya* are described in detail. *Yogas* including *swarasa*, *kalka*, *kwath*, *vati*, *Bhasma* and various compound Herbal and Herbomineral preparations and *pathya* and *apathya* are mentioned in detail for each diseases.²¹

Rasatarangini: *Rasatarangini* is written by Pranacharya Sadananda Sharma. It is an authoritative text on *Rasa Shastra* and contains all the detail of various procedures involved in the drug preparations. Acharya has named the chapters of the text as *Taranga*. Total 24 *Taranga* and 3651 verses encompasses *Rasatarangini*. Acharya Sadananda Sharma has mentioned only those procedures which are realistic and feasible in present scenario. He mentioned some acids like sulphuric acid, *sorakamla*, *Lavanamla* etc.²²

Rasamritam: This book is written by Acharya Yadav ji Trikamji in 1951. *Rasamritam* is the latest doctrine in the field of *Rasa Shastra* which compiles the extract of the older books and adopted some new and contemporary concepts. The Practical aspects of this text influence both the academicians as well as physicians in large extent. Very systemic classifications of materials are found in this text. It is a literature of modern era where amalgamation of modern chemistry and *Rasa Shastra* occurs, and also incorporation of some unani drugs are found.²³

Rasa yoga Sagar: *Rasa yoga Sagar* is written by Shri Hariprapannasharma in 1930. In this text various

formulations from different classics are collected. In addition to this some new formulations are also included.

Kupipakwa Rasa Nirmana Vigyana: This book was written by Vaidya Harisharnananda. In this treatise he mentioned various *kupiakva rasa kalpas* and their methods of preparation. Swami Harisharanand Vaidya has described 258 *kupipakwarasayana* in his text *Kupiakava Rasa NirmanaVigyana*.

Ratna Dhatu Vigyan: This Granth is written by Shri Badrinarayana shastri. In this book all gemstones (*Ratna* and *Upratna*) and other *Rasshatriyadravya* (*Parada*, *Rasa*, *Uparasa*) are described in detail. In addition to this some *upratna* (*Jaharmohra*, *Akika*, *Yakuta*) and some minerals like uranium, chromium, chryolite and Kelslite are briefly described

Discussion

History of Indian alchemy can be traced to pre vedic period. The archaeological excavations at Mohenjodaro and Harappa in the Indus valley have brought to light that the people in ancient India were possessing chemical knowledge as early as in the pre historic period. In Vedic period single herbs were used for medication. Minerals and animal substances were also in use but no compound preparations were prepared. Alchemy in India was started for the preparation off a potion of life for imparting immortality and later for the transmutation process for converting ordinary metals into gold. Indian alchemy derived its colour and flavour largely from tantric cult. Then, in later centuries, all the previous accumulated alchemical ideas were put to practical use and a number of preparations of mercury and other metals were evolved as helpful accessories in medicine

Conclusion

Historically the drugs of mineral origin are in use since ancient times in the therapeutics but during that period their numbers were very much limited probably on account of non development of suitable and sophisticated pharmaceutical procedures, techniques and processes necessary for their conversion to suitable dosage forms. However since the time of Nagarjuna (8th and 9th century A.D.) Who is considered as 'Father of Indian alchemy and metal related Ayurvedic pharmaceutical sciences, the use of mineral drugs have started to become more popular

and frequent in Alchemy and pharmaceuticals. It is believed to have come into its proper existence with its scientific classification and documentation around 8th century. The main foundation being the concept that the objective of the science of mercury is not limited to Alchemy (*Dhaatuvada*) but also to maintain health and strengthen the body for achieving *Mukti*.

REFERENCES

1. Angadi Ravindra, A Textbook of Rasashastra, Chaukhamba Surbharti Prakashan Varanasi, Chapter 1, pp: 2.
2. Khandal Santosh, Ras Bhaishajya Kalpana Vigyan, Publication Scheme Jaipur, Reprint 2016, pp:3
3. Khandal Santosh, Ras Bhaishajya Kalpana Vigyan, Publication Scheme Jaipur, Reprint 2016, pp:2
4. Tripathi Bramhananda, Charak Samhita Purvardh Chaukhamba Surbharati Prakashann Varanasi, reprint 2009, Ch. 1/71, pp:37
5. Tripathi Bramhananda, Charak Samhita Purvardh Chaukhamba Surbharati Prakashann Varanasi, reprint 2009, Charaka Sutra sthan 1/18-19, pp:116
6. Tripathi Bramhananda, Charak Samhita Purvardh Chaukhamba Surbharati Prakashann Varanasi, reprint 2009, Charaka SharirSthan 8/119, pp:940
7. Shastri Kashinnath Charaka Samhita Uttarardh, Chaukhamba Bharati Academy Reprint 2013, Charaka Chikitsa 1/3-23, pp:37
8. Shastri Kashinnath Charaka Samhita Uttarardh, Chaukhamba Bharati Academy Reprint 2013, CharakaChikitsa 4/79, pp:190
9. Shastri Kashinnath, Charaka Samhita Uttarardh, Chaukhamba Bharati Academy Reprint 2013, Charaka Chikitsa 23/239, pp:666
10. Shastri Ambikadutta, Sushruta Samhita Purvardha. Chaukhambha Sanskrit Sannsthan Varanasi, Reprint 2012, Sushruta Sutra 38/63, pp:188
11. Shastri Ambikadutta, Sushruta Samhita Purvardha. Chaukhambha Sanskrit Sannsthan Varanasi, Reprint 2012, SushrutaChikitsa10/11, pp:72
12. Shastri Ambikadutta, Sushruta Samhita Uttarardha. Chaukhambha Sanskrit Sannsthan Varanasi, Reprint 2012, Sushruta Uttartantra 44/21, pp:373
13. Shastri Ambikadutta, Sushruta Samhita Purvardha. Chaukhambha Sanskrit Sannsthan Varanasi, Reprint 2012, SushrutaSharira 10/17, pp:103
14. Mishra Siddhinandan, Ayurvediya Rasa Shastra, Chaukhambha Orientalia Varanasi, Reprint 2009, pp:14
15. Mishra Siddhinandan, Ayurvediya Rasa Shastra, Chaukhambha Orientalia Varanasi, Reprint 2009, pp: 17.
16. Mishra Siddhinandan, Ayurvediya Rasa Shastra, Chaukhambha Orientalia Varanasi, Reprint 2009, pp: 18
17. Mishra Siddhinandan, Ayurvediya Rasa Shastra, Chaukhambha Orientalia Varanasi, Reprint 2009, pp: 19
18. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp: 11.
19. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp:49.
20. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp: 45.
21. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp: 54.
22. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp: 55.
23. Jha Channdrahushan, Ayurvediya Rasa Shastra, Chaukhamba Surbharati Prakashan Varanasi, Reprint 2007, pp:57