



A CRITICAL APPRAISAL OF METALS AND MINERALS OF VANGASENA

* R. Vidyanath, **K.J. Lavanya Lakshmi, ***K. Nishteswar

* Professor & HOD, Basic Principles of Ayurveda,
Dr. B.R.K.R. Govt. Ayurvedic College, Hyderabad,

**Asst. Professor, Dr. N.R.S. Govt. Ayurvedic College, Vijayawada, A.P.

*** Professor & HOD, Dravyaguna, IPGT&RA, Gujarat Ayurveda University, Jamnagar

Preamble:

Vangasena Samhita of Vangasena belongs to Bengal region is considered as the first comprehensive Ayurvedic treatise of medieval India, as it contains pathology, description of diseases along with the principles of treatment, different pharmaceutical preparations, prognosis and dietetics. It also gives us information about the practice of Ayurvedic medicine during 12th century AD. During the course of critical study of this compendium along with plentiful of herbs, as many as 35 metals and minerals are identified. The present study has been taken up to find out the utility of various metals and minerals in different disease conditions during medieval period.

Aims & Objectives:

1. To screen each and every metallic and mineral substance carefully and to note

For Correspondence:

vnratnakaram@gmail.com

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down the indication in different disease conditions.

2. To record the metals and minerals traced in various formulations revealed in this treatise.
3. To enumerate the simple recipes and compound formulations of different metals.
4. To record the replication number of each drug to find out the utility of that particular drug in that specific condition.

Material & Methods:

Vangasena Samhita, one of the luminaries of Indian systems of medicine belongs to 12th century AD has been taken into consideration for this present study. Simple recipes and Compound preparations containing metals and minerals have been screened and enumerated. The replication number of each drug was also recorded to find out the utility of that drug in the specific condition.

Observations:

Along with herbs, the following mineral substances related to different groups viz.

Rasa, Maharasa, Uparasa, Sadharana rasa, Dhatu, Ratna, Uparatna, Sudha Varga are also traced in Vangasena Samhita and the

number mentioned against each substance indicates the replication of that substance.

Rasa:

1. Parada (Mercury) - 24

Maharasa:

2. Abhraka (Mica) - 25

3. Makshika (Copper pyrite) - 25

4. Shilajatu (Bitumen) - 36

5. Tuttha (Copper sulphate) - 23

Uparasa:

6. Gandhaka (Sulphur) - 41

7. Gairika (Red oxide of iron) - 35

8. Kasisa (Ferrous sulphate) - 26

9. Sourashtri (Alum) - 07

10. Talaka (Arsenic trisulphide) - 31

11. Manahshila (Arsenic disulphide) - 92

12. Anjana (Antimony sulphide) - 05

Sadharana Rasa:

13. Navasara (Ammonium chloride) - 01

14. Varata (Cowrie shell) - 01

15. Sindura (Lead peroxide) - 02

Dhatu:

16. Swarna (Gold) - 05

17. Rajata (Silver) - 04

18. Tamra (Copper) - 20

19. Loha (Iron) - 94

20. Naga (Lead) - 06

21. Vanga (Tin) - 06

22. Yasada (Zinc) - 01

23. Kamsya (Bronze) - 01

24. Pittala (Brass)	-	02
25. Mandura (Fe ₂ O ₃)	-	23

Ratna:

26. Mukta (Pearl)	-	04
27. Pravala (Coral)	-	05
28. Vaidurya (Cat's eye)	-	01

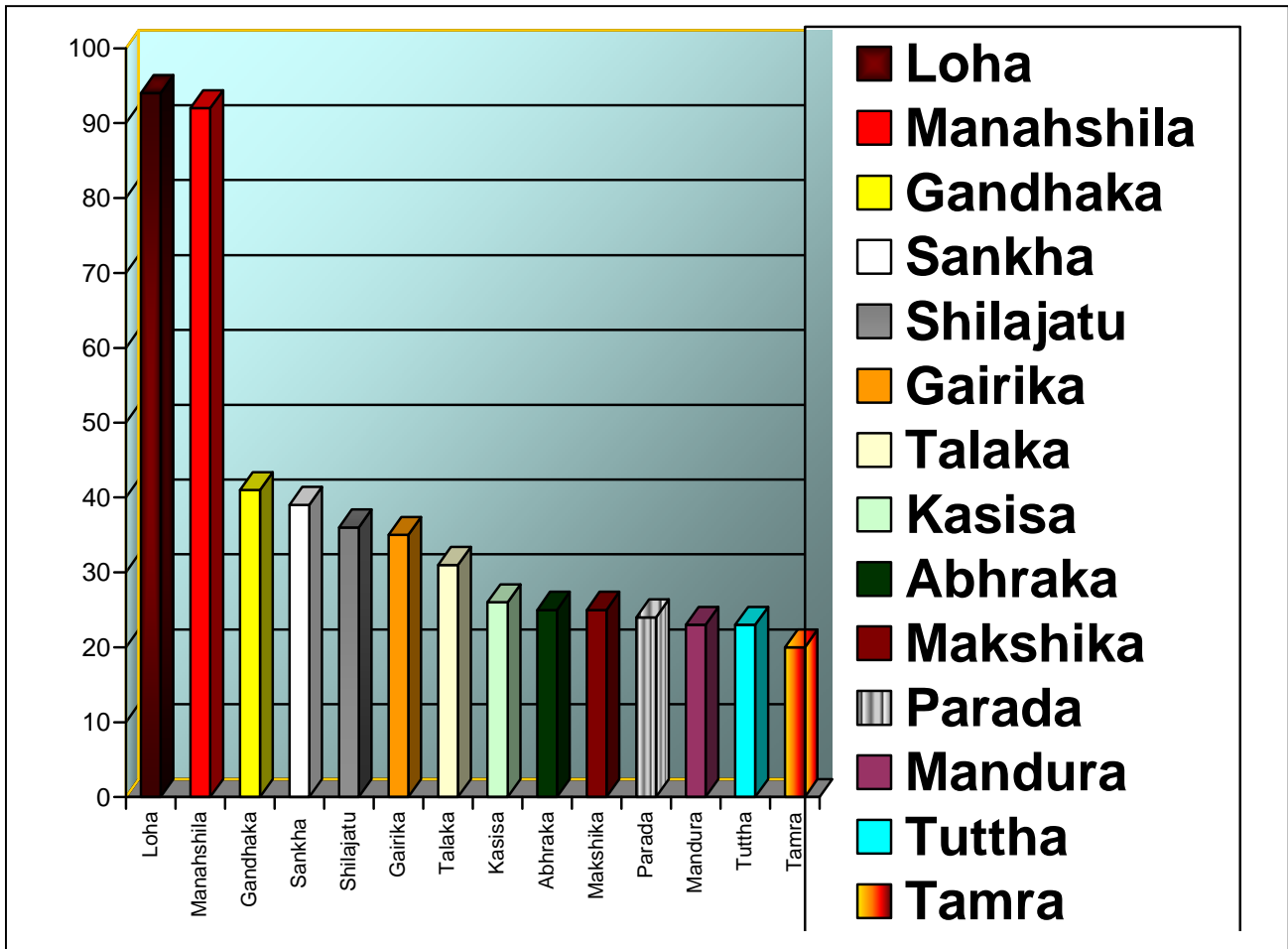
Sudha varga:

29. Sukti (Pearl Oyster)	-	02
30. Sankha (Conch shell)	-	39
31. Khati (Chalk)	-	01
32. Godanti (Gypsum)	-	01
33. Sambooka (Small sized conch)	-	10
34. Samudraphena (Cuttlefish bone)	-	13
35. Tankana (Boric acid)	-	05

Minerals with their highest replication in the Descending order:

1. Loha (Iron)	-	94
2. Manahshila (Arsenic disulphide)	-	92
3. Gandhaka (Sulphur)	-	41
4. Sankha (Conch shell)	-	39
5. Shilajatu (Bitumen)	-	36
6. Gairika (Red oxide of iron)	-	35
7. Talaka (Arsenic trisulphide)	-	31
8. Kasisa (Ferrous sulphate)	-	26
9. Abhraka (Mica)	-	25
10. Makshika (Copper pyrite)	-	25
11. Parada (Mercury)	-	24
12. Mandura (Fe ₂ O ₃)	-	23
13. Tuttha (Copper sulphate)	-	23
14. Tamra (Copper)	-	20
15. Samudraphena	-	13

16. Sambooka (Small sized conch)	-	10
17. Sourashtri (Alum)	-	07
18. Naga (Lead)	-	06
19. Vanga (Tin)	-	06
20. Anjana (Antimony sulphide)	-	05
21. Pravala (Coral)	-	05
22. Swarna (Gold)	-	05
23. Tankana (Boric acid)	-	05
24. Mukta (Pearl)	-	04
25. Rajata (Silver)	-	04
26. Pittala (Brass)	-	02
27. Sindura (Lead peroxide)	-	02
28. Sukti (Pearl Oyster)	-	02
29. Godanti (Gypsum)	-	01
30. Kamsya (Bronze)	-	01
31. Khati (Chalk)	-	01
32. Navasara (Ammonium chloride)	-	01
33. Vaidurya (Cat's eye)	-	01
34. Varata (Cowrie shell)	-	01
35. Yasada (Zinc)	-	01



Summary

Parada:



- Parada is found at 24 places and as maximum as in twelve different conditions like Parinamasoola, Sodha, Netraroga, Striroga, Rasayana and Vajikarana.
- Among 24 references more than 50% are traced in Rasayana chapter only.
- Unlike other works of Ayurveda belongs to medieval period, Parada is quoted maximum number of times in Vangasena Samhita and is used externally as well as internally.

Abhraka:



- In total 25 references of Abhraka are recognized in this compendium and 21 are noticed in Rasayana chapter only.
- The remaining four are traced in the chapters of Parinamasoola, Raktapitta, Netraroga and Striroga.

- Basing on 84% of references, it is observed that Abhraka is one of the best Rasayana drugs related to Rasasastra.

Makshika:



- Makshika is also found at 25 places in the entire text of Vangasena Samhita.
- It is mainly indicated in Pandu, Netraroga, Vatarakta and as a Rasayana.
- Among these 25 references 8 are related to simple recipes and the remaining 19 are compound formulations.

Shilajatu:



- Shilajatu is mentioned at 36 different places viz. Pandurogadhikara, Mutrakricchra, Mutraghata, Vatarakta, Kushta, Rasayanadhikara etc.
- Origin, pharmacological actions and method of administration of Shilajatu is mentioned in the chapter Prameha vide Sloka reference number 105 to 120.
- Similarly purification procedure of Shilajatu is also revealed in the chapter Vatarakta vide reference number 213 to 216.

Tuttha:



- Tuttha is found at 23 places in the entire compendium.
- It is indicated in various conditions like Nadivrana, Bhagandara, Upadamsa, Kushta, Kshudraroga, Agantukavrana, Netraroga, Nasaroga etc.
- It is mainly used as an external application, viz. washing wounds and also as a collyrium.

Gandhaka



- Gandhaka is mentioned at 41 different places in Vangasena Samhita.
- It is suggested that Gandhaka is useful in various ailments like Jwara, Krimi, Raktapitta, Vatarakta, Parinamasoola, Sodha, Arbuda, Kushta, Amlapitta, Kshudraroga, Karnaroga, Netraroga, Siroroga, Striroga and also as a Rasayana.
- Out of 41, Gandhaka is found as maximum as 22 times in Rasayanadhikara only.
- By the above observations it is inferred that Gandhaka is being considered as one of the best Rasayana drugs of Ayurvedic pharmacopoeia.

Gairika:



- 35 references of Gairika are traced and it is indicated in Pandu, Raktapitta, Hicca, Netraroga, Pradara, Mukhapaka etc.
- Among these 35 recipes more than 85% are external applications only.

Kasisa:

- 26 recipes related to Kasisa is found in this treatise and it is indicated in Netraroga, Switra, Kitibha, Indralupta, Hicca etc.



Kankshi:



- Kankshi is traced at 7 places only in the entire compendium.
- It is mainly used for washing Snehadagda Vrana, Pradara, Netraroga, Hridroga and in Rasayana.

Talaka:

- 31 recipes pertaining to Talaka is observed.
- Both external and internal use of Talaka is noticed in various conditions like Slipada, Upadamsa, Kushta, Netraroga, Stiroga and Balaroga



Manahshila:



- Manahshila stood second in the enumerated list of 35 substances with its 2nd best replication number as 92.
- It is mainly indicated in Kasa, Swasa, Switra, Upadamsa, Netraroga, Balaroga etc.
- Manahshiladi Dhumapana is indicated in Kasa, Swasa and Hicca.
- Utility of Manahshila is observed in several ways such as Dhumapana, Anjana, Lepa, Nasya and also as an internal administration.

Anjana:

- Srotonjana is traced only at one place i.e. in Dravyagunadhikara vide reference number 36, whereas 4 recipes of Souveeranjana is identified in the chapter Netraroga and all of them are collyrium only.



Varata, Navasara, Sindura:



- Both Navasara and Varata are traced at only one place and that too in the same formulation viz. Kharpara Rasayana.
- Sindura is found twice and both the references are from the chapter Kushtarogadhikara only.

Swarna, Rajata:



- Precious metals like gold and silver are not extensively found in this treatise.
- Swarna Bhasma is indicated in Kumbhakamala, Balaroga and Visha roga.
- Gold and silver are mentioned for the fabrication of certain instruments like Vasti Netra, Anjana Salaka etc.

Tamra:

- At least 20 references are traced in relation to Tamra. Among those 9 from Rasayana chapter, 6 from Netrarogadhikara and the remaining are one each from Parinamasoola, Sodha, Arbuda, Prameha.



Loha:



- Loha stood first in the list of 35 metals and minerals of Vangasena with its highest replication number as 94.
- It is indicated in more than 20 different conditions like Jwara, Atisara, Pandu, Parinamasoola, Prameha, Kushta, Kshudraroga, Netraroga etc.
- Among 94 references of Loha, as maximum as 22 are identified from the chapter Rasayanadhikara.
- Description of Loha is found as under in the chapter Arshas vide reference no.214
 - 3 Types – Munda, Tikshna & Kanta
 - Munda: 3 types – Mridu, Kunda, Khandara
 - Tikshna: 6 types - Khara, Yogara, Sara, Karnaka, Dravaka, Romaka
 - Kanta: 7 types – Huntala, Tara, Bhatta, Vaajara, Kalaka, Bhramaka, Chumbaka

Naga, Vanga, Yasada, Kamsya, Pittala:



- Both Naga and Vanga are found at 6 different places viz. Netraroga, Arbuda, Rasayana and Vajikarana chapters.

- Yasada is traced at only one place i.e. in the Rasayana chapter vide quotation no. 325 – 330.
- Both Kamsya, Pittala are found at 2 places each.

Mandura:



- Mandura was traced in 23 references and is used for the management of Pandu, Soola, Parinamasoola, Udara and Kushta.
- Among 23 references 10 are related to Parinamasoola only.

Mukta, Pravala, Vaidurya:



- Mukta and Pravala are also traced in Vangasena Samhita at 4 and 5 places respectively.
- All the 4 references of Mukta are related to Netraroga only where as Pravala is useful in Hicca, Mutrakricchra, Netraroga and Striroga.
- Vaidurya is found in only one recipe of Netraroga vide reference 381.

Sankha, Khati, Godanti:



- Total 39 references of Sankha are traced in this treatise.
- Among those 22 are related to Netraroga only. It is also indicated in Raktapitta, Hicca, Udara, Striroga and Balaroga.
- Khati is mentioned only once in Rasayana chapter, whereas Godanti is traced at two places such as Vidradhi and Netraroga in this compendium.

Sambooka:



- Sambooka is quoted at 10 places and used in various conditions like Parinamasoola, Antravriddhi, Charmakeela, Yonikanda, Gudabhramsa and Karnanadi.

Samudraphena:



- Total 13 references of Samudraphena are recognized in this compendium and 11 are related to the chapter Netraroga and the remaining are the references from Medoroga and Karnaroga.

Tankana:

- Tankana is found at only 5 places and is indicated in Udara roga and Kshudraroga. One formulation named Kharpara Rasayana is found in the chapter of Rasayana which contains Tankana.



Conclusion

- Utility of these 35 Metals and minerals of Vangasena are observed in more than 50 different conditions.
- Among the above 35 substances it is identified as 19 drugs are useful as Rasayana Dravyas.
- Parada, Gandhaka, Loha, Tamra, Makshika are considered as the Best Rasayana Drugs.
- Manahshiladi Dhumapana is useful for the management of Kasa, Swasa and Hicca.
- Yasada is not found in Vrindamadhava; whereas it is traced at only one place i.e. in the Rasayana chapter vide quotation no. 325 – 330.
- By the above observations it can be concluded that Vangasena had more integrated ideas in comparison with the authors of medieval period. The inclusion of maximum number of metals and minerals in the Ayurvedic pharmacopoeia by him also supports this opinion.

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