

Metals and Minerals delineated in Vrindamadhava-Analytical study

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ABSTRACT

Vrindamadhava is written by Vrinda during 9th century A.D. In this work Vrinda has enumerated line of treatment and most efficacious formulations for various disease conditions, described by Madhavanidana. Herbs have dominated Ayurvedic therapeutics during pre-Vrinda period. Vrinda has recorded not only herbal remedies but also several herbo-mineral formulations and incorporated most of the minerals and metals in his work. Keeping this in view, an attempt has been made to identify and compile the minerals and metals which are useful in different ailments and to know the dominated metals in medieval ayurvedic therapeutics.

Key words: Sodhana, Marana, Bhavana.

INTRODUCTION

The doctrines of Ayurveda have been promulgated and recorded by acharyas of Ayurveda in the two classics namely Caraka Samhita & Sushruta Samhita. Based on these two classics several scholars like Vagbhata, Madhavakara, Vrinda, Cakradutta, Sodhala, Vangasena, Sarangadhara and Bhavamishra have compiled the relevant matter essential and suitable to their contemporary periods. Some of the new treatment modalities and new drugs have been introduced into the clinical practice have been incorporated into the medieval Ayurvedic works.

In the history of ayurveda the medieval period is considered as golden period (i.e. 8th cen. A.D. to 16th cen. A.D.) in view of the development of Indian Alchemy. Siddhayoga written by Vrinda in 9th century A.D. is considered as the first published treatise on treatment of diseases and it is popularly

known as Vrindamadhava. In this work, Vrinda recorded not only single and simple herbal remedies but also several herbo-mineral formulations. During 20th century several scholars of current times have attempted to study for establishing the true identity of herbs and metals of Brihatrayee, Sarangadhara Samhita, Bhavaprakasha and Basavarajiyam. So far no attempts have been made to study the content of materia medica of Vrindamadhava. Herbs have dominated the Ayurvedic therapeutics during pre-Vrindamadhava period. Vrinda has conveniently adopted most of the minerals and metals from Rasa Shastra which has started as a separate discipline. Keeping this in view, the present study has been taken up to identify the metals and minerals which have been incorporated into the Ayurvedic therapeutics.

MATERIALS & METHODS

In the present work two published books of Vrindamadhava have been consulted to compile and analyze the role of metals and minerals which have dominated medieval Ayurvedic therapeutics.

1. Sanskrit text published by-Anandashrama press, Pune.

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2. English translation by Dr. Premvati Tewari and Dr. Asha Kumari which consists of 82 chapters.

OBSERVATIONS

Metals and minerals identified in different diseases

1. **Jwara:** Tamra, Kamsya (164); Manahsila (242, 243,413); Haritala (242); Loha (245)
2. **Jwaratisara:** Anjana (25)
3. **Atisara:** Anjana (48)
4. **Grahani:** Anjana (55); Ayoraja (89)
5. **Arshas:** Loha Patra, Tikshna Loha (108,139); Gairika (149)
6. **Ajirna:** Loharaja-(51)
7. **Krimi:** Rasendra (15)
8. **Pandu:** Silajatu (4); Loha-(7,8,11,13,22,25-30,33,38,58,59) Makshika (7,8, 13,43,); Ayomala (9,32,51,52,54); Asmajatu, Rupyamakshika, (13); Ayas bhajana-(14); Gairika-(23);
9. **Raktapitta:** Anjana (12, 13, 105); Loha (29); Tamra bhajana (53, 73); Makshika, Rukmaloha, Asmajatu (71);
10. **Rajayakshma:** Tapya, Asmajatu-(8,103);
11. **Kasa:** Loharaja (25); Haritala, Manahsila-(25, 48); Manahsila (50, 53)
12. **Hiccough and Svasa:** Kancana Gairika, Kasisa (1); Gairika (4); Anjana (30)
13. **Svarabheda:** Makshika (Suvarnamaksika)-(6); Manahsila (15)
15. **Chardi:** Anjana (7, 21)
16. **Trishna:** Anjana (10)
17. **Murcha:** Mani dharana- (1)
20. **Unmada:** Loha (15)
21. **Apasmara:** Manohva (Manahsila), Tarkshya (3)
22. **Vata vyadhi:** Silajatu (32, 124); Suvarna, Rajata vessels (129)
23. **Vatarakta:** Anjana (85)
24. **Urustambha:** Girisambhava (Silajatu) (16)
25. **Amavata:** Gandhaka (41); Iron pot - (42); Parada and Gandhaka (49)
26. **Shoola:** Kamsya, Rajata, Tamra pots (22); Rasa, Gandhaka, Loha, Abhraka (35-36); Mandura (42); Loha (45, 73)
27. **Parinama Shoola:** Loha churna-(11-13, 15, 50, 51, 65, 67); Shankha churna- (19); Mandura (15, 28, 29, 32, 34, 38, 40, 44, 71)
30. **Gulma:** Silajatu (13, 14)
32. **Mutrakricra:** Silajatu (18, 21, 33); Ayoraja (22, 33);
33. **Mutraghata:** Silajatu (9)
34. **Ashmari:** Silajatu (12, 16, 20, 35)
35. **Prameha:** Asmajatu (23, 44, 53, 58) Loha- (23, 29, 45, 52); Makshika (61); Sutaka (Mercury), Gandhaka, lohakitta-(62, 63)
36. **Medovridhi:** Loharaja- (7); Makshika - (9); Shankha churna (20); Varnojjvala - (22)
37. **Udara:** Silajatu (11); Shukti (60)
39. **Sotha:** Ayoraja (19, 20, 28); Silahvaya-(20, 43);
40. **Vridhi:** Shambhuka bhanda - (Snail shape vessel - 21)
41. **Galaganda:** Lohamala (9); Kasisa (34); Shankha churna (40); Tin, Copper, Iron (42) Lead (42, 48); Manahsila (49); Haritala-(52); Girija (Silajatu) - (71)
43. **Vidradhi:** Loha (7); Silajatu (10, 19)
44. **Vranasotha:** Manahsila (58); Ayoraja, Kasisa (59); Loha kumbha-(61)
45. **Agantu Vrana:** Tuttha (19)
46. **Bhagna:** Varatika (15); Kulisa (Vajra) - (17); Aala churna (19)
48. **Bhagandara:** Tuttha (8); Haritala (22)
49. **Upadamsa:** Gairika, Anjana (5)
50. **Sukadosa:** Kasisa (3)
51. **Kustha:** Manahsila(8, 26, 35, 154, 160, 163, 172, 191,195); Haritala (8, 35, 42, 154, 160, 163,172, 191); Gandhapashana (22, 23, 25, 52, 191, 229); Tapya, Kamsya patra (26); Ayomala (27, 28); Anjana (35); Gairika- (35,

46); Shankha churna(43,74) Kulisa (74); Makshika (Suvarna Makshika) (86); Loha bhasma (27,28, 93); Kasisa, (26, 35, 154); Iron vessel (73,166, 173); Tuttha (74, 190); Sindhura (185,186,190); Silajatu (229)

54. Visarpa: Shankha, Shukti, Gairika- (9)

57. Kshudra roga: Manahsila (8, 19,50, 75, 79, 108); Haritala - (8, 18,41); Kasisa - (17,18, 19, 108, 130); Gairika (55, 119, 148); Kancanopama (76, 81); Ayoraja- (10, 22, 102, 124, 131, 132, 135); Lohamala (105,141); Tuttha (108); Shankha churna, Seesaka (140).

58.Mukharoga: Anjana (56, 59); Manahsila, Haritala (84, 87); Saileya (87); Gairika (118, 132)

59. Karnaroga: Samudraphena (4); Haritala (38, 58); Shambhuka (46); Gandhakasila (47);

61. Netraroga: Tamra bhajana- (9, 13, 52, 58, 159, 220, 294, 296, 298, 301); Gairika (10, 12, 27, 53, 111, 106, 189, 213, 269, 270, 292, 297); Anjana- (19-22, 26, 89, 90, 163, 169,170, 180, 188,189, 224); Tankana (55-56); Shulba, Varata (58); Kamsyapatra- (60); Kasisa(2)-(89-90, 158); Bronze pot(23, 105, 306); Manahsila (55, 111, 116,148, 150, 167, 170,221, 224, 270, 282, 289, 292); Tapyra- (118, 163); Tarkshya- (162, 270); Tuttha (110, 163, 164,284, 298, 302); Haritala-(167); Rasendra(55, 169) Bhujaga (169); Shankanabhi- (114, 150, 170); Tamra (23, 55, 114, 174); Loha churna-(23, 55, 158, 180,231, 267,295); Sauviranjana (181); Shanka-(55, 111, 116, 105, 148, 186, 224, 270, 275, 297); Naga (56, 192-193); Mukta (200, 219, 273); Vaidurya, (219-220, 273); Srotonjana, Vidruma (221) Samudraphena- (56, 110, 158, 159, 163, 221, 270, 275, 292, 297); Suvarna Gairika (222); Ranga (231); Pravala (273); Sphatika-(55, 273); Rajata - (23, 105, 273); Kasisa (281, 287); Puspanjana (287,297); Hema shalaka (23, 273, 310)

63. Pradara: Gairika- (17)

64. Yoniroga: Copper, Gold vessel (23-24)

65. Streeroga: Loha (47)

66. Balaroga: Kanaka (gold) (2); Loha bhasma (8); Anjana (14); Gairika (19, 38, 39); Kamsya, Rasa (28); Haritala (38); Manahsila (38, 40); Shankanabhi, (40)

67. Balagraha: Gairika (25)

68. Visha: Haritala, Manahsila (27-28); Anjana (32); Gairika (37, 45)

69. Rasayana: Loha (13, 16, 55); Suvarna (13); Silajatu (56-61)

70. Vajikarana: Kasisa (84)

72. Svedana: Bronze pot (1)

77. Dhoomapana: Manahsila (73)

80. Aristha: Gold (17)

81. Swasthadhikara: Bronze pot (32); Anjana - (48); Sauviranjana (74-75)

Some of the Sodhana and Marana procedures identified in this work are as follows:

Vrinda clearly stated that the metals and minerals should be properly processed prior to the internal administration. Viz., In Pandu roga cikitsa Vidhisadhita Silajatu (properly purified Silajatu-8/4) and also shuddha Loharaja (purified-8/13) are advised.

DISCUSSION & CONCLUSION

Vrindamadhava has described mercury in the form of external application only. Kajjali and amalgamation of mercury and sulphur for the preparation of formulations for internal administration has not been mentioned. Vrinda designed several single and simple herbal recipes which are result oriented and also described a few herbo-mineral formulations. A thorough scan of the entire text clearly indicates that Vrinda utilized in total 31 metals and minerals as specified in the table above. The most frequently quoted metals/minerals include Loha, Manahsila and Gairika.

1. Loha is incorporated in the majority of the prescriptions (48 times) while Manahsila occupies second place (42 times).

2. Maximum numbers of references related to metallic preparations are traced in Netraroga (i.e. around 129), Kustha (45) and Pandu (28) respectively.

3. Similarly highest number of herbo-mineral recipes is found in Netraroga, Pandu

Table: Metals and Minerals noted according to the Usage

S. no.	Metals	Ext. use	Int. use	Others (Vessel)	Total
1	Loha (Iron)	7	48	15	70
2	Manahsila(Realgar)	42	3	--	45
3	Gairika(Red ochre)	28	4	--	32
4	Anjana(Galena)	18	13	--	31
5	Silajatu(Bitumen)	3	26	--	29
6	Haritala(Yellow orpiment)	22	3	--	25
7	Shankha(Conch shell)	19	1	--	20
8	Mandura (Iron oxide)	16	1	1	18
9	Kasisa(Ferrous sulphate)	17	--	--	17
10	Tamra(Copper)	6	--	9	15
11	Makshika (Copper pyrite)	11	1	--	12
12	Gandhaka (Sulphur)	5	6	--	11
13	Samudraphena (Cuttlefish bone)	10	--	--	10
14	Kamsya(Bronze)	2	--	7	9
15	Tuttha(Copper sulphate)	9	--	--	9
16	Suvarna(Gold)	3	2	4	9
17	Parada(Mercury)	4	3	--	7
18	Seesa(Lead)	7	--	--	7
19	Rajata (Silver)	4	--	2	6
20	Tarkshya(Emerald)	3	--	--	3
21	Varatika(Cowrie shell)	2	1	--	3
22	Mukta(Pearl)	3	--	--	3
23	Sindhura (Lead oxide)	3	--	--	3
24	Sphatika(Crystal)	2	--	--	2
25	Shambhuka(Snail shell)	1	--	1	2
26	Vanga(Tin)	1	1	--	2
27	Shukti(Pearl Oyster)	2	--	--	2
28	Pravala(Coral)	2	--	--	2
29	Abhraka (Mica)	--	1	--	1
30	Tankana(Borax)	1	--	--	1
31	Vaidurya(Cat's eye)	1	--	--	1

and Kshudra roga as 47, 22 and 21 respectively.

4. Purificatory measures of the Mandura (Pandu roga/52), Silajatu (Prameha /58) and Makshika (Prameha /61) are also mentioned in the text.

5. Among 82 chapters metallic preparations are not found in 23 chapters namely 14.Arocaka, 18. Madatyaya, 19. Daaha, 28. Udavarta, 29. Anaha, 31. Hridroga, 38. Sothodara, 42. Sleepada, 47. Nadivrana, 52.

Sitapitta, 53. Amlapitta, 55. Visphota, 56. Masurika, 60. Nasaroga, 62. Siroroga, 71. Snehana, 73. Vamana, 74. Virecana 75. Vasti, 76. Niruha vasti, 78. Nasya, 79. Kavala and 82. Misrakadhikara.

6. Even though Vrinda is aware of sodhana and marana procedures, he has paid much attention towards the external use of metals and minerals (in the form of external applications as well as vessels to prepare and

S.no.	Mineral/ Metal	Procedure	Useful drugs	Reference
1	Ayomala	Sodhana (Purification)	Ayomala heated & dipped into Gomutra -7 times	Pandu roga 8/9
2	Mandura	Sodhana (Purification)	Mandura -heated & dipped into Gomutra -7 times	Pandu roga 8/52
3	Loha (Tikshna)	Marana (Incineration)	By using Divyausadhis, Makshika and Manahsila	Raktapitta 9/71-72
4	Silajatu	Sodhana (Purification)	Bhavana (Impregnation) with Salasaradi gana dravyas	Prameha 35/40
5	Makshika	Sodhana (Purification)	Bhavana (Impregnation) with Salasaradi gana dravyas	Prameha 35/61

preserve the medicines) as Indian Alchemy is in the primitive stage.

7. In total 245 herbo-mineral formulations have been mentioned in Vrinda Madhava which include 174 simple recipes and 71 compound formulations.

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