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 Asthma, 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 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 Asthma has increased continuously since the 1970’s and now affects an estimated 4-7% of the people² 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 Ghataprabha, 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**

<table>
<thead>
<tr>
<th>Subjective criteria</th>
<th>No. Of patients</th>
<th>%</th>
<th>Avg AEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shwasateevravega</td>
<td>60</td>
<td>100%</td>
<td>557.4</td>
</tr>
<tr>
<td>Kasa</td>
<td>51</td>
<td>85%</td>
<td>564.3</td>
</tr>
<tr>
<td>Ghurghurakam</td>
<td>60</td>
<td>100%</td>
<td>551.8</td>
</tr>
<tr>
<td>Shayanante Shwasadhikam</td>
<td>60</td>
<td>100%</td>
<td>552.9</td>
</tr>
<tr>
<td>Parshwashoola</td>
<td>05</td>
<td>8.3%</td>
<td>312.2</td>
</tr>
<tr>
<td>Uchritaksha</td>
<td>03</td>
<td>5%</td>
<td>431.7</td>
</tr>
<tr>
<td>Lalate swidhyate</td>
<td>08</td>
<td>13.3%</td>
<td>640.3</td>
</tr>
</tbody>
</table>

**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.
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 parshwashoolaa 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

<table>
<thead>
<tr>
<th>Critical analysis of subjective parameter</th>
<th>No of Pts</th>
<th>%</th>
<th>Avg AEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shwasateevravega[STV]+kasa+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA] + meghasheetambuvena abhivarthate[MAS].</td>
<td>22</td>
<td>36.7%</td>
<td>560.02</td>
</tr>
<tr>
<td>Shwasateevravega[STV]+ghurghurakam[GGK]+Shayanante Shwasadhikam[SSA] + asino labhate sukham[ASL].</td>
<td>6</td>
<td>10%</td>
<td>549.3</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>AEC VALUE</th>
<th>No. Of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>380-440 cells/mm³</td>
<td>6</td>
<td>10%</td>
</tr>
<tr>
<td>441-500 cells/mm³</td>
<td>5</td>
<td>8.3%</td>
</tr>
<tr>
<td>501-560 cells/mm³</td>
<td>22</td>
<td>36.7%</td>
</tr>
<tr>
<td>561-620 cells/mm³</td>
<td>16</td>
<td>26.7%</td>
</tr>
<tr>
<td>621-660 cells/mm³</td>
<td>11</td>
<td>18.3%</td>
</tr>
</tbody>
</table>

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 to Chest X ray reports.

<table>
<thead>
<tr>
<th>Chest x-Ray</th>
<th>No of pts</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased bronchovascular markings in B/L lungs</td>
<td>44</td>
<td>73.3%</td>
</tr>
<tr>
<td>Hyperinflated lungs with Increased bronchovascular markings in B/L lungs</td>
<td>8</td>
<td>13.3%</td>
</tr>
<tr>
<td>Increased bronchovascular markings in single lung</td>
<td>8</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

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 shyayannte shwasadhikam, with average AEC of 557.4, 551.8 and 552.9 respectively. 85% patients were having kasawith 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 uchritakssha 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, shyayananteshwasadhikam are pratayatma lakshanas (Cardinal feature) &parshwashoola, asino labhate sukham, lalate swidhyate, uchritakssha & meghasheetambuvena abhivarthate are anubandha lakshnas of tamaka shwasa. Absolute Eosinophil Count is
markedly increased in an average 501-620 cells/mm³ 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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