OBSERVATIONAL STUDY ON ABSOLUTE EOSINOPHIL COUNT &CHEST X-RAY IN CLINICALLY DIAGNOSED CASES OF TAMAKA SHWASA W.S.R. TO BRONCHIAL ASTHMA

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ABSTRACT

Respiration is first physical sign of life, is also a sign of consciousness. This unique indicator of life is affected in the disease *Tamaka shwasa*. It is mentioned as one of variety among five types of *Shwasa (*airway disorder), dyspnoea accompanied generally with thirst, perspiration and vomiting, rumbling nose in the throat, appearing especially on cloudy days and darkness, is known as *Tamaka shwasa.* Based on clinical features it can be correlated with bronchial asthma. According to W.H.O estimation there are 235 million people currently suffered from Brochial Asthma. In India it is estimated that 15-20million people are asthmatic and it is more prevalent in children (15%) than adults (10-12%), in adults male female ratio is 1:1.Absolute Eosinophil Count (AEC) and Chest X ray are the important tools which are used in the diagnosis of various disorders of respiratory system and they help in the differential diagnosis of Bronchial Asthma. By considering these the present study is aimed to evaluate AEC and Chest X-Ray in clinically diagnosed cases of *Tamaka Shwasa.*

Keywords: *Tamaka Shwasa,* Brochial Asthama, AEC, Chest X-ray

INTRODUCTION

There are many chronic recurrent Chest infections are increasingly seen all over the world. *Tamaka Shwasa* is one such disorder described in *Ayurveda.* It is a *'Swantartra' Vyadhi* & having its own etiology, pathology & Management. It is mentioned as as *Pittasthana samudbhava, Vatakaphapradhana* and *Yapya vyadhi* [1]i.e. chronic in nature and is well known for its episodic and chronic course which comes under the life threatening disease which afflicts the human race. The prevalence of Bronchial *Asthama* has increased continuously since the 1970's and now affects an estimated 4-7% of the people[2] and it's a major cause of chronic morbidity &mortality throughout the world.[3] So, by considering the incidence and to develop the supportive objective diagnostic tools for the *tamakashwasa* the present study is aimed to observe Absolute Eosinophil Count and Chest X-rays

Aims and objectives:

Evaluation of Absolute Eosinophil Count and Chest X-rays in clinically diagnosed cases of *Tamaka shwasa* w.s.r. to Bronchial asthma.

Materials and Methods:

A total of 60 patients having the clinical features of *Tamaka shwasa* were selected for the study irrespective of sex, occupation, religion and socio-economical status from OPD & IPD of Shri. J.G.C.H.S Ayurvedic Medical College Hospital Ghatprabha, A

special case proforma were prepared with detail history taking, physical examination, signs and symptoms as mentioned in our classics.

Study Design: It is an observational study on 60 patients of either sex diagnosed as *Tamaka shwasa* based on clinical features. After that patients were subjected to AEC and Chest X-ray test for the evaluation of objective finding for *Tamaka shwasa*

Inclusion Criteria

1. The patients having the classical signs and symptoms of *Tamaka Shwasa* were selected.
2. 16-60 age group patients were taken.
3. Patients of either sex were taken for the study.

Exclusion criteria

1. Patients with COPD, Pulmonary tuberculosis, Emphysema, pleural effusion, Infective Neoplastic disorders etc
2. Patients with other systemic disorders like DM, HTN, Thyroid diseases etc

Diagnostic Criteria

Patients were diagnosed clinically on the basis of signs and symptoms, complete History taking and Physical examination.

Duration of the study:

Since this is an observational (cross sectional) study, patients were kept under observation until fulfillment of objectives

Assessment criteria

Assessments were done based on Subjective and Objective Criteria.

Subjective Criteria[4]

- *Shwasateevravega* (Breathleness)
- *Kasa* (Cough)
- *Ghurghurakam* (Wheezing/Ronchi)
- *Shayanante Shwasadhikam* (Discomfort on sleeping)
- *Parshwashoola* (Discomfort in flaks)
- *Uchritaksha* (Stare look)
- *Lalate swidhyate* (Perspiration over the forehead)
- *Asino labhate sukham* (Comfort in sitting position)
- *Meghasheetambuvena abhivarthate* (Aggravation on expose to cloud, cold water)

Objective Criteria:

- AEC
- Chest X-Rays

Observation and Results:

Total 60 patients were diagnosed as *Tamaka Shwasa* for the study and they were subjected for AEC and Chest X-ray the results of different observations are cited in below tables

Overall assessment of Subjective parameter:

In the present study it was observed that Among 60 patients, 100% patients were having *Shwasateevravega, ghurghurakam and shayanante Shwasadhikam*, 85% were having *kasa,* 50% were having *meghasheetambuvena abhivarthate*, 45% were *asino labhate sukham*, 13.3% were *lalate swidhyate*, 8.3% were having *parshwashoola* and 5% patients were *uchritaksha.*

Table 1: Showing Overall Assessment of Subjective parameter and its Avg AEC

Subjective criteria	No. Of patients	%	Avg AEC
Shwasateevravega	60	100%	557.4
Kasa	51	85%	564.3
Ghurghurakam	60	100%	551.8
Shayanante shwasadhikam	60	100%	552.9
Parshwashoola	05	8.3%	312.2
Uchritaksha	03	5%	431.7
Lalate swidhyate	08	13.3%	640.3

Asino labhate sukham	27	45%	535.2
Meghasheetambuvena abhivarthate	30	50%	573.7

Critical analysis of subjective parameter:

In present study among 60 patients, 22(36.7%) patients were diagnosed with *Shwasateevravega, kasa, ghurghurakam, shayanante Shwasadhikam and meghasheetambuvena abhivarthate.* 16(26.7%) patients were diagnosed with *Shwasateevravega, kasa, ghurghurakam, shayanante Shwasadhikam and asino labhate sukham.* 8 (13.3%) patients were diagnosed with *Shwasateevravega, kasa, ghurghurakam, shayanante Shwasadhikam, lalate swidhyate* and *meghasheetambuvena abhivarthate.* 6(10%) patients were diagnosed with *Shwasateevravega, ghurghurakam, shayanante Shwasadhikam and asino labhate sukham.* 5(8.3%) patients were diagnosed as *Shwasateevravega, kasa, ghurghurakam, shayanante Shwasadhikam parshwashoola and asino labhate sukham.* 3(5%) patients were diagnosed with *Shwasateevravega, ghurghurakam, shayanante Shwasadhikam and uchritaksha.*

Table 2: Showing distribution of patients according to critical analysis of subjective parameters & its average AEC

Critical analysis of subjective parameter	No of Pts	%	Avg AEC
Shwasateevravega[STV]+kasa+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA] + asino labhate sukham[ASL]	16	26.7%	552.32
Shwasateevravega[STV]+kasa+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA]+ meghasheetambuvena abhivarthate[MAS].	22	36.7%	560.02
Shwasateevravega[STV]+kasa+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA]+ parshwashoola[PSW]+asino labhate sukham[ASL].	5	8.3%	512.3
Shwasateevravega[STV]+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA]+uchritaksha.	3	5%	523.5
Shwasateevravega[STV]+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA]+asino labhate sukham[ASL].	6	10%	549.3
Shwasateevravega[STV]+kasa+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA]+lalate swidhayte [LS]+ meghasheetambuvena abhivarthate[MAS].	8	13.3%	573.4

Absolute eosinophil count (AEC) levels:

In 60 patients selected for study, 22 patients had AEC reports in the range of 501-560 which accounts for 36.7% of total incidence. 16 patients had AEC reports in the range of 561-620 which accounts for 26.7% of total incidence. 11 patients had reports in the range of 621-660 which accounts for 18.3% of total incidence. 6 patients had reports in the range of 380-440 which accounts for 10% of total incidence. 5 patients had AEC reports in the range of 441-500 which accounts for 8.3% of total incidence.

Table 3: Showing Distribution of patients according to AEC reports

AEC VALUE	No. Of patients	Percentage
380-440 cells/mm^3	6	10%
441-500 cells/mm^3	5	8.3%
501-560 cells/mm^3	22	36.7%
561-620 cells/mm^3	16	26.7%
621-660 cells/mm^3	11	18.3%

Chest X-ray

In present study 60 patients underwent through chest radiograph & reporting was obtained from radiologist. 44(73.3%) patients had reports of increased bronchovascular markings in B/L lungs. 8(13.3%) patients had reports of Hyper inflated lungs with Increased bronchovascular markings in B/L lungs. 8(13.3%) patients had Increased bronchovascular markings in single lung

Table 4: Showing Distribution of patients according toChest X ray reports.

Chest x-Ray	No of pts	%
Increased bronchovascular markings in B/L lungs	44	73.3%
Hyperinflated lungs with Increased bronchovascular markings in B/L lungs	8	13.3%
Increased bronchovascular markings in single lung	8	13.3%

DISCUSSION

Among the disorders affecting the *Pranavahasrotas, Tamaka Shwasa* is an important disease due to its higher and widespread incidence, chronicity and progression to grave condition in acute phase. It is included among the five Varieties of *Shwasa*. It is a serious health problem in countries throughout the world. Description of *Shwasa* is available from primitive age in Vedic literature, after the study it was observed that, among 60 patients, In the present study it was observed that Among 60 patients, 100% patients were having *Shwasateevravega, ghurghurakam and shayanante shwasadhikam*, with average AEC of 557.4, 551.8 and 552.9 respectively. 85% patients were having *kasa*with average AEC of 564.3. 50% patients were having *meghasheetambuvena abhivarthate* with AEC of 573.7. 45% patients were having *asino labhate sukham* with AEC of 535.2. 13.3% were having *lalate swidhyate* with AEC of 640.3. 8.3% were having *parshwashoola* were having average AEC of 312.2 and 5% patients were having *uchritaksha* with 431.7 of AEC. 73.3% were shows Increased bronchovascular markings in B/L lungs, 13.3% were having Hyper inflated lungs with Increased bronchovascular markings in B/L lungs and 13.3% were shows Increased bronchovascular markings in single lung in Chest X-ray. Probably it can be concluded that vata and *kapha* are responsible for the bronchovascular markings and hyper inflated lungs in

CONCLUSION

Tamaka shwasa is a *Pittasthana samudbhava* disease, having *vatakapha dosha* dominance. Based on critical analysis of subjective parameters it can be concluded that *shwasateevra vega, kasa, ghurghurakam, shayananteshwasadhikam* are *pratayatma lakshanas* (Cardinal feature) &*parshwashoola, asino labhate sukham, lalate swidhyate, uchritaksha & meghasheetambuvena abhivarthate* are *anubandha lakshnas* of *tamaka shwasa*. Absolute Eosinophil Count is

markedly increased in an avarage 501-620 cells/mm^3 and Chest X Ray shows increased bronchovascular markings in single or B/L lung depending upon severity of the disease. Hence these parameters should be used as a supportive diagnostic tool in diagnosis of disease *Tamaka Shwasa* & its severity should be decided based on their results.

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