

CONTRIBUTIONS OF ŚĀRŅGADHARA IN THE FIELD OF MATERIA MEDICA AND PHARMACY

P. V. SHARMA

Department of Dravyaguna, Faculty of Indian Medicine,
Banaras Hindu University, Varanasi

Śārᅅgadhara's is the popular text of medieval period which deals with medicinal formulations and various pharmaceutical forms used in various disorders. In this process, the author has been able to utilise all possible sources of drugs, new and old, which were in demand at that time. Thus by introducing a number of new drugs with their therapeutic uses and also a variety of pharmaceutical forms, Śārᅅgadhara has made a valuable contribution to the field of materia medica and pharmacy which helped enhancing the practical utility and consequent popularity of Indian Medicine.

INTRODUCTION

India has remained in contact with the outer world since pre-vedic era. There are evidences of maritime trade between India and Egypt during Indus Valley civilisation. Later on it came in contact with Persia, Greece, Rome, China, South-east Asia, Middle east and lastly with Europe and America. Due to intense cultural assimilative and metabolic power it absorbed many things from the exotic culture and science into its varied background and made them integral part of its own culture, but at the same time sticking fast to its radical character. This has made Indian culture a queer blending of orthodox and progressive forces. The realm of Medicine is no exception to this. There was always give and take with the new people with whom it came in contact.

During medieval period, India came in close contact with Arab countries. The Caliphs of Arab played a very important role in furthering this process vigorously and sincerely but this was only a beginning. The actual work in this field began to be materialised in twelfth century A.D. and afterwards when Muslims who brought Arabic and Persian knowledge with them settled on this soil with the idea to become permanent member of the Indian Society. On the other hand, within the country there was a cultural upheaval starting from Gupta period and culminating in later medieval period in which ancient *atharvans*, buddhists, *śaivas*, *śāktas* and alchemists all joined together and formed a tāntrika culture which brought a revolution not only in religious sphere but also in medical field. A new branch, now known as '*Rasa-śāstra*' was developing during this period in

which mercury and its various combinations with other metals began to be used as drugs in various disorders. This completely revolutionised the Indian Medicine during medieval period just as the discovery of antibiotics in the modern age.

Śārṅgadhara standing in the thirteenth century A.D. combines both these aspects and that is why his work the *Śārṅgadhara Samhitā* may be taken as a representative work of the medieval period in this respect. Though Śoḍhala (twelfth century A.D.) who preceded him paved the way for this integration, the major credit goes to Śārṅgadhara who for the first time placed before the Indian medical world many new things in record including the examination of pulse (*nāḍī-parikṣā*) for diagnosis of diseases. The contributions of Śārṅgadhara are great many but here, I would limit myself to materia medica and pharmacy.

CONTRIBUTIONS IN MATERIA MEDICA

As regards the contributions of Śārṅgadhara in Indian Materia Medica, this may be placed broadly as follows :

1. Introduction of new indigenous drugs

Śārṅgadhara introduced a number of new plants which though indigenous were not popularly used as drugs. In this group we may put *rudantī*², *babbūla*,³ *sthūla babbūlikā*⁴, *mahānimba*⁵, *jwālāmukhī*⁶, *kuṭhāracchinnā*⁷, *pātālagaruḍī*⁸, *aīleya*⁹, and *suvarṇapuṣpi*¹⁰. *Rudantī* has been mentioned as *rasāyana* drug along with *guḍūci*, *guḍgulu* and *harītakī*. *Capparis moonii* Wight is used as *rudantī* in many quarters for treatment of tuberculosis but, in my opinion, here this may be taken as *Astragalus* species which is known as *rudantī* or *rudrawantī*¹¹ attributed with miraculous properties and much sought after by the Tāntrikas. *Babbūla* (*Acacia arabica* Willd) and *sthūla babbūlikā* (*Acacia sp.*) began to be used as astringent during medieval period. *Mahānimba*, in ancient days, was a synonym of *aralu*¹² (*Ailanthus excelsa* Roxb.) but during the medieval period it became the nomenclature for *Melia azedarach* Linn. popularly known as *bakāyana*. *Aīleya* (Aloes) is also not found in ancient literature. *Pātālagaruḍī* (*cocculus hirsutus* Linn. Diels) is used frequently by Śārṅgadhara in preparation of various formulations. *Kuṭhāracchinnā*, *jwālāmukhī* and *suvarṇapuṣpi* are still not free from controversy.

2. Introduction of new therapeutic uses of indigenous drugs

Śārṅgadhara introduced several new therapeutic uses of indigenous drugs. For instance, he recorded use of *śākhoṣṭaka* (*Streblus asper* Loud.) in filariasis¹³, *mahānimba* (*Melia azedarach* Linn.) in sciatica¹⁴, *Viṣṇukrāntā* (*Evolvulus alsinoides* Linn.) in peptic ulcer¹⁵, nasal administration of *kuṅkuma* (*Crocus sativus* Linn.) in neuralgia, particularly migraine¹⁶, *guḍūcisatwa* in burning sensation,¹⁷ *tilaparṇī* (*Gynandropsis pentaphylla* DC.) in ear ache¹⁸ etc. It may be noted that Śārṅgadhara was not only a scholar of materia medica and a good pharmacist

but also an expert clinician and has recorded in his text the use of drugs whatever he observed in his practice;¹⁹.

3. Propagation of rural medicine

Śārṅgadhara seemingly was a physician of the rural population which is evident from the fact that he has used simple domestic materials as remedies for ailments. For instance, he has mentioned the use of the juice of *gudūcī* in diabetes²⁰, *vāsā* in internal haemorrhage²¹, *nimba* in jaundice²², *droṇapuṣpī* and *tulasi* in malaria²³, *ārdraka* in scrotal pain and respiratory disorders²⁴, *nimbu* in colics and tympanitis²⁵, *kūṣmāṇḍa* in psychic disorders²⁶ and so on. He also used medicinally the common pulses like *masūra* and *udada*, the former in vomiting²⁷ and diarrhoea²⁸ and the latter as a sexual tonic²⁹.

4. Use of animal products

Among the animal products, apart from *kastūrī*³⁰, the urines of all sorts of animals including frogs have been used in preparation of medicines³¹. It is interesting to note that even human urine³² is not spared. The powder of animal teeth³³ is prescribed for corneal opacity. The bile of goat³⁴ is also used. The use of these substances is seen even in ancient days but was popularised during the medieval period probably by tāntrikas and *aghoris*.

5. Introduction of new therapeutic techniques

In ancient days too, there was an idea to introduce the drug directly into blood bypassing the gastrointestinal tract to avoid consequent degradation and passage of time particularly in cases of emergency like poisoning. Caraka has prescribed administration of drug in such cases through incised wound in the head of the patient³⁵. Śārṅgadhara has elaborated it further. He has advocated the use of *sūcikābharāṇa rasa* in serious cases of typhoid fever through wounds incised in head. The medicine is to be rubbed there for a while so that it comes in contact with blood sufficiently. He has emphasised particularly on '*rakta-bheṣaja-samparka*' (contact of blood and drug)³⁶. Similarly he has prescribed the use of *guñjā* (*Abrus precatorius* L.) in sciatica by the similar technique³⁷.

6. Formulation of new groups of drugs

Śārṅgadhara has contributed to Indian materia medica not only by adding single drugs but also by formulating new groups of drugs. Several groups of drugs have been mentioned by Caraka, Suśruta and Vāgbhaṭa according to action and uses but Śārṅgadhara has got some originality in this respect too. Suśruta's *varuṇādi gaṇa* has been modified slightly by dropping *darbha* and *pūtika* and adding *kirātaka*³⁸. In respect of *jīvaniya gaṇa*, Śārṅgadhara strictly follows Caraka by enumerating only ten drugs³⁹ keeping *aṣṭavarga* separate, while later authors like Bhāvamiśra have incorporated entire *aṣṭavarga* under *jīvaniya gaṇa*⁴⁰. A

specific formulation of five drugs has been named as *Pañcakaṣāya* which consists of *tinduka*, *abhayā*, *lodhra*, *samaṅgā* and *āmalakī*⁴¹ and is prescribed in otorhoea probably on the basis of Suśruta (VI. 21.46).

7. Introduction of poisons and psychotropic drugs

Use of poisons like *vatsanābha*⁴² (aconite) and *viṣamuṣṭi*⁴³ (nux vomica) and psychotropic drugs like *vijayā* (cannabis) and *dhatūra*⁴⁴ is seen frequently in the *Śārṅgadhara Saṃhitā*. Although the use of poisons is seen first in the work of Vāgbhaṭa⁴⁵, it has developed fastly under the patronage of alchemists and tāntrikas. Consequently during the medieval period the formulations containing poisons alongwith mercurial compounds became very popular. Linguistically it is interesting to note that the word '*rasa*' denotes both mercury and poison⁴⁶ and both are dealt with in the texts of *Rasa-śāstra*. Cannabis became more popular than *dhatūra*. Cannabis along with opium has been given as examples of *vyavāyi* (which is absorbed quickly through mucous membrane). Apart from cannabis, narcosis produced by areca nuts, kodo grains, belleric nuts has also been observed⁴⁸. It shows the popular use of cannabis as psychotropic drug. It is surprising that though *bhaṅgā* is mentioned in Atharvaveda⁴⁹ and also in Kātyāyana's *Vārttika*⁵⁰, its use as psychotropic or other drug is not seen before twelfth century A.D.⁵¹. Śārṅgadhara has mentioned the use of cannabis in insomnia, loss of appetite, diarrhoea and dysentery⁵². The popular formulation *jātiphalādi cūrṇa*⁵³ contains 50% cannabis.

8. Use of Metallic and mercurial preparations

During the medieval period use of metallic and mercurial preparations developed to the maximum and as such it was but natural that Śārṅgadhara quoted a large number of such preparations in his text. His contribution regarding number of *dhātus* (metals) is significant. In early days only six metals were recognised⁵⁴ and there was continuing search for the seventh one so that the number becomes parallel to that of the body tissues (*dhātus*) on which they have to act. Śārṅgadhara became successful in this effort and made the number as seven including '*āra*' or *pittala* (brass) an alloy of zinc as the seventh *dhātu*⁵⁵. Later on when Zinc as such was recognised in pure form, it replaced *pittala* under the name *yaśada* which is first found in the *Bhāvaprakāśa*⁵⁶ (sixteenth century A.D.). Thus the credit for initiating the modern concept of seven *dhātus* goes mostly to Śārṅgadhara.

9. Use of Unani drugs

The use of *Pārāsīku yāvani* is seen since the ninth century A.D.⁵⁷ but the drugs like *ahiphena*, *akarakarā* and *uṣṭāṅgana* are not found before twelfth century A.D.⁵⁸. It seems that they were adopted from the fellow Unani Physicians who came and settled in this country by that time. *Ahiphena* is only a sanskritised term for Arabic '*afyun*'. *Ahiphena* is included in the group of *upaviṣas* and is

used as sexual retentive and *vātanāśana* (analgesic)⁶⁰. It is interesting to note that ŚārŅgadhara has mentioned the use of *ahiphena* and *bhaᅅgā* as sexual retentive and astringent respectively but later on the position became somewhat reverse and *ahiphena* began to be used as astringent⁶⁰ in diarrhoeas and *bhaᅅgā* in sexual tonics like *madana modaka*⁶¹.

10. Sexological Medicine

From the earliest times there is already a section of Ayurveda known as *vājīkaraᅅa*⁶² which is practically sexological medicine. ŚārŅgadhara contributed in this field in four ways :

- (i) by classifying the drugs acting on *śukra dhātu* in detail,
- (ii) by adding and developing the use of certain useful Unani drugs to this field,
- (iii) by prescribing formulations for allied purposes,
- (iv) by prescribing treatment for venereal diseases.

(i) ŚārŅgadhara has classified the drugs acting on *śukra dhātu* in the following seven groups⁶³ :—

- (a) *śukrajanaka (śukrala)—kapikacchubija*
- (b) *śadyah śukrajanaka (vᅅᅅya)—dugdha*
- (c) *śukrapravartaka—śtrī*
- (d) *śukrapravartaka—janaka—māᅅa*
- (e) *śukrarecana—bᅅhatīphala*
- (f) *śukrastambhana—jātīphala*
- (g) *śukraśoᅅana—harītakī*.

Not a single author in Indian Medicine other than ŚārŅgadhara has described it in such details which shows his deep study and insight in the subject.

(ii) As said earlier, *ahiphena* and *ākāarakarabha* or *ākallaka (akarakarā)* were used as sexual retentive (*Śukrastambhana*). *Uᅅīᅅana* was used as sexual tonic. All these three drugs were incorporated in materia medica earlier by ᅅoᅅhala but their use was developed by ŚārŅgadhara. The *ākāarakarabhādi cūrᅅa*⁶⁴ of ŚārŅgadhara is very popular which contains *ahiphena* as well as *ākāarakarabha*.

(iii) Apart from the main sexual performance, some allied problems like contraction of female organ, enlargement of male organ, moistening of female organ, enchantment (*vāśīkaraᅅa*)⁶⁵, depilatories⁶⁶ and cosmetics⁶⁷ have been dealt with and proper formulations have been suggested.

(iv) For management of the resultant venereal diseases also, various prescriptions have been suggested.⁶⁸

CONTRIBUTIONS IN PHARMACY

The credit for organising the branch of Pharmaceutics systematically goes to Śārṅgadhara. In fact, the main subject of the *Śārṅgadhara Saṃhitā* is pharmaceutics and it has been planned in such a way that all the relevant subjects are covered. In the first section of this text, Anatomy, Physiology and Pathology alongwith the weights and measures, technical terms and general instructions are given. The second section deals with main pharmaceutical forms with exemplary formulations under each category. The third section deals with accessory forms concerned with *pañcakarma* and also *dhūma*, *añjana*, *lepa* etc.

The main pharmaceutical forms have been grouped in the following categories :

1. *swarasa*
2. *kwātha*
3. *phāṇṭā*
4. *hima*
5. *kalka*
6. *cūrṇa*
7. *vaṭaka* (including *guggulu* and *modaka*)
8. *awaleha*
9. *ghṛta-taila* (fatty preparations).
10. *āsava-ariṣṭa*
11. *dhātu-ratna*
12. *rasa*.

There is no preparation of *arka* in the *Śārṅgadhara Saṃhitā*, though it is there in Soḍhala's *Gadan:graha*⁶⁹. It is difficult to say why this topic is left altogether. The apparatus for distillation (*hastisūṇḍikā nāḍī*⁷⁰) is mentioned and there is no doubt that the process was prevalent. It is interesting to note that because of the use of this *sūṇḍikā* apparatus, the owners of distilleries were known as *śaunḍika*⁷¹ (persons using *sūṇḍikā* apparatus).

Lastly, it would not be out of place to mention one instance which is enough to show that Śārṅgadhara not only contributed positively to the subject but also to the prevalent confusion regarding identification of plant drugs. *Aralu* (*Ailanthus excelsa* Roxb.) and *śyonāka* (*Oroxylum indicum* Vent.) are two different drugs but Śārṅgadhara has put *aralu* as synonym of *śyonāka* under *daśamūla*⁷² making the position worse.

CONCLUSION

Sārṅgadhara was a doyen in the field of Indian Medicine during the medieval period and made significant contributions in Materia Medica and Pharmacy by adding many new drugs and therapeutic uses and techniques. He revolutionised the practise of Indian Medicine with these contributions and paved the way for barefoot physicians working among rural population. He established the Āyurvedic Pharmaceutics on sound systematic footing and thus he may be given the honour as 'Father of Āyurvedic Pharmaceutics'.

REFERENCES

1. S. I. 3. 1 - 8
2. S. I. 4. 14
3. S. II. 12. 281
4. S. II. 1. 12
5. S. II. 2. 142
6. S. II. 11. 14
7. S. II. 11. 45
8. S. II. 11. 44
9. S. II. 12. 55
10. S. III. 11. 40
11. R. N. V., 15
12. A. N., 147
13. S. II. 2. 1 27
14. S. II. 5. 6
15. S. II. 5. 17
16. S. III. 8. 32
17. S. II. 1274
18. S. III. 11. 135
19. S. II. 12. 57
20. S. II. 1. 7
21. S. II. 1. 8
22. S. II. 1. 9
23. S. II. 1. 10
24. S. II. 1. 13
25. S. II. 1. 14
26. S. II. 1. 18 - 19
27. S. II. 3. 11
28. S. II. 9. 25
29. S. II. 7. 1 - 4
30. S. II. 12. 263
31. S. II. 11. 70 - 84
32. S. II. 11. 73
33. S. III. 13. 80
34. S. II. 11. 70
35. C. S. VI. 23. 66
36. S. II. 12. 124 - 5
37. S. III. 11. 101
38. S. II. 2. 130 - 32
39. S. II. 2. 6. 16 - 18
40. B. P. III. 57 - 58
41. S. III. 11. 148
42. S. II. 12. 116
43. S. II. 12. 195
44. S. II. 12. 113
45. A. S., V., 48
46. A. K., II. 9. 99; III. 3. 227
47. S. I. 4. 20
48. S. I. 7. 203
49. A. V. XI. 6. 15
50. S. K. V. 2. 29
51. A. I. P. 353
52. S. II. 12. 77, 194, 119, 255
53. S. II. 6. 72
54. C. S. I. 1. 71
55. S. II. 11. 1
56. B. P. VII. 1
57. V. M. VIT. 1
58. A. I. P. 338 - 40, 290
59. S. II, 12 - 20; 6. 162; 12. 229
60. B. R. V. 129
61. B. R. VII. 217 - 27
62. C. S., I. 30. 26
63. S. I. 4. 16 - 18
64. S. II. 6. 162 - 64
65. S. III. 11. 110 - 20
66. S. III. 11. 35 - 39
67. S. III. 11. 9 - 15
68. S. III. 11. 105 - 7
69. G. N. I. 6. 272
70. S. II I. 2. 19
71. A. K. II. 10. 10
72. S. II. 8. 10; 10. 74.

ABBREVIATIONS

A. I. = Sharma, P. V., *Ayurveda Kā Vaijñānika Itihāsa*, Chowkhamba Orientalia, Varanasi, 1975.

- A. K. = Sinha, Amara, *Amarakośa*, Nirnaya Sagar Press, Bombay, 1905.
- A. N. = Sharma, P. V. (ed.), *The Aṣṭāṅga Nighaṅṭu*, The Kuppaswamy Shastri Research Institute, Madras-4, 1973.
- A. S. = Vāgbhaṭa, *Aṣṭāṅga Saṃgraha*, Vol. II, Bans Phataka, Varanasi-1, 1962.
- A. V. = Satavalekar, S. K. (ed.) : *Atharvaveda-Saṃhitā*, Swadhyaya Mandal, Paradi, Surat, 1957.
- B. P. = Misra Bhāva *Bhāva Prakāśa Nighaṅṭu*, Chowkhamba Vidya Bhavan, Varanasi-1, 1969.
- B. R. = Das, Govinda, *Bhaiṣajya Ratnāvalī*, Motilal Banarasi Das, Lahore, 1932.
- C. S. = Caraka, *Caraka Saṃhitā*, Chowkhamba Sanskrit Series Office Beneras City, 1938.
- G. N. = Śoḍhala, *Gadanigraha*. Vol. I, Chowkhamba Sanskrit Series Office, 1938.
- R. N. = *Rājanighaṅṭu*, Poona, 1925 (2nd ed)
- S. = Śārṅgadhara, *Śārṅgadhara Saṃhitā*, Master Kheladi Lal and Sons, Benaras City, 1933.
- S. K. = *Siddhānta Kaumudi* Bombay, 1926
- V. M. = Vṛnda, *Vṛndanādhava*, Anandasrama Press, Poona, 1943.