



Role of Haridradi Avaleha in the Management of Tamaka Shwasa (Childhood Bronchial Asthma) – A Single Case Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

The word Shwasa is derived from the root 'Shwasa Prinane'– which actually means difficulty in the entry of prana in the pranavaha srotas. Shwasa word indicates both physiological and pathological state of respiration. Tamaka Shwasa is one of the five types of disease shwasa. It is a disease of mainly pranavaha srotas. The sign and Symptoms and etiopathogenesis of Tamaka Shwasa explained in Ayurvedic literature have lot of similarities with the disease entity Bronchial Asthma. The goal of this study is to determine the efficacy of the formulation, Haridradi Avaleha in reducing the sign and symptoms of Childhood asthma. A 13 years old boy male Hindu patient from Limda village, Vadodara presented in the OPD of Kaumarbhryta department, Parul Ayurved Hospital, Parul University who presented clinical features of *Tamaka Shwasa* was treated by internal Ayurvedic formulation, Haridradi Avaleha showed marked improvement in the subjective parameters like breathlessness, cough, corzya, awakening in night etc and in objective parameters like ACT(Asthma Control Test), PEFR(Peak Expiratory Flow Rate) some hematological parameters viz. AEC (Absolute Eosinophil Count), ESR (Erythrocyte Sedimentation Rate), WBC Lymphocyte, Neutrophil, discussed here. All subjective and objective parameters were examined during 60 days of follow up-visits, and no instances of the above complaints were reported.

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1. INTRODUCTION

Bronchial asthma, the commonest chronic respiratory disease in childhood is characterized by recurrent Paroxysmal wheeze and respiratory distress, due to reversible and dynamic narrowing of airways. Although asthma can occur in people of any age, even infants, most children with the illness developed it by about the age of (5-16) years. Asthma seems to be more common in boys than in girls in early childhood [1]. The prevalence of Bronchial Asthma has increased continuously since the 1970s, and now affects an estimated 4 to 7% of the people worldwide [2]. Asthma is one of the most prevalent chronic disease of childhood, leads to disturbed sleep, restriction in day to day activity and also school absenteeism in school going children [3]. The disease appears as a multi factorial disorder including environmental factors & faulty dietary habits.

In Ayurveda, there are five types of Shwasa roga, Tamaka Shwasa being one of them. It is a type of Shwasa roga affecting the pranavaha srotas, which is significantly distressing and a fatal disorder of the present daylife [4]. Tamaka Shwasa is a disease of the pranavaha srotas, with other srotas being vitiated as well. Because of the impediment caused by Kapha, Vayu becomes vitiated and loses its normality. This vitiation leads to difficulty in breathing and produce other symptoms like cough, corzya, sputum expectoration etc. The drug combination selected in this case study has the ability to remove the obstruction made by Kapha in the pranavaha srotas and restore the normal function of Vayu. The Rasayana (immune modulator) qualities of the drugs in the formulation help to regulate Dhatwagni and also useful to prevent the recurrence of attacks and promoting the growth of children at the same time.

2. Case Presentation

A 13 years old male patient from Limda Village, Vadodara came in OPD of Kaumarbhritya department of Parul Ayurved Hospital, Parul University with complaints of cough and cold for 15-20 days and breathlessness since 1 year. He has difficulty in breathing due to the coughing, and irritates mostly at night cause night awakening. Patient has history of recurrent common cold since age of 6 years. Breathlessness is found since the age of 11

years. Immunity is very low because the patient gets easily infected with URTI during seasonal changes, cold, weather or in winter season.

2.1 Family History

Mother was also asthmatic symptoms. Patient was not having any relevant postnatal history.

2.2 Birth History

Full term normal delivery at Hospital, with weight- 2.8 kg. H/O- NICU Admission.

2.3 Immunization History

All immunization was done as per Govt. Immunization Schedule.

2.4 On Examination

Appearance was normal with Ht- 152 Cms., Wt- 42 kg, BMI- 18.1 kg/m², Vitals was stable with Temp-98.6°F, P.R-82/min

3. SYSTEMATIC EXAMINATION

3.1 Respiratory Examination

- (a) Inspection- Respiration rate 26/min, Character of respiration- Abdominothoracic, Inspiration- deep, Expiration- short Nasal polyp/Nasal mucosa atrophy absent.
- (b) Palpitation- no any deformity
- (c) Percussion- Resonant node
- (d) Auscultation- broncho-vesicular sound, mild congestion found on chest, Air entry bilaterally equal.

CNS- Conscious, Oriented

CVS-S₁S₂+, no murmur

3.2 Personal History

Appetite: Good; Sleep: Disturbed;
Bowel Habit: 1-2 times/ day, sometimes hard stool passing.
Urine- Normal, 5 to 6 times /day.

3.3 Material and Methods

3.3.1 Source of data

Patient suffering from above mentioned symptoms of Tamaka Shwasa is selected from O.P.D of Parul Ayurved Hospital, Parul University, Vadodara.

3.3.2 Study design

A single case study.

meal for 60 days and 1 follow up was done after 60 days of total intervention.

The ingredients of trial drug are mentioned in Table no. 1.

4. MATERIALS AND METHODS

4.1 Drug

Haridradi Avaleha was given orally in 32 gms total in 2 divided doses in the morning and evening with Anupana lukewarm water before

The dose of drug administration is calculated based on Sharangadhara Samhita dose fixation guidelines i.e. Adult Dose/ 16 X Age of the Child.

Patient was advised not to take any meal at least for 30 minutes after the medicine.

Table 1. Haridradi Avaleha [5]

Sr. No.	Drug Name	Botanical Name	Part to be used	Ratio
1	Haridra	<i>Curcuma longa</i> Linn	Rhizome	1 part
2	Maricha	<i>Piper nigrum</i> Linn	Fruit	1/2 th part
3	Draksha	<i>Vitis vinifera</i> Linn.	Fruit	1 part
4	Pippali	<i>Piper longum</i> Linn	Fruit	3/4 th part
5	Rasna	<i>Pluchea lanceolata</i> Oliver & Hiern	Root	1 part
6	Shati	<i>Hedychium spicatum</i> Linn.	Rhizome	1 part
7	Guda	Jaggery	-	q.s
8	Tila Taila	<i>Sesamum indicum</i> Linn	Taila	1/10 th part

Table 2. Effect of therapy on Subjective Parameters

Parameter	Before Treatment	After Treatment
Breathlessness	Grade 2	Grade 0
Cough	Grade 3	Grade 0
Corzya	Grade 3	Grade 0
Awakening at night	Grade 1	Grade 0

Table 3. Effect of therapy on Agnibala

Assessment Parameter	Before Treatment	After Treatment
Jarana Shakti	Grade 2	Grade 0
Abhyaharana Shakti	Grade 1	Grade 0

Table 4. Effect of therapy on Objective Parameter

Parameter	Before Treatment	After Treatment	% Improvement
WBC	9600/ micro lit.	8710/ micro lit.	9.27%
Lymphocytes	52	37	28.84%
Neutrophils	57	42	26.31%
AEC count	1140	380	66.6%
ESR	10	4	60%
ACT	19	23	17.39%
PEFR	210 L./min.	330 L./min.	36.3%

4.2 Subjective Criteria of Assessment [6]

4.2.1 Rogabala (Breathlessness, Cough, Corzya, Night awakening etc.)

4.2.2 Agnibala (Jarana Shakti, Abhyavaharana Shakti etc.)

4.3 Rogabala

4.3.1 Shwasakastata (Breathlessness)

- 0- Not troubled by breathlessness except on Strenuous exercise
- 1- Short of breath when hurrying or walking up a slight hill
- 2- Walks slower than contemporaries on level ground because of breathlessness or have to stop for breath when walking at own place
- 3- Stops for breath after walking about 100 meters or after a few minutes on level ground
- 4- Too breathless to leave the house or breathless when dressing or undressing

4.3.2 Kasa (Cough)

- 0- No Kasa
- 1- Kasavega sometimes but not troublesome
- 2- Troublesome kasa, but does not disturbing the sleep
- 3- Very troublesome kasa, does not even allowing to sleep at night.

4.3.3 Pinasa (Corzya)

- 0- No pinasa
- 1- Pinasa during attack and subside 1-2 days after attack
- 2- Pinasa during attack and persists for a week after attack
- 3- Pinasa very often even without attack
- 4- Pinasa always persisting

4.3.4 Night Awakening (*Na chapi nidram labhate*)

- 0- No Night symptoms
- 1- Sleep disturbed because of slight breathlessness
- 2- Awakening because of breathlessness

- 3- No Sleep -Difficulty of breathlessness whole night

4.4 Agnibala (Digestive Power) [7]

4.4.1 Jarana Shakti

- 0- Presence of all (utsah/Laghuta/Udgarshuddhi/kshuta/T risna/Yathochitmalpravrutti)
- 1- Any 4 symptoms
- 2- Any 3 symptoms
- 3- Any 2 symptoms
- 4- Any 1 symptom

4.4.2 Abhyaharana Shakti

- 0- Good quantity thrice a day
- 1- Reduction upto 25%
- 2- Reduction upto 50%
- 3- Reduction upto 75%, on IV fluids
- 4- Only on IV fluids

4.5 Objective Criteria of Assessment [8]

1. Positive changes in blood picture including AEC, ESR
2. ACT (Asthma Control Test) for intermediate Control
3. PEFR (Peak Expiratory Flow Rate) for increasing positive pressure ventilation during expiration.

5. RESULTS

- On investigations, Haematological Parameters like WBC, Lymphocytes, Neutrophils, AEC count, ESR were decreased.
- Peak Expiratory Flow Rate has increased from 210 to 330 L/min.
- Results showed improvement in ACT (Asthma Control Test).
- After 60 days of total follow up no episodes of above complaints have been reported.

6. DISCUSSION

As Children are the most vulnerable group of society, they require special attention when it comes to chronic disease management. Thus, special strategies are required for the management of Childhood Asthma, which is a chronic condition that interferes with a child's

day-to-day activities. The treatment should be aimed to remove the obstruction made by kapha and normalize the function of vayu [9]. The formulation used in this case study has Deepana, Pachana, Vata-Kapha hara, srotoshuddhikara and Rasayana properties which helped in Samprapti Vighatana of disease by increasing Agni(digestive power) and removing the Ama(toxin), helped to clear the Srotas and Vata-Kapha shaman [10]. The results of both subjective and objective parameters have shown better improvement. Before the treatment patient was suffering with breathlessness many a times which was grade 2, but after the follow up there was no breathlessness seen in the patient which is grade 0. Before the treatment patient was suffering with cough which was grade 3, but after the follow up there was no cough seen in the

patient which is grade 0. Before the treatment patient was suffering with night awakening many a times which was grade 1, but after the follow up there was no night awakening seen in the patient which is grade 0. Before the treatment patient was suffering with corzya which was grade 3, but after the follow up there was no night awakening seen in the patient which is grade 0. Further it also improved the Rasadi dhatu, which helped to increase the Vyadhikhamatva of the patient. As a result, we can conclude that Tamaka Shwasa, a herbal combination of medicine used to treat the ailment, is a highly effective therapy without any adverse reaction. Anti-tussive, Anti-inflammatory, Anti-histaminic, Anti-allergic, Bronchodialator, Mast cell stabilizer and Immunomodulatory properties are also present in this formulation¹¹.

6.1 Probable Mode of Action of the Drug

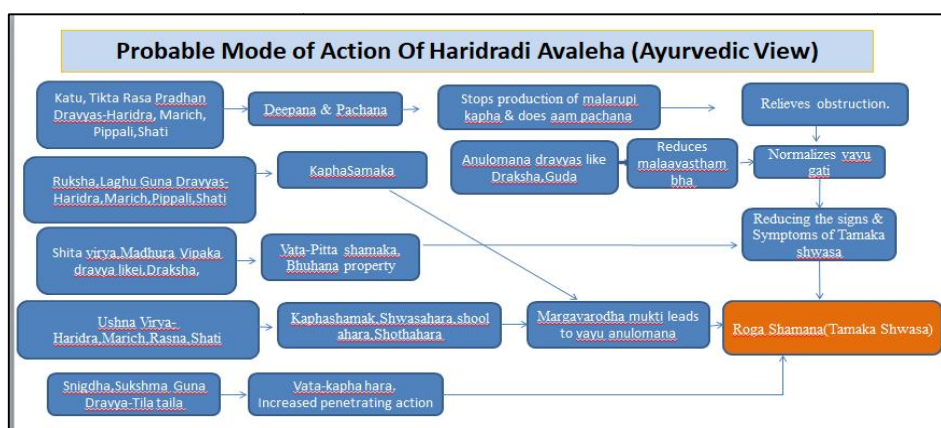


Fig.1. Flow Chart Showing Probable Mode of Action of Drug (Ayurvedic View)

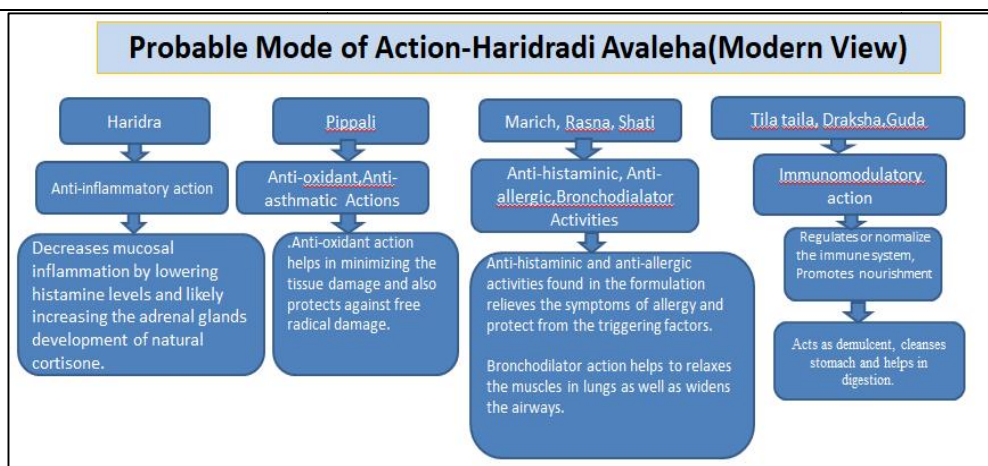


Fig. 2. Probable Mode of Action of the Drug (Modern View)

6.2 Hematological Changes

AEC and ESR count markedly decrease comparison to other parameters. The drug showed better effect on hematological changes in WBC, Neutrophils and Lymphocytes. Results has also shown improvement in ACT which is 17.39%, and PEFR 36.3%.

7. CONCLUSION

After evaluation of all the above parameters, it is concluded that Haridradi Avaleha is effective and a good choice on this case study of *Tamaka Shwasa* (Bronchial asthma) and gives better relief to the patient.

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CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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