A COMPARATIVE CLINICAL STUDY OF ASWAGANDHA KSHARA IN THE MANAGEMENT OF KAPHAJA KASA
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KEYWORDS: Kaphaja kasa, Aswagandha kshara, Acute bronchitis.

ABSTRACT
Kaphaja Kasa is most prevalent disorder of Pranavaha Srotas, if not treated properly; it can lead to serious diseases like Swasa, Kshaya etc. The cordial symptoms of Kaphaja kasa are Kasa, Pinasa, Kaphasteevana, Jvara, Prabhutaghana, Snigda and Bahala kapha. It is equivalent to acute and chronic bronchitis in modern medicine is an airway inflammatory disorder. Aswagandha is a miracle and very common plant drug in our country mainly used in Ayurveda for different disease conditions and also as a preventive medicine. The method adopted in present study is randomized open label clinical trial before and after the treatment. A randomized clinical study was conducted on 30 patients with Aswagandhakshara prepared from different plant parts, patients were divided into three groups, each group consisting of 10 patients. In all subjects, history taking, clinical examination and laboratory investigations were done as per the case sheet proforma advocated by CCRAS, Kshara prepared from aerial parts shows extremely significant results on Kaphasteevana, Pinasa, Eosinophil, ESR level, very significant results in Jvara, TC, and ESR level, Kshara prepared from roots and aerial parts shown extremely significant result on Pinasa and ESR level, very significant results on Kasa, Kaphasteevana, Eosinophil and Kshara prepared from roots shown very significant result on ESR level. The overall result showed that the medicine was effective in patients who were administered Kshara prepared from aerial parts.

INTRODUCTION
Kasa is a symptom in almost all diseases caused by Pranavahasrotas. Now a days Kaphaja kasa is one of the common prevalent disease. Mainly intake of Guru, Abhishyanda (Ingredients which cause obstruction to the channels of circulation), Madhura, Snigdaahara, excessive sleep, indolence and exposure to Raja and Dharma.[2] These factors result in the vitiation of Kapha which creates an obstruction for the movement of Pranavayu, moves upwards, afflicts the channels of circulation in the upper part of the body, takes over the functions of Udanavayu and settles in throat and the chest, thus producing abnormal sound along with sputum expectoration.[3] Acharya Susruta narrates Prakopa of Prana and Udanavayu causes abnormal, forceful expulsion of Vayu from the mouth creating a peculiar sound similar to that of sound produced by broken bronze vessel.[4]

Symptoms includes coating of oral cavity, loss of appetite, running nose, feeling of fullness in the chest, feeling of heaviness of the body, debility, cough with thick, sticky, white sputum expectoration.[5,6] Acute bronchitis is short term inflammation of bronchus. The most common symptom is cough and other symptoms include coughing up mucus, wheezing, shortness of breath, fever, and chest discomfort.[7]

Charaka and Vagbhata, in their treatises, while prescribing drugs in the treatment of Kasa, Svasa and Hikka, used this drug in the form of Kshara (C.S.Chi.17/117 & A.H.Chi. 4/38). But they did not exactly mention from which part of the plant, Kshara is to be derived.[8] Aswagandha belongs to the family Solanaceae to which, the other
famous plants like *Dattura* and *Belladonna* belong to, in relieving the bronchospasm.

**AIMS AND OBJECTIVES**

To evaluate bronchodilation and expectoration activity of drug *Aswagandha* (*Withania somnifera* Dunal.) *Kshara*, derived from the aerial parts and roots in combination and also separately, while grouping the patients accordingly.

**MATERIALS AND METHODS**

**Collection and preparation of medicine**

The *Aswagandha* roots and Aerial parts were collected from cultivated fields of Guntakal, Anantapur district, A.P. These were then thoroughly cleaned. The dust from roots and aerial parts was completely removed.

**Name of the Preparation:** *Aswagandha Kshara*

**Reference:** *Sarangadhara Samhitha* (M.K 11/102-104)

**Materials:**
- *Aswagandha* Roots – 25kgs
- *Aswagandha* Aerial parts – 50kgs
- *Aswagandha* whole plant – 30kgs
- Water – Q.S

**Principle:** *Kshara Nirmana*


**Selection of Patients**

- Around 30 patients were selected from both of the sex between age group of 5-60 years.
- Respiratory problems mainly based on the signs and symptoms of *Kaphaja kasa* (Acute bronchitis) described in Ayurvedic as well as Modern texts in addition to the textual description, were selected for the present study
- The drug *Aswagandha kshara* processed for internal administration as per the classical texts at the Department of Rasa Shastra and Bhaisajya kalpana, S.V.Ayurvedic College, Tirupati.
Preparation of Aerial Parts *Kshara*

**Fig 6:** Dried Aerial parts of *Aswagandha*  
**Fig 7:** Aerial parts subjected to fire

**Fig 8:** Collected Aerial parts ash  
**Fig 9:** Addition of water to Aerial parts ash

**Fig 10:** *Kshara* of Aerial parts
Preparation of Whole Plant *Kshara*

**Fig 11:** Whole plant subjected to fire

**Fig 12:** Collected whole plant ash

**Fig 13:** Supernate portion filtrate

**Fig 14:** Boiling the filtrate

**Fig 15:** Whole plant *Kshara*

**Inclusion criteria**
- Patients suffering from *Kaphaja Kasa* (productive bronchitis) in the age group of 5-60 years.
- Patients willing for the treatment were selected.

**Exclusion Criteria**
- Patients below 5 years and above 60 years.
- Patients suffering from any cardiac ailments.
- Patients suffering from any other serious diseases like Tuberculosis etc.
- Those who are very weak and disabled.
General investigations
- Routine Hematological

Blood
1. TLC, DLC, ESR (1st hour), Hb%
2. X-ray chest
3. Sputum for AFB

Method of Research
The method adopted in present study is randomized open label clinical trial before and after the treatment. The study had a due clearance from the Institutional Ethics Committee.

Subjective Parameters
Patients were assessed before and after treatment for subjective and objective parameters. Assessment was totally based on the changes in the clinical features of Kaphaja kasa and improvement in scoring index of Kasa, Kaphasteevana, Pinasa and Jvara etc.

Kaphaja kasa rating scale
1. Cough/Kasa
Symptom: Grade
No cough: 0
Cough once or twice: 1
Severe cough continuous: 2
Cough disturbing daily activities: 3

2. Kaphasteevana (sputum colour)
Symptom: Grade
No sputum: 0
White colour sputum: 1
Greenish yellow colour: 2
Yellow: 3

3. Pinasa
Symptom: Grade
No secretion: 0
Watery secretion: 1

4. Jvara
Symptom: Grade
Temperature 99°F: 0
Temperature between 99°F to 100°F: 1
Temperature between 100°F to 102°F: 2
Temperature above 102°F: 3

Grouping and posology
Patients will be divided into three groups, each group consisting of 10 patients.
- Group R: Finely prepared Aswagandha kshara from roots is given to the patient
- Group A: Finely prepared Aswagandha kshara from aerial parts is given to the patient
- Group R and A: Finely prepared Aswagandha kshara from total plant is given to the patient

Dose: 1 gram/ day (O.D)
Anupana: warm water

Follow up
The duration of treatment was 15-20 days and then follow-up at the interval of every 10 day.

Statistical Evaluation of Results
The obtained information was analysed statistically in terms of mean score (x), Standard Deviation (S.D.), Standard Error (S.E.). Paired t-test was carried out at the level of 0.05, 0.001, and 0.0001 of P levels. For the more effectiveness of therapy paired t-test is carried out. The results were interpreted as
- a) P > 0.05: Insignificant
- b) P < 0.05: Significant
- c) P < 0.001: Very significant
- d) P < 0.0001: Extremely significant

OBSERVATION AND RESULTS
Table 1: Shows the Effect of Aswagandha kshara prepared from different plant parts in Kasa

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean BT</th>
<th>SD</th>
<th>SEM</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>2.1</td>
<td>1.4</td>
<td>0.32</td>
<td>0.97</td>
<td>0.26</td>
<td>2.688</td>
<td>0.0248</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>2.3</td>
<td>0.3</td>
<td>0.48</td>
<td>0.48</td>
<td>0.21</td>
<td>9.4868</td>
<td>0.0001</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>2.1</td>
<td>1.2</td>
<td>0.32</td>
<td>0.92</td>
<td>0.27</td>
<td>3.2504</td>
<td>0.01</td>
</tr>
</tbody>
</table>
Table 2: Shows the Effect of *Aswagandhakshara* prepared from different plant parts in *Kaphasteevana*

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>2</td>
<td>1.5</td>
<td>25</td>
<td>0.47</td>
<td>0.85</td>
<td>0.15</td>
<td>0.27</td>
<td>0.167</td>
<td>3</td>
<td>0.015</td>
<td>Significant</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>2.3</td>
<td>0.4</td>
<td>83</td>
<td>0.48</td>
<td>0.52</td>
<td>0.15</td>
<td>0.16</td>
<td>0.18</td>
<td>10.5846</td>
<td>0.0001</td>
<td>Extremely significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>2.1</td>
<td>1.1</td>
<td>48</td>
<td>0.57</td>
<td>0.57</td>
<td>0.18</td>
<td>0.18</td>
<td>0.211</td>
<td>4.7434</td>
<td>0.0011</td>
<td>Very significant</td>
</tr>
</tbody>
</table>

Table 3: Shows the Effect of *Aswagandha kshara* prepared from different plant parts in *Pinasa*

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>2</td>
<td>1.5</td>
<td>25</td>
<td>0.53</td>
<td>0.17</td>
<td>0.17</td>
<td>0.17</td>
<td>0.167</td>
<td>3</td>
<td>0.015</td>
<td>Significant</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>2.1</td>
<td>0.5</td>
<td>70</td>
<td>0.32</td>
<td>0.53</td>
<td>0.3</td>
<td>0.1</td>
<td>0.163</td>
<td>9.798</td>
<td>0.0001</td>
<td>Extremely significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>2</td>
<td>1.9</td>
<td>50</td>
<td>0.32</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.221</td>
<td>2.7136</td>
<td>0.0239</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Table 4: Shows the Effect of *Aswagandha kshara* prepared from different plant parts in *Jvara*

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>0.4</td>
<td>0.1</td>
<td>75</td>
<td>0.7</td>
<td>0.32</td>
<td>0.22</td>
<td>0.1</td>
<td>0.153</td>
<td>1.964</td>
<td>0.0811</td>
<td>Not significant</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>1</td>
<td>0.1</td>
<td>90</td>
<td>0.94</td>
<td>0.32</td>
<td>0.3</td>
<td>0.1</td>
<td>0.277</td>
<td>3.2504</td>
<td>0.01</td>
<td>Very significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>0.6</td>
<td>0</td>
<td>100</td>
<td>0.6</td>
<td>0.32</td>
<td>0.22</td>
<td>0</td>
<td>0.221</td>
<td>2.7136</td>
<td>0.0239</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Table 5: Showing effect of medicine on TC of all the three groups

<table>
<thead>
<tr>
<th>Group</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>7300.90</td>
<td>8540</td>
<td>4.15</td>
<td>3.17</td>
<td>1658.11</td>
<td>1001.94</td>
<td>524.34</td>
<td>874.87</td>
<td>1.42</td>
<td>0.1903</td>
<td>Not significant</td>
</tr>
<tr>
<td>A</td>
<td>8050.00</td>
<td>917</td>
<td>14</td>
<td>142.70</td>
<td>1052.04</td>
<td>451.48</td>
<td>332.68</td>
<td>316.16</td>
<td>3.54</td>
<td>0.0063</td>
<td>Very significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>8100.00</td>
<td>8290</td>
<td>2.35</td>
<td>586.89</td>
<td>850.42</td>
<td>185.59</td>
<td>268.93</td>
<td>138.60</td>
<td>1.37</td>
<td>0.2036</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

Table 6: Showing effect of medicine on Eosinophils of all the three groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>7.30</td>
<td>6.30</td>
<td>12.33</td>
<td>1.89</td>
<td>1.34</td>
<td>0.60</td>
<td>0.42</td>
<td>0.37</td>
<td>2.74</td>
<td>0.0229</td>
<td>Significant</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>7.90</td>
<td>5.30</td>
<td>33.00</td>
<td>1.20</td>
<td>1.25</td>
<td>0.38</td>
<td>0.40</td>
<td>0.37</td>
<td>7.00</td>
<td>0.0001</td>
<td>Extremely significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>7.50</td>
<td>5.30</td>
<td>29.33</td>
<td>1.27</td>
<td>1.16</td>
<td>0.40</td>
<td>0.37</td>
<td>0.53</td>
<td>4.13</td>
<td>0.0026</td>
<td>Very significant</td>
</tr>
</tbody>
</table>

Table 7: Showing effect of medicine on ESR of all the three groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>BT</th>
<th>AT</th>
<th>%</th>
<th>BT</th>
<th>AT</th>
<th>BT</th>
<th>AT</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>10</td>
<td>49.90</td>
<td>41.20</td>
<td>17.43</td>
<td>9.85</td>
<td>8.99</td>
<td>3.11</td>
<td>2.84</td>
<td>1.89</td>
<td>4.60</td>
<td>0.0013</td>
<td>Very significant</td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>47.00</td>
<td>28.00</td>
<td>40.43</td>
<td>13.98</td>
<td>7.53</td>
<td>4.42</td>
<td>2.38</td>
<td>2.96</td>
<td>6.41</td>
<td>0.0001</td>
<td>Extremely significant</td>
</tr>
<tr>
<td>R&amp;A</td>
<td>10</td>
<td>46.30</td>
<td>33.10</td>
<td>28.51</td>
<td>10.71</td>
<td>12.64</td>
<td>3.39</td>
<td>4.00</td>
<td>1.46</td>
<td>9.05</td>
<td>0.0001</td>
<td>Extremely significant</td>
</tr>
</tbody>
</table>
Interpretation of Results in Group A, Group R and A, and Group R

**Kasa**

Aswagandha kshara showed statistically significant effect with 33% of relief in group R, at p value 0.0248. Aswaganda kshara prepared from aerial parts has shown extremely significant effect with 86% of relief in group A at p value 0.0001 and it has shown very significant effect with 42% of relief in group A and R at p value 0.01.

**Kaphasteevana**

Aswagandha kshara prepared from roots showed significant effect with 25% of relief in group R, at p value 0.015. Aswaganda kshara prepared from aerial parts has shown extremely significant with 83% of relief in group A at p value 0.0001 and Aswagandha kshara prepared roots and aerial parts has shown very significant effect with 48% of relief in group A and R at p value 0.0011.

**Pinasa**

Aswagandha kshara significant effect with 25% of relief in group R, at p value 0.015. In group A, has shown extremely significant effect with 70% of relief at p value 0.0001 and it has shown extremely significant effect with 50% of relief in group A and R at p value 0.0001.

**Jvara**

Aswagandha kshara showed significant effect with 75% of relief in group R, at p value 0.0811. In group A Kshara has shown very significant effect with 90% of relief at p value 0.01 and in group A and R it has shown significant effect with 100% of relief at p value 0.0239.

**Effect of medicine on TC of all the three groups**

On TC it has shown not significant (p value 0.1903) result in group R with 4.5% of increase. In group A it has shown very significant (p value 0.0063) result with 14% of increase, and in group R&A has shown not significant (p value 0.2036) result with 2.35 % of increase in number of cells.

**Effect of medicine on Eosinophils of all the three groups**

On eosinophils it has shown significant (p value 0.0229) result in group R with 12.3% of reduction. In group A it has shown extremely significant (p value 0.0001) result with 33% of reduction, and in group R and A has shown very significant (p value 0.0026) result with 29.33 % of reduction in cells.

**Effect of medicine on ESR of all the three groups**

Aswagandha kshara on ESR levels shows very significant (p value 0.0013) result in group R with 17.4% of reduction. It has shown extremely significant (p value 0.0001) result in group A with 40.43% of reduction, and in group R and A has shown extremely significant (p value 0.0001) result with 28.51 % of reduction in ESR levels.

**Overall Result of Study**

Overall effect according % of relief

The overall result showed that the medicine was effective for Group A patients who were administered Kshara prepared from aerial parts. The next place of relief is for Group A and R, who were given the Kshara prepared from the roots and aerial parts. The minimum relief was observed in group R, for whom, Kshara prepared only from the roots was given.
Table 8: Effect of Medicine on Group ’R’ Patients

<table>
<thead>
<tr>
<th>Assessment</th>
<th>No. of Patients</th>
<th>% of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Relieved</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Markedly Relieved</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Moderately Relieved</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>4</td>
<td>40%</td>
</tr>
</tbody>
</table>

Table 9: Effect of Medicine on Group ’A’ Patients

<table>
<thead>
<tr>
<th>Assessment</th>
<th>No. of Patients</th>
<th>% of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Relieved</td>
<td>6</td>
<td>60%</td>
</tr>
<tr>
<td>Markedly Relieved</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Moderately Relieved</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table 10: Effect of Medicine on Group ’R & A’ Patients

<table>
<thead>
<tr>
<th>Assessment</th>
<th>No. of Patients</th>
<th>% of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Relieved</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Markedly Relieved</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Moderately Relieved</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>2</td>
<td>20%</td>
</tr>
</tbody>
</table>

Graph 1: Showing Assessment of effect of Medicine in Group R, Group A and Group A & R

On assessment, completely relieved patients are 6 from Group “A”. And from the same group A, markedely relieved patients are 2 and moderately relieved are 2.

From Group “R” there are no completely relieved patients, markedly relieved are 3 and moderately relieved are 3. Patients with no change are 4 in number.

From Group R and A completely, relieved patients are 2 and markedly relieved are 3. Moderately relieved patients are 3 and those who didn't show any change are 2 in number.

DISCUSSION

Charaka and Vagbhata, in their treatises, while prescribing drugs in the treatment of Kasa, Svasa and Hikka, used this drug in the form of Kshara (Ch.Chi. 17/117 & A.H.Chi. 4/38). But they did not exactly mention from which part of the plant, Kshara to be derived. Aswagandha belongs to the family Solanaceae to which, the other famous plants like Dattura and Belladonna belong to, in relieving the bronchospasm. Almost all Acharyas have mentioned Kat u, Tikta, Kashaya Rasa, Laghu, Snigdha Guna, Usna Virya and Katu Vipaka. Aswagandha is mainly Vata Kapha shamaka, Balya and Rasayana.
Katu Rasa has Kapha Lekhana and Kapha Shamaka property and Deepana, similarly Tikta Rasa has also Lekhana property. Tikta Rasa imparts firmness to the mucosa and muscle tissue, depleting and desiccant of moisture Kapha, and it is dry and helps in Pachana and corrects Udana vayu. Snigdha Guna imparts energy to the body. Laghu Guna Dravyas impart their effect on body as Lekhana. It has Usna Virya and Katu Vipaka, Laghu guna helps in Deepana, and Kapha vilayana, relieves bronchospasm and expels the plugged mucosa from alveoli there by it clearing the airway and helps in proper breathing.

Aswagandha has Deepana, Pachana, Vata Kapha hara properties that control the initial Ama formation, which is very important in preventing the disease. The association of Ama with Vata will be neutralized by these actions. Once this is done, the Vata kaphahara action of the drug will pacify both the causative Dosas relieving the symptoms. The only Samanyaguna in Vata and Kapha is their Sheetaguna. Aswagandha is of Ushnaveerya, which will correct the Dosik pathology of both. This action of the drug pacifies both the causative Dosas there by relieving the symptoms. Kshara possess Usna, Tikshna, Laghu, Soshana, Pachana and Bhedana due to these properties it acts as Kaphachedana and bronchodilator.

Due its Lekhana, Ksharana, vilayana, Sodhana and Soshana properties it scrapes, melts, softens, liquefies, dissolves and expectorates the plugged mucosa.

Aswagandha is known for its potent anti-inflammatory, immunomodulatory, anti-stress activity, anti-tumor activity and anti-arthritic activity.

The main chemical constituents are alkaloids and steroidal lactones. These include tropine and cuscohygrine. The aerial parts of Withania somnifera yielded 5-dihydroxy withanolide-R and withasonifin-A (Atta-ur-Rahman et al., 1991).

Biochemically roots contain heterogeneous alkaloids like Cuscohygrine (pyridine derivative), anahygrine, tropine, pseudotropine, anaferine, and new alkaloid visamine has been reported, (schwarting et al, Lloydia 1963).

They exhibit relaxant and antispasmodic effects against several spasmodens on intestinal, uterine, bronchial, tracheal and blood-vascular muscles. The pattern of smooth muscle activity of the alkaloids was similar to that of papaverine which suggested a direct mucosotropic action; both as relaxant and spasmyloytic, this pharmacological activity lends credence to the use of Aswagandha in respiratory problems in the Ayurvedic system. (Malhotra et al., Indian J. Physiol. Pharmacol., 1965).[9]

CONCLUSION

- In Samhitas, ‘Kshara’ is prescribed as a palliative preparation to treat Kaphaja kasa.
- Then, Charaka and Vagbhata have given Aswagandha kshara to effectively manage this disease.
- It is widely accepted that any Kshara is capable of dissolving plugged Kapha dosa to expel it out while creating a disease-free state.
- As Aswagandha belongs to the same family botanically as that of Dattura, i.e., solanaceae the plant parts consist of chemical constituents like atropine, hyoscyamine etc., which act as mucolytic, anti-secretive and broncho-dilatory actions.
- On assessment of the entire study which is aimed primarily at the most efficacious part of the Aswagandha plant in the form of Kshara, it is observed that the Kshara prepared from aerial parts is exerting its action very efficiently in treating Kaphaja kasa. The Kshara prepared from the roots is not much effective but the Kshara prepared from whole plant is moderately effective.
- As the aerial parts after harvesting the roots of Aswagandha are discarded, they can be successfully used as a good therapeutic preparation for Kaphaja kasa. The preparation of Kshara is very easy and highly cost effective.
- Overall, Aswagandhakshara as prescribed by Charaka is proved to be highly effective in Kaphaja kasa.

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