Effect of different Avaleha in the management of Tamaka Shwasa (Bronchial Asthma)

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Abstract

Avaleha, which are generally elegant preparations, can be used for both preventive and curative purposes. Many research works have been carried out on different Avalehas. A number of studies with different Avalehas and their respective clinical efficacy in Tamaka Shwasa (Bronchial Asthma) have been carried out at Department of Rasashastra and Bhaishajya Kalpana, IPGT & RA, Jamnagar. A review has been carried out of such works to know the better one. In the work, it has been found that highly significant (P<0.001) results on Shwasakastata were found in all the groups, except in the Kamsa Haritaki Avaleha (B) group which was insignificant (P<0.02).

Key words: Avaleha, Brimhana, Shwasa

Introduction

Avaleha is the semi-solid dosage form, having long shelf-life in comparison to primary dosage forms, and can be administered to all the three age groups, i.e. Bala (children), Yuva (young) and Vridhha (old). The basic material required for this dosage form includes Drava Dravya (liquid substance), Madhura Dravya (sweet substance), Prakshepa Dravya (condiments), and Kalka Dravya (paste of drugs). Diseases like Gulma⁹, Kasa⁹, Shwasa⁶, Pandu⁷, Shotha⁶, Arsha⁹, and Raktaapitta¹⁰ have been treated with different Avalehas. Besides these, this dosage form can also be used as Rasayana. However, a large number of Avaleha¹²⁻¹⁵ have been described for the treatment of Shwasa Roga as these have Brimhana property which is very much needed while dealing with this disease. According to Acharya Sushruta, when natural movement of Prana Vyu is hampered and it is associated with Kapha, then it leads to the origin of Shwasa Roga in which the upward movement of Vata is enhanced. This condition can be correlated with asthma which is a chronic inflammatory disorder of the airways in which many cells and cellular elements play a role. The chronic inflammation is associated with airway hyperresponsiveness that leads to recurrent episodes of wheezing, breathlessness, chest tightness, and coughing, particularly at night or in the early morning. These episodes are usually associated with widespread reversible either spontaneously or with treatment of the total global disease burden. Asthma, being a problem worldwide, has an estimated 300 million affected individuals and causing 2,50,000 deaths annually worldwide.¹⁴

More than 100 research works have been reported on several types of Avaleha at different institutes,¹⁹ of which seven studies on Avaleha and their effect on the Shwasa Roga have been carried out at IPGT and RA, Jamnagar. In this review, the works carried-out in the Department of Rasa Shastra and Bhaishajya Kalpana, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar have been considered. These include Kumar et al., Pandya et al., Jarasania et al., Gandhi Piyush et al., Gupta Ankit et al., and Jarasania et al.²³

Materials and Methods

Preparation of test drugs

All the drugs were prepared by following the textual references with some modifications. Kumar et al.²⁰ used Dashamula Kwatha from root and bark of the drugs to prepare Kamsa Haritaki (B) and Kamsa Haritaki (R). Jarasania et al.²¹ prepared Kwatha by two different methods. The first method was by following the original reference, whereas the second one was based on the method given by Iatro-chemistry. With these, Kwatha Bharangiguda Avaleha I and Bharangiguda Avaleha II were prepared, respectively. Vasa Avaleha (S) and Vasa Avaleha (K) were prepared by taking Vasa Swarasa and Vasa Kwatha, respectively by Gandhi Piyush et al.²³ and Gupta Ankit et al.²⁴

Selection of patients

Out-patients and In-patients of Department of Rasa Shastra
and Bhaishajya Kalpana Department, IPGT and RA Hospital, fulfilling the criteria of diagnosis of Tamaka Shwasa, were selected and registered irrespective of age, sex, and religion.

Criteria for diagnosis
Patients having signs and symptoms of Tamaka Shwasa, as described in the Ayurvedic classics, namely, Shwasakastata, Kasa, Pinasa, Kanthodhwamsa, Lalatesweda, Aasinolabhetsukham, were selected in all the studies. Detailed history was taken and physical examination was done on the basis of a special proforma prepared by scholars, incorporating all signs and symptoms of the disease.

Investigations
Routine hematological, especially white blood cell (WBC) count, erythrocyte sedimentation rate (ESR), absolute eosinophil count (AEC) and urine examination was carried out in all the patients to assess the condition of disease and to exclude any other pathology. Biochemical investigations like blood sugar (F) were carried out to exclude underlying pathology, if any.

Diet and restriction
Patients were advised to avoid the aggravating factors mentioned in classical literature of Ayurveda.

Posology
Both samples of Kamsa Haritaki Avaleha were given at a dose of 15 g/day, whereas Bharangiguda Avaleha (I and II) was given at a dose of 12 g/day and Kantakari Avaleha, Vasa Avaleha (S) and Vasa Avaleha (K) were administered at a dose of 10 g/day. All the drugs were given for 4 weeks in two divided doses with Anupana of lukewarm water.

Criteria for the assessment
Efficacy of the trial drugs was analyzed in terms of relief produced in cardinal signs and symptoms before and after treatment. Effects of trial drugs were also analyzed on certain parameters like WBC count, AEC, and ESR, before and after treatment.

Results
Highly significant (P<0.01) results on Shwasakastata were obtained with all the test drugs, except Kamsa Haritaki (B) which was insignificant (P>0.02) [Table 1]. All the test drugs showed highly significant (P<0.01) results on Kasa, except Kamsa Haritaki (B) and Bharangiguda Avaleha II which are insignificant (P<0.02 and P>0.05, respectively) [Table 2]. Highly significant results (P<0.01) on Peenasa were obtained in Kantakari Avaleha and Bharangiguda Avaleha II, whereas in Vasa Avaleha (S and K), Kamsa Haritaki (R) and Bharangiguda I showed significant results (P<0.01) [Table 3]. Bharangiguda Avaleha I and II as well as Vasa Avaleha (K) showed highly significant (P<0.01 and P<0.01, respectively) results on Kanthodhwansa and insignificant (P>0.05) results were shown by Kantakari Avaleha as well as Vasa Avaleha (S) [Table 4]. All drugs showed highly significant results (P<0.01) on the symptoms Aasinolabhete Sukham and Ronchi, except Bharangiguda Avaleha II which was only significant (P<0.05) [Tables 5 and 6]. Highly significant results (P<0.01) were obtained on Lalatesweda in Kantakari Avaleha treated group, whereas it was significant (P<0.05) in Bharangiguda Avaleha I, Vasa Avaleha (S) and Vasa Avaleha (K) treated groups [Table 7].

Discussion
Acharya Kashyapa has given importance to this Kalpana and has described a separate chapter, namely, Leha Adhyaya in Sutra Sthana. (11) Most of the Avaleha contains Madhura Dravya, Ghrita and Prakshepa Dravya as base ingredients. Here, the use of Madhura Dravya is of great importance because it reduces the Tikta, Katu, Kashaya taste of drug, ultimately making it more palatable, and it also nourishes all Dhatus along with Oja. (32) Ghrita exhibits the property to pacify Vata as well as Pitta and also has the properties like Agnidipana, Balakara,
Table 4: Effect of drugs on Kanthoddhwansa

| Groups                | n  | Mean ± SEM  | P    |
|-----------------------|----|-------------|------|
| Kantakari Avaleha     | 14 | 2.00 ± 0.75 | <0.05|
| Bharangiguda Avaleha I| 19 | 1.74 ± 0.15 | 0.37 ± 0.14 | <0.001|
| Bharangiguda Avaleha II| 17 | 1.58 ± 0.15 | 0.70 ± 0.17 | <0.01|
| Vasa Avaleha (S)      | 05 | 1.6 ± 0.25  | 0.80 ± 0.20 | <0.05|
| Vasa Avaleha (K)      | 07 | 1.43 ± 0.20 | 0.85 ± 0.34 | <0.01|

Table 5: Effect on Aasinhabhete Sukham

| Groups                | n  | Mean ± SEM  | P    |
|-----------------------|----|-------------|------|
| Kamsaharitaki (B)     | 07 | 57.14 ± 7.14| 25.00 ± 5.45 | <0.01|
| Kamsaharitaki (R)     | 23 | 54.34 ± 3.73| 23.91 ± 4.3 | <0.001|
| Bharangiguda Avaleha I| 32 | 2.12 ± 0.12 | 0.84 ± 0.09 | <0.001|
| Bharangiguda Avaleha II| 30 | 2.43 ± 0.12 | 1.53 ± 0.14 | <0.05|
| Vasa Avaleha (S)      | 11 | 1.64 ± 0.20 | 0.54 ± 0.21 | <0.001|
| Vasa Avaleha (K)      | 11 | 1.54 ± 0.2  | 0.54 ± 0.20 | <0.001|

Table 6: Effect of drugs on Ronchi

| Groups                | n  | Mean ± SEM  | P    |
|-----------------------|----|-------------|------|
| Kamsaharitaki (B)     | 02 | 37.50 ± 12.50| 12.50 ± 12.50 | - |
| Kamsaharitaki (R)     | 09 | 30.55 ± 3.67 | 5.55 ± 3.67 | <0.001|
| Kantakari Avaleha     | 14 | 2.42 ± 0.71 | <0.001|
| Bharangiguda Avaleha I| 29 | 2.69 ± 0.11 | 1.00 ± 0.13 | <0.001|
| Bharangiguda Avaleha II| 26 | 2.61 ± 0.11 | 1.38 ± 0.16 | <0.05|
| Vasa Avaleha (S)      | 11 | 1.64 ± 0.21 | 0.64 ± 0.21 | <0.001|
| Vasa Avaleha (K)      | 13 | 1.31 ± 0.13 | 0.53 ± 0.14 | <0.001|

Table 7: Effect on Lalatesweda

| Groups                | n  | Mean ± SEM  | P    |
|-----------------------|----|-------------|------|
| Kantakari Avaleha     | 14 | 1.62 ± 0.50 | <0.001|
| Bharangiguda Avaleha I| 18 | 1.72 ± 0.18 | 0.50 ± 0.17 | <0.001|
| Bharangiguda Avaleha II| 31 | 1.77 ± 0.12 | 1.09 ± 0.12 | <0.05|
| Vasa Avaleha (S)      | 05 | 1.80 ± 0.38 | 0.60 ± 0.24 | <0.05|
| Vasa Avaleha (K)      | 06 | 1.33 ± 0.21 | 0.50 ± 0.22 | <0.05|

Vrishya, Prakshepa Dravyas serve specific functions, e.g. Pippali (Piper longum) acts as a bioavailability enhancer and is antibacterial. They also act as flavoring agents because most of the Prakshepa Dravyas have aroma, which improves the acceptability of a product. However, the quantity of Prakshepa Dravyas should be just sufficient to suggest the desired flavor and should not leave an intense taste in mouth. Regarding Avaleha, two more points are to be kept in consideration. These are mode of administration, i.e. licking, and high percentage of sugar in the medicament. Both these factors facilitate the oral absorption. Due to its mode of administration, i.e. licking, it produces soothing effect in throat, relieving local irritation. Although there are some Sanskaran like Yovagni sannikarsha, Manthanaka, Kala, and Bajana in the preparation of Avaleha, the quality of any dosage form depends upon the raw material taken for the preparation as Kamsa Haritaki Avaleha is prepared with the Kwatha of Dashmula drugs which exhibit Shwasa har property, whereas Kantakari, Bharangi and Vasa also have the quality to conquer the disease Shwasa. Before starting the treatment, a physician may select one of the drugs depending upon the Rogi and Roga Prakriti. In all the studies, except the one by Pandya et al., comparison has been done and all the scholars have prepared their respective Avaleha by taking two different liquid media, where interesting results were found, and the Avaleha which was prepared by following classical indication (i.e. Dashmula Kwatha by taking root bark of drugs and Bharangiguda Avaleha I by textual reference) have shown good results. Vasa Avaleha, either prepared from Swaras or Kwatha, also proved good in clinical trial. The other probable reason for the interesting results may be due to the Brimhana (Nutrient and Energy supplementing) properties of the trial drugs, which is very essential in the treatment of Shwasa Roga.

Probable mode of action

The genesis of Shwasa first involves only vitiation of Vata Dosha all over the body. This vitiated Vata which is in Urdhasthana in turn creates Rukksha, Sankocha and Kharita in Pranavaha Srotas. Vitiated Vata affects the normal Kapha in Urdhasthana, which results in Vilomata of Pranavaya through obstruction to its natural Gati by Kapha. Sometimes, Kapha gets vitiated independently or through Rasadhutwagimandya its Mala, i.e. Kapha gets located in Urdhasthana and causes obstruction to normal motion of Vayu which ends up with Vilomata of Vayu. In the third type, both Vata and Kapha get vitiated independently along with the production of Amsavisha. This contributes to the manifestation of Shwasa. Almost all the classics have used Dashamula in treating the disease Shwasa, and the chief therapeutic indication of Bharangi is Shwasa and Kasa. Acharya Vagbhatta proclaims it to be Agnya Aushadhi for the disease Shwasa. Bharangi having Katu Tikta Rasa, Usnha Virya, Katu Vipaka and Kaptha-Vataghna properties and Dashamula with Usnha Virya and Katu Vipaka seem to quite naturally antagonize the Shwasa Rogi, which is Kaptha-Vata Pradhatu disease. Vasa Avaleha has predominately Madhura Rasa, along with Tikta, Kastha Rasa. Sheet Veerya and Katu Vipaka contribute to the pharmacodynamics of Vasa Avaleha. Also, Guda (Jaggery) has Laghu, Pithya, Sara and Hridya properties which are useful to overcome the Rukkha of all these drugs. It has Madhura Vipaka which shows Srishta Vata Mutra action, i.e. Vatmunolmana action. Guda also provides nourishment to all Dhatus as it has Balya property which is necessary while dealing with this disease.

Conclusion

To conclude, the formulations prepared by following textual references have shown good results on most of the symptoms of the disease. So, depending upon the availability of the raw drugs, Rogi, and Roga Prakrit, these can be used.
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References

1. Sharangadhara Samhita, Dipika commentary by Adhamalla and Gudarthadipika commentary by Kashiram, edited by Parasurama Shastri, Madhyam khandan, 8/1, 5th ed. Varanasi: Choukhambha Orientalia; 2002. p. 206.
2. Sharangadhara Samhita, Dipika commentary by Adhamalla and Gudarthadipika commentary by Kashiram, edited by Parasurama Shastri, Purva khandan, 1/52-53, 5th ed. Varanasi: Choukhambha Orientalia; 2002. p. 13.
3. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthana, 1/70, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 379.
4. Vagabhatta, Astanga Samghra, Hindi Commentary, Dr. Ravidatta Tripathi, Delhi: Chaukhambha Sanskrit Pratishthan; 1996.
5. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 18/53-56, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 542.
6. Govindnath Sen, Bhaisajya Ratnavali, edited by Kaviraj Shri Ambikadatta Shastri, Rajyakshma Chikitsa 14/37, 12th ed. Varanasi: Chaukhambha Sanskrita Sansthan; 2004. p. 295.
7. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 16/100-101, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 531.
8. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 12/50-52, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 487.
9. Charakapani, Chakradatta, with Hindi commentary by Dr. Indradeva Tripathi, 4th ed. Varanasi: Chaukhambha Sanskrit Pratishthan; 2005.
10. Vaidya Sadhial Gada Nighrah, edited by Indradev Tripathhi, Prayoga Khandan 5/21, 3rd ed. Varanasi: Chaukhambha Samrskrit Samsthan; 1999. p. 300.
11. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 1/70, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 379.
12. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 18/57-62, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 542.
13. Vagabhatta, Astanga Samghra, Hindi Commentary, Dr. Ravidatta Tripathi, Delhi: Chaukhambha Sanskrit Pratishthan; 1996.
14. Sharangadhara Samhita, Dipika commentary by Adhamalla and Gudarthadipika commentary by Kashiram, edited by Parasurama Shastri, Madhyam khandan, 8/05-07, 5th ed. Varanasi: Chaukhambha Orientalia; 2002. p. 207.
15. Vaidya Sadhial Gada Nighrah, edited by Indradev Tripathi. 3rd ed. Varanasi: Chaukhambha Samrskrit Sansthan; 1999.
16. Charaka Samhita, Chakarpani commentary, edited by Jadavaji Trikamji Acharya, Chikitsasthan, 17/149, 5th ed. Varanasi: Chaukhambha Sanskrit Sansthan; 2001. p. 539.
17. Shushruta Samhita, Nibandha Sangraha and Nyaya Candrika commentary by Dalhana, edited by Jadavaji Trikamji Acharya, Uttantaranta, 51/04. Varanasi: Chaukhambha Surbharati Prakashan; 2008. p. 761.
18. http://www.ginasthma.org/uploads/users/files/GINA_PocketGuide_2011.pdf (last accessed on 19.01.2012 9.58 AM)
19. Vaidya MS Baghel, Researches in Ayurveda, 2nd ed. Jamnagar: Mridu Ayurvedic Publication and Sales; 2005.
विभिन्न प्रकार के अवलेहों का धार्मिक रोग में प्रभाव

अंकित गुप्ता, पी. के. प्रजापति

अवलेह सामान्यतः विभिन्न प्रकार के रोगों एवं उनकी रोकथाम के लिये प्रयोग किये जाते हैं। इस कल्पना पर बहुत सारे अनुसंधान किये जा चुके हैं। प्रस्तुत अध्ययन में आई.पी.जी.टी. एण्ड आर.ए., जामनगर के रस शास्त्र विभाग में किये गये विभिन्न प्रकार के अवलेह एवं उनके धार्मिक पर प्रभाव की समीक्षा की गई है। इसमें यह पाया गया कि सभी अवलेहों का धार्मिक कारक पर अंति महत्वपूर्ण प्रभाव है।