

Review Article on Etiopathogenesis (Samprapti) of Tamak Shwasa W.S.R. Kriyakala

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Abstract

The *Kriyakala* describes the different stages or steps of the evaluative process of disease, it helps to recognize the stage (*Avastha*) of the disease thus help in early diagnosis, easy cure and prevent further complications. All the three *Acharya* give stress on the need to recognize the disease in its *Chayavasta* itself and adopt measure to interfere the disease *Samprapti* to abort the subsequent stages. *Tamakashwasa* is mentioned as a one of the type of *Shwasa Roga* having *Vata* and *Kapha* dominancy in *Samprapti*. It is considered as *Yapya Vyadhi* (incurable but manageable, persists for a long time) Acute attacks of *Tamak Shwasa* need urgent management. Otherwise it can prove life threatening also. The chronicity carries a bad prognosis. Early diagnosis with understanding the etiopathogenesis (*Samprapti*) in all aspect can show excellent prognosis by *Ayurvedic* medications. So there is need to understand the etiopathogenesis of *Tamaka Shwasa* w.s.r. *Kriyakala*.

Keywords: *Tamakashwas, Shwas, Bronchial Asthama, Kriyakala, Samprapti.*

Introduction

The prevalence of respiratory disorders like *Tamaka Shwasa* is increasing due to excessive pollution; overcrowding and poor hygiene. It is a '*Swantartra*' *Vyadhi* having its own etiology, pathology & Management. It is mentioned as *Yaapya Vyadhi*^[1]

(incurable but manageable, persists for a long time). It is well known for its episodic and chronic course which comes under the life threatening disease which afflicts the human race. It is analogous to Bronchial asthma due to similarity in symptoms, pathogenesis, onset, causes and precipitating factors. Bronchial Asthma is a chronic inflammatory disease of airway. It leads to recurrent episodes of wheezing, breathlessness, tightness of chest and cough particularly at night or early morning. Asthma is a globally significant non-communicable disease with major public health consequences for both children and adults, including high morbidity and mortality in severe cases.^[2]

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As *Acharya* said before going to treat any disease, physician should understand and examine disease in all way, the detailed study of disease is very important

which ensures the curability of disease^[3]. To describes the general Pathogenesis of disease *Aacharya* state the concepts of *Kriyakala* and it is based on the doctrine that, disease is a 'Process' and not a 'state'. The phases of natural history of disease described in modern sciences which parallel the ideas implicit in the concept of *Kriyakala* which describes the natural history of the development of disease, terms of the *Chaya, Prakopa, Prasara, Sthansamshraya, Vyati* and *Bheda*.^[4] furnishes the knowledge so necessary to make attacks at various levels of its developments, with a view to achieve complete cure of the disease or at least, to ensure the limitation of disabilities and bring about a rehabilitation. Dhar et al in their article Bronchiectasis in India detailed about the results from the EMBARC and Respiratory Research Network of India Registry^[5]. A Systematic Review was conducted by Gaidhane et al on effect of Electronic Media on Diet, Exercise and Sexual Activity among Adolescents^[6]. In India, the allopathic treatment modalities and manpower are limited compared to the demand of respiratory problems reported [7]. Here attempt is made to describe the *Samprapti* of *Tamak Shwas* according to six stages of *Kriyakala* which will help to understand disease *Samprapti* in all way and for its further management.

Aim and Objectives: To study Etiopathogenesis of *Tamak Shwas* w.s.r. *Kriyakala*.

Material and Method

Available Ayurvedic literature, article, journal, monograph related to disease *Tamak Shwasa*

Disease Review: *Shwasa* is main Vyadhi of *Pranavaha Strotasa*. The general features of *Pranavaha Strotodushiti* are related to abnormal respiration which is closely suggested symptoms of *Shwasa* Vyadhi^[8] also samanya *chikitsa* sutra given for *Pranavaha Strotasa* vyadhi is *Shwaski chikitsa*^[9] Thus Etiopathogenesis (*Samprapti*) of *shwasa* vyadhi can be applicable for all *Pranavaha Strotasa* Vyadhi (*Shwas Kasa Hikka* etc) The same etiological factors (*Nidana*) are described for *hikka shwas kasa* vyadhi^[10] Also site of origin is same i.e. *pittasthanasamudbhava*^[11] Normal *Gati* of *Vata* (mainly *Pranavayu* and *Udanavayu*) is hampered and becomes *pratiloma* (opposite) due to obstruction by *kapha* which is main incidence in above mention *vyadhi*. Vitiating of *Vata* and *Kaphadosha* occurs in all these three disease, *Pitta* remains as associated *Dosha*. The etiological Factors for *Shwas* can be classified

as *Strotovaigunyakar* factors, *Vata* provoking factors (*Vataprakopaka Nidana*) and *Kapha* provoking factors (*Kaphaprakopaka Nidan*)^[12]

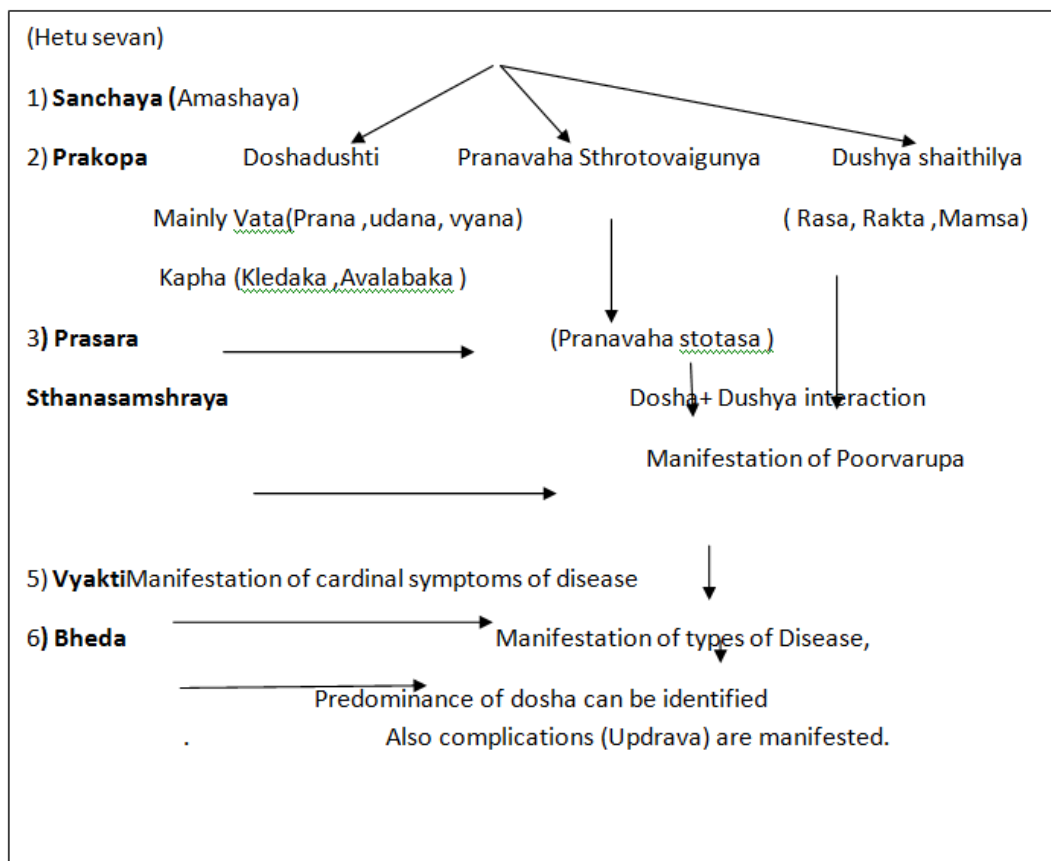
1. Environmental factors: Exposure to dust, pollen, fumes, smoke and wind, residing in cold place, Injury to throat and chest act as *Strotovaigunyakar Nidana*.
 2. Excessive physical activity, excessive sexual intercourse, excess walking, Intake of dry food, *Vishamashana* (food in excessive or less quantity at irregular time), act as *Vata* provoking factors (*Vataprakopaka Nidana*)
 3. Accumulation of *ama*, *anaha* (constipation associated with flatulence), dryness in the body, excessive depletion (*Apatarpana*), weakness, injury to *marmas* (vital points), rapid change in exposure to heat and cold, diarrhea, fever, vomiting, rhinitis, *Kshata* (injury), *Kshaya* (wasting), *Raktapitta* (bleeding disorder), *Udavarta* (upward movement of *Vata*), *Visuchika* (enteritis), *Alasaka* (sluggish bowel), *Pandu* (anemia) and intake of poisons can result in *Hikka* and *Shwasa*.
 4. Regular intake of *Nishpava* (beans), *masha* (black gram), *pinyaka* (oil cake), *Tila taila* (sesame oil), *pishta* (cakes and pastry), *shaluka* (lotus stem), *Vishtambhi anna* (food aggravating *vata*), *vidahi* (food causing burning sensations), *Guru anna* (heavy to digest food), flesh of aquatic and marshy animals, curd, raw milk, *Abhishyandhi* (ingredients leading to obstruction of channels), Food, use of cold water, Various types of *Vibandha* (obstructions) act as *Kapha* provoking factors (*Kaphaprakopaka Nidan*)
- When the *Prana Vayu* is not performing its normal physiological functions (vitiating) and become defiles (*Viguna*); obstructed by *Kapha* and moves upwards i.e., loss of natural function of *Shwasa kriya*, then the condition is known as *Shwasa Roga*. This describes all the aspects of dyspnoea.^[13] Acharya Charak described *Samanya Samprapti* of *Shwasa*, According to him due to *Nidanasevana*, the vitiating *Vata* enters in the *Pranavaha Strotas* (Respiratory Channels) and provokes the *Urastha Kapha* (*Kapha* staging in chest). This provoked *Kapha* obstructs the *Pranavaha Strotas* (Respiratory Channels) and gives rise to five types of *Hikka* and *Shwasa*.^[14] Vitiating *Kapha* which lodges in the *Pranavaha strotas* produce the obstruction to the normal functioning of *Vayu* is considered as the one of the factor to initiate the

pathology^[15] According to *Vagbhat* vitiated *kapha* is responsible for obstruction, so that *Vayu* is vitiated. Vitiated *Vata dosha* which is *Ruksha*, *Shuska* and *Laghu* produces *Rukstha*, *kathinnyata* and *sankocha* in *Pranahasrotas*. *Udakavaha* srotas & *Annavaha* srotas also deranged. ^[16]

- *ShwasaVyadhi* is classified on the basis of clinical

features into five types as *Maha Shwasa*, *Urdhva Shwasa*, *ChinnaShwasa*, *TamakaShwasa*, and *Ksudra Shwasa*.^[17] On the basis of Prognosis it is classified as *Sadhya* (curable) - *Kshudra Shwasha*, *Krichra Sadhya* or *Yapya* (Palliable) - *Tamaka Shwasha*, *Asadhya* (Incurable) – *MahaShwasha* and *Urdhva Shwasha*.

The general Etiopathogenesis of Shwas vyadhi according Kriyakala is as follows:



Etiopathogenesis (Samprapti) of Tamak shwas: *Tamasa* means darkness. Darkness in front of eyes is produced during attack of this type *Shwasa*. It is one of type of *Shwasa* so *Nidana* of *Shwasa Roga* in general are applicable for *tamak shwasa*. *Tamaka Shwasa* is an episodic disease. So, role of *Vyanjaka Hetu* in this disease is more. *Vyanjaka Hetu* is stimulating, precipitating or aggravating factors. These also cause aggravation of the symptoms in an already generated disease or these cause the precipitation of the *Samprapti* of a disease. The knowledge of these factors is useful in preventing the actual formation of diseases by taking care to avoid

such factors. *Megha* (Cloudy weather), *Pragvata* (East sided wind), *Ambu* (Rainy season), *Kapha* aggravating factors, *Shitasthana* (winter season or Cold atmosphere) can be considered as *Vyanjaka Hetu*.^[18]

Etiopathogenesis of Tamak Shwas According to Kriyakala:

Sanchaya: The inceptive phase of the disease when, the *Dosha* is stated to have accumulated in its own place, instead of freely circulating, as in its normal *Avastha* or state.^[19] Due to *StovaigunyakarNidana* like exposure to dust, fumes, smoke, previous external trauma, genetic

factor etc causes *Pranavaha Strotovaigunya* in body. In such condition after taking *Vata* provoking factors like Excessive physical activity (*Ativyayama*), excessive sexual intercourse (*Ativyavaya*), exposure to cold air (*Sheetvayusevan*), excess walking, intake of dry food (*Rukshanna*) Vitiates *Vata* by its *Ruksha* and *Sheeta Guna*. On the other hand due to *Kapha* provoking factors like *Guru Anna* (heavy to digest food), flesh of aquatic and marshy animals, raw milk, *Abhishyandhi* (ingredients leading to obstruction of channels) Food, vitiates *Kapha* in *Aamashaya* and *Nidana* like *Vishamashana*, *Amapradosha*, *Vishtambhi Ahara* leads to *Agnivaishmya* (disturbed digestive fire). This stage is characterized by Vague and ill defined symptomatology such as the dislike a factors responsible for increase of *Dosha* i.e. and the desire for factors or substances possessing qualities opposite of the dosha involved.^[20]

Prakopa: If above said *Nidanasevan* remain continue, then the previously accumulated and stagnated *Dosha* in *Aamashaya* tends to become swollen and excited.^[21]

Prasara: *Vayu* which possesses the power of motion and which is extremely mobile is stated to supply the motive force for the expansion, overflow and spread of the *Doshas* to one place to other. The medium for the spread of the *Doshas*, either singly or in two or all of them put together, is *Rakta* which is also stated to be involved in the process, resulting in their spread in all directions, in the body.^[22] Due to vitiated *Vata*, Vitiated *Kapha* goes (*Vinmargagamana*) in *Pranavaha Strotasa* where already *khavaigunya* is there.

General symptomatology which may be expected to manifest in the *Prasara* stage, according to *Dosha* are to be considered from the point of view of the location of the '*Arambhaka Dosha*' in the sites of other *Doshas*. In *Vata*, when spreading to places other than its own, causes *Vinmargagamana* (upward movement instead of its normal pathways) and for *Kapha* *Prasara* manifestation of *Arochaka* (anorexia) *Avipaka* (impairment of digestion of food), *Angasada* (inertness of the limbs) and *Chardi* (vomiting) occurs.^[23]

Sthanasamshraya: In this stage the *Arambhaka Doshais* stated to interact with the *Sthanika Dosha* as well as the *Dhatu*s, including *Malas* in the place of its localization, due to obstruction caused by pathological involvement of the related *Strotamsi* a process described as '*Doshduushya Sammurchana*.'^[24]

Aggravated *Vata* and *kapha doshas* circulating all over body localizes on the place of *Khavaigunya* i.e. in *Pranavaha Strotasa* where *Doshas* react with local *Dhatu* i.e. *Rasa, Rakta, Mamsa* leading to *Dosha-Dushya Sammurchana* (Interaction of *dosha* and *dhatu*). Vitiated *vata* by its *Ruksha* and *Shita Guna*. Producing *Sankocha* (contraction), *Kharata* (roughness) *Rukshata* (Dryness) in the *pranavaha Strotasa* which is similar to the pathophysiology of asthma with reference to bronchospasm. and vitiated *kapha* leads to *Strotorodha* (obstruction) in the path of *Vata* (*Prana vayu*) thus leading to the disease. The symptomatology of the oncoming disease, i.e. *Poorvarupa* is stated to manifest in this stage.^[25] *Poorvarupa* of *Tamaka Shvasa* have not described separately, so the *Poorvarupa* of *Shwasa Roga* may be considered as the *Poorvarupa* of *Tamaka Shwasa*. *Anaha, Parshvashula, Pidanam Hridayasya, Pranasya Vilomata, Bhaktadvesha, Vadanasya Vairasyata, Arati, Adhmana, Shankha Nistoda, Shula* are *Poorvarupa* of *Tamakshwasa*.^[26]

Vyakti: This stage represents the clinical phase- the outcome of *Dosha-Dushya Sammurchana* where the characteristics symptomatology of the disease and the nature of the *Dosha* involved, become manifest.^[27] The cardinal signs and symptoms of *Shwasa Vyadhi* become manifest Abnormality in the breathing pattern, which is episodic, is the cardinal symptom of *Tamaka Shwasa*. Cardinal features of *Tamaka Shwasa* mentioned in the texts are:^[28]

1. Obstruction in the *Pranavaha Strotasa* due to accumulation of *Kapha* renders the phenomena known as *Pranavilomata*. Patient is likely to experience (*HridayaPidana*) tightness in the chest.
2. Respiration becomes difficult due to obstruction (*Ruddha Shwasa*).
3. Disturbed respiration results in audibility of respiration in the form of abnormal wheeze (*Ghurghurukam*).
4. Respiration also becomes rapid and will be much faster than the normal rate-16-20/minute.
5. Breathlessness worsens on walking, speaking or any other physical exercise, with bouts of paroxysmal cough.
6. Expectoration of sticky sputum gives some temporary relief (*Shlesma Vimokshante Muhurtam Labhate Sukham*).

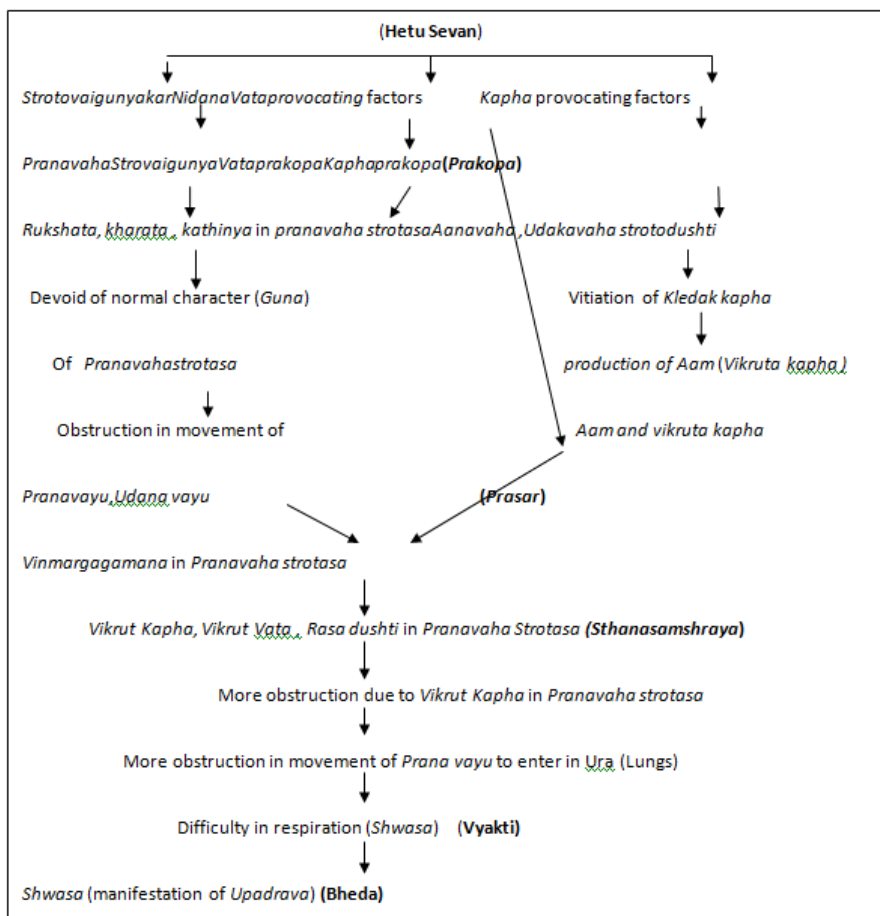
7. During thesevere attack of *TamakaShwasa*, breathlessness increases in lying position (*ShayanaShwasapidita*).
8. Patient even may not be able to speak (*KrichchhernaBhasitum*),
9. Perspiration may be seen in the forehead (*LatateSveda*), dryness of mouth (*Vishushkasyata*), rolling of eyes in upward direction (*Uchchhritaksha*) and even canbecome unconscious (*Pramoha*).
10. The patient feels more ease for breathing in the sitting position (*AsinoLabhate Saukhyam*), expectoration of sticky sputum gives some temporary relief (*Shleshma Vimokshante Muhurtam Labhate Sukham*), taking of hot things (*Ushnabhinandati*)

Bheda: This is the final stage of the evolutive process of the disease when it may take one of the following turns: 1) It may resolve and the patients may proceed to convalescence. 2) It may become chronic. 3) It may become complicated or serve as the *Nidana* (cause) for the other disease. I.e. *Nidanarthakara Roga*.^[29] In this

stage if disease not treated at the earliest, disease may become incurable.

Regarding the *Samprapti* of *Tamaka Shwasa Charaka* narrates that the *Gati* (movement) of vitiated *Vata* due to obstruction in *Pranavaha Strotasa* becomes *Pratiloma* i.e. normal *Gati* of *Vata* is hampered and becomes reverse in its course. *Vata* spreads with in *Pratiloma Gati* and involving the neck and head region, which produces *Pratishyaya* by excitation of *Kapha Dosha*. This *Kapha* causes obstruction at the site of the throat region and produces *Ghurghurukam Shabda* when *Vata* passes through the same region. This results into an increase in the respiration rate resulting in disease of *Shwasa*, which includes pain in the chest. Hence there is a great parlance of pathogenesis between ancient and modern concepts. Here the vitiated *Prana Vayu* produces bronchospasm and the vitiated *Kapha* makes to swelling of the mucous membrane and excessive secretion of mucus.^[30] The symptoms are presented firstly with upper respiratory tract involvement. *Pinasa* is the prior symptoms followed by wheezing sound (*Ghurghurukam*

The Etiopathogenesis of Tamak Shwasa vyadhi is given below in terms of Kriyakala:



Discussion

The general outlook of the concept of *Kriyakala* which can be summed up as preventive, curative, prognostics, in keeping with the main objectives of the science of Ayurveda itself, i.e. 1) The promotion and preservation of health, strength and longevity in the *Swastha* or the healthy person and 2) the cure and/or relief in the case of those, who are ailing and afflicted. *Kriyakala* describes the different stages or steps of the evaluative process of disease, in terms of the *Chaya, Prakopa, Prasara, Sthansamshraya, Vyati* and *Bheda*. The disease *Tamaka Shwasa* is predominantly caused by *Pranavaha Sroto Dushti*. The *Etiological factors are given can be divided as Strotovaigunyakar factors, Vata provoking factors, Kapha provoking factors. Vata* as well as *Kapha Dosha, Rasa Dhatu and Pranavaha Srotasa* are the predominant factors involved in the pathogenesis of *Tamaka Shwasa*. These factors determine the course and clinical manifestation of the disease. Some of the cardiovascular risk factors also need to be given special attention^[31,32]. *Pratiloma Gati* of *Vata* plays an important role along with *Strotorodha* produced by *Kapha*. In *Tamaka Shwasa*, two types of *Samprapti* occur:

1. (Kaphapradhana Samprapti) - *Vata* is in normal state and *Kapha* is either vitiated with kapha provoking factors like *Shita, Guru, Dadhi, Amakshira* etc. or *Vishamashana, Vishtambhi Bhojana* etc. can produce *Mandagni* and *Mandagni* produces *Ama* and this *Ama* produces *Malarupa Kapha*. This vitiated *Kapha vinmargamana* with *vayu* in the *Uraha Pradesha* causes the obstruction in the normal path of *Vata (Prana)* it further leads to *Avaranajanya Vata Prakopa* and *Gati* of *Vata* becomes *Pratiloma*.
2. *Vatapradhana Samprapti* - *Vata* is vitiated through its own etiological factors like *Apatarpana, Raja, Dhuma, Vegavarodha* etc. and by *Dhatukshaya* (due to chronic disorders), vitiated *Vata* causes contraction of *Pranavaha Srotasa*, which further produces *Pratishyaya* by excitation of *urastha Kapha Dosha* and obstruction in movement of *Vata*. Thus, leading to the disease *Shwasa*.

According to *Vaidya Ranjeetrai Desai Tamaka Shwasha* can be categorized into *Kaphapradhan* and *Vatapradhan* on the basis of *Doshaja* predominance in *Rogotpatti* and *Lakshnas*. It is mentioned in his book *Nidan Chikitsa Hastamlaka* vol-4. Clinically we can

observe these two types of patients There are other literature also available to support this; *Kaphaja* and *Vataja* type. Clinical features are as outcome of *Samprapti* appear in the *Vegavastha* of *Tamaka Shwasa* and some remain present in between the two attacks. Acharya Charaka has given a detailed description of *Tamaka Shwasa Lakshana* in which he has emphasized more on the *Vegavastha Lakshana* while *Sushruta* has described both type of *Lakshana*. Charaka has mentioned two different stages of *Tamaka Shwasa* *Pratamaka* and *Santamaka Shwasa*. When a patient of *Tamaka Shwasa* suffers with fever and fainting, then the condition is called as *Pratamaka Shwasa*. It is suggestive of involvement of *Pittadosha*. When the patient of *Tamaka Shwasa* feels submerged in darkness, the condition is called as *Santamaka Shwasa*. This can be taken as the severe stage of *Pratamaka*. These both conditions are aggravated by *Udavarta*, dust, indigestion, humidity in body and suppression of natural urges. Though cooling regimen is one of the causative factors of *Tamaka Shwasa* but in *Pratamaka* and *Santamaka Shwasa*, the patient gets relief by administering cooling agents due to *Pitta Dosha*.^[33]

Conclusion

Tamak shwasa is the disease condition of respiratory system affect personal and professional life of affected individual. On the basis of their clinical manifestation, the disease can be compared with Bronchial Asthma. Etiological factors mainly *Vata* and *Kapha* provoking with *Strotovaigunyakar* factors responsible for *Vatapradhana Samprapti* and *Kaphapradhana Samprapti* in disease. Involvement *Pranavaha, Udakavaha* and *Annavaha Strotas* with their specific clinical features show the broad approach to disease. The origin of *Tamaka Shwasa* from *Amashaya* (stomach) has a great importance. For the better management of *Tamak shwasa* every physician must have detail knowledge of disease according to stages of disease i.e. *Kriyakala* both Ayurvedic and modern perspective. Because disease should not be overlooked under any circumstances whatsoever. The course of treatment given either at an inappropriate time or not resorted at the proper time, as well as, over or under medication proves useless, even in a curable disease.

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