STUDY OF PANCHAMRITA RASA W.S.R. TO PEENAS ROGA
(CHRONIC SINUSITIS)

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ABSTRACT
21st century is a world of industrialization & fast life. This industrialization gives the world a lot of progress, but somehow in this progress we forgot the nature. We are doing various things against nature and this is a very big cause of disease. In today’s stressful modern urbanized living, incidence of allergic diseases is considerably increasing. The rapid industrial actions, excessive crowding, increasing pollutions are some of the factors responsible for this. Today the whole world is looking behind Ayurveda to treat various chronic conditions on which other system of medicine doesn’t have any answer. On this context Peenas Roga (Chronic Sinusitis) is one such disease described in the classics of Ayurveda. Peenas Roga is due to vitiated Vata and Kapha Dosha. The patient feels as some smoke is coming out of Nasa (nostril) or is blocked or becomes very dry and doesn’t feel any fragrance. This disease almost resembles the symptoms of Pratisyaya Roga. The Peenas Roga closely resembles Chronic Sinusitis as described in modern medicine. During last few years various researches have been done in Ayurveda and in modern medicine for this disease. The researches are still going on but the proper remedy is still to be searched. That’s why The Panchamrta Rasa described in Rasendra Sara Samgraha is chosen for the research purpose to study its efficacy with special reference to Peenas Roga.

AIMS AND OBJECTIVE
1) To evaluate the gunakarmatmaka prabhav of Panchamrita Rasa with special reference to Peenas Roga. (Chronic Sinusitis).
KEYWORDS: Panchamrita Rasa, Peenas Roga, Rasendra Sara Samgraha, Chronic Sinusitis, Vata Kapha, Ushna guna.

INTRODUCTION
21st century is a world of industrialization & fast life. This industrialization gives the world a lot of progress, but somehow in this progress we forgot the nature. We are doing various things against nature and this is a very big cause of disease. In today’s stressful modern urbanized living, incidence of allergic diseases is considerably increasing. The rapid industrial actions, excessive crowding, increasing pollutions are some of the factors responsible for this. Today the whole world is looking behind Ayurveda to treat various chronic conditions on which other system of medicine doesn’t have any answer.

On this context Peenas Roga (Chronic Sinusitis) is one such disease described in the classics of Ayurveda. Aacharya Sushruta, in his Sushruta Samhita, Uttar Tantra 22/6 has described about Peenas Roga

“Peenas Roga is due to viated Vata and Kapha Dosha. The patient feels as some smoke is coming out of Nasa (nostril) or is blocked or becomes very dry and doesn’t feel any fragrance”. This disease almost resembles the symptoms of Pratisyaya Roga. The Peenas Roga closely resembles Chronic Sinusitis as described in modern medicine. During last few years various researches have been done in Ayurveda and in modern medicine for this disease. Research are still going on but the proper remedy is still to be searched.

Thus The Panchamrita Rasa described in Rasendra Sara Samgraha (Nasarogadhikar) 2/1-5 is chosen for the research purpose to study its efficacy with special reference to Peenas Roga.

Panchamrita Rasa
This drug mainly has 5 ingredients in it i.e.

   with bhawana of ardraka swarasa.

Peenas Roga
Disease Peenas include a lot of infections and inflammations of nasal cavity and paranasal sinuses. Peenas is one of the diseases which leads the patient in a immunocompromised condition. In almost all Ayurvedic texts, Peenas or Apeenas Roga is described in Nasarogadhikar. Various opinions are given by various aacharyas regarding the number of
Nasa Roga. Aacharya Charak has described Nasroga in Trimarmiya- adhyaya of Chikitsa sthana, here he has described about 10 Nasa roga without mentioning the number. Other Aacharyas has different opinion on the number of nasa roga

But every aacharya has described Peeenas or Apeensa as one of Nasa roga. This gives some controversial point about the disease.

*Does Peenas and Apeenas is the same disease? Because in Charaka and Sushruta samhita, what is described for Apeenas roga is the same described for Peenas roga by Aacharya Sharangadhar, Bhavprakash and Yogaratnakar. This indicates that these two might be the same disease.

On the other hand Astangsamgraha and Astanghridaya describes that pain is more severe in Apeenas as compared to Peenas, some other specific symptom of Apeenas roga is mentioned in other texts. So this indicates that these two diseases are not same.

Discussing these skeptical points, it was decided that Aacharya Charaka and Sushruta etc. has used Pratishayaya and Peenas as a synonym, which is different from Peenas of Sharangadhara, Bhavprakash and Yogaratnakar. Peenas roga said by Sharangadhara etc is same for Apeenas which is said by Charaka, Sushruta.

Again whether these two disease Peenas and Apeenas is same or not, solution to this skeptical is given by Bhavprakash. He says that, according to a sutra of sanskrita grammer, A in Apeenas disappears and it becomes Peenas. According to Vangabhatta, Apeenas can be said to be a stage of Peenas.

**Here Peenas roga is described as Dusta Pratishyaya**

**DUSTA PRATISHYAYA**

Dushta Prathishyaya is a chronic condition of Pratishyaya in which Dosa dusti is more and is occurring due to improper management of Pratishyaya. The word Dusta means more vitiated condition of Dosas.

Aacharya Sushruta in Sushruta Samhita Uttar Tantra 24/16, told that “improper management of acute stage is the main factor that leads to Dushta Peenas”. Acharya Vagbhata also has given the same opinion. Acharya Charaka in Trimarmiya Chikitsa 26/107 told that “Ahit
Aharasevana during acute stage and improper management are the main causes of Dustha Prathishyaya”.

PLAN OF STUDY

Criteria for Selection of Patients
1. Patients having classical sign and symptom of Peenas were selected from the O.P.D. of Govt. Ayurvedic College & Hospital, Patna.
2. Only uncomplicated cases diagnosed on the basis of signs and symptoms were considered.
3. A special Performa was prepared according to which history was taken and physical examination was done.

Criteria for exclusion
1. Patients not willing for the trial.
2. Age below 5 years.
3. Patients suffering with various infectious diseases.
4. Patients suffering with various debilitating disease.

MATERIALS AND METHODS

Consent – Written consent was taken on prescribed Proforma before the inclusion of patient in trial. They are briefed about merits and demerits of research plan before taking consent.

Dose: a dose of 250 mg. Twice a day in capsule form was given to the patients.

Duration: This research trial was for 2 months and follow-up after each 15 days.

For the ease of study, it is divided into the following categories
1. Conceptual study
2. Pharmaceutical study
3. Analytical study
4. Clinical study

CONCEPTUAL STUDY

The drug taken for the study is Panchamrita Rasa having its reference in Rasendra Sara Samgraha (Nasa-rogadhikar). This formulation is the repeated advocacy in different samhitas of Rasa-bhaisajya like Bhaisajya Ratnawali, Rasa Chandranshu, Rasaraj Sunder and in Rasa Tarangini in Nasarog Chikitsa with a few variations.
The Panchamrita Rasa mentioned in Rasendra Sara Samgraha has the following five ingredients.

1. Parada 4. Vatsanabha
2. Gandhaka 5. Maricha
3. Tankana

In this preparation, Gandhaka is two times as Parada, Tankana is three times, Vatsanabha is four times and Maricha is five times as compared to the weight of Parada with the bhawana of Ardraka swarasa in it. In the first chapter i.e. conceptual study/ literary review, various aspect of the above drugs is described, right from the mythological origin to its present status.

Taking into consideration about PARADA, its first description can be considered from the period of Atharvaveda. Therapeutic use of Parada for external purpose has been recommended by Charaka, whereas Sushruta and Vagbhatta have indicated its use for both internal as well as for external use. But the proper utilization of Parada for Dehavada and Lohavada started from 8th Century A.D. onwards. Thereafter, Parada has become an impeccable part of Rasa Shastra.

This Parada is rarely found in the form of single drops or small pools as disseminated in globules embedded in the rock. It also occurs in small quantities as amalgam and halogen compound.

To classify this Parada Aacharyas has given various opinions, In Kaideva Nighantu Parada has been categorized in Dhatuvarga, whereas Dhanvantari Nigantu has classified it as Suvarnadivarga. Most of all the Rasasastra texts have considered Parada in Rasa Varga. According to Rasendra Sara Samgrahakar, Parada is of five types 1.Rasa 2.Rasendra 3.Suta 4.Parada 5.Misraka.

Although nowadays minerals & metals are available in pure form, even though Sodhana should be done by classical procedure prior to any pharmaceutical preparations. Samanya Sodhana and Samskaras of Parada will be dealt in Pharmaceutical Study.

GANDHAKA is other ingredient in Panchamrita Rasa. In Rasa Shastra, Gandhaka stands next to Parada in importance. It is also considered as essential agent for the various processes of Parada such as murchhana and jarana etc. Gandhaka is believed to impart many desirable properties and reduces toxic effects of Parada. Probably because of this, Parad is mostly
administered internally in association with gandhaka, as Parad preparation without gandhaka are considered to be more toxic. In addition to its value for making the Parada therapeutic useful, it is also used for Bandhana.

**TANKANA**, it also holds an important place in Rasa Shastra. In Rasa Texts it is mentioned as one of the important part of Kshartraya, Ksharpanchaka, Mitrapanchaka and Dravaka Varga. This is also used as an antidote of Vatsanabha.

**VATSANABH** in Rasa Texts it is described in Upavisha category. If we compare the preparation of Tankana and Vatsanabha, it is observed that properties of both are just like reverse. So it is possible that Tankana was used in this preparation to overcome the toxic effect of Vatsanabha.

Now **MARICHA** i.e. *Piper nigrum*. In this preparation the quantity of Maricha is maximum having five times quantity as that of Parada. This Maricha is having Ushna virya, Tikshan laghu guna and katu rasa.

**Pharmaceutical study**
Pharmaceutical study means the practical experience of preparing medicines from raw drug. Practical experience is most essential for vaidya as described by Charaka (The Karmabhayasa... Ch. Su. 9/22) is one of the essential qualities of vaidya.

Now to make any drug it is important that crude drugs both of herbal and mineral origin should be subjected to purification process before they are used internally. So in the present study of preparation of Panchamrita Rasa, the discussion is carried out in each stages of preparation up to the results.

**In Process**
The raw drugs to prepare Panchamrita Rasa was collected from P.G. Deptt. (Rasa Shastra) of Govt. Ayurvedic College, Patna.

**METHODOLOGY**
- First ashuddha (impure) parada was triturated with sudha, which become dark grey in colour, due to impurities present in parada.
After rinsing with water this parada was again triturated with lasuna paste and saindhawa lawana. After sometime it becomes dark black in colour, due to sulphur which is present in lasuna.

The weight loss during parada shodhana was 220 gm. Obtaining 530 gm. of shuddha parada.

During Gandhaka Shodhana when the process was repeated seven times, it became very thick, due to the fact that it became more pure.

After shodhana Gandhaka became light yellow in colour.

In Gandhaka Shodhana loss was very high. Loss was about 1.05 kg. And shudhha gandhaka obtained 950 gm.

Now kajjali was prepared from parada and gandhaka having double the amount of gandhaka from parada.

This prepared kajjali was fulfilling the test of varitara and rekhapurnatwa.

The Tankana was purified. The loss was 1.7 kg. and obtained shudhha was 1.3 kg. the loss was due to water present in tankana.

In the process of vatsanabha shodhana, its skin was peeled off completely which was the poisonous part in it, which was the cause of major loss in weight of vatsanabha.

Maricha was simply washed with with water to remove impurities.

Then ardaraka swarasa was collected.

When all the ingredients were ready to prepare Panchamrita Rasa, each ingredients were weighed accurately as per the description given in Rasendra Sara Samgraha.

These ingredients were mixed properly and single bhawana of ardraka swarasa was given to it, to increase its potency.

The prepared material was then filled in an empty capsule. Each capsule was measured to have 250 mg. of Panchamrita Rasa in it.

The capsule form was chosen because of the ease of administration by the patients.

**Analytical Study**

Considering the significance of traditional practices in global health care, WHO also has been encouraging and promoting these traditional practices since last few decades. Hence, the standardization of raw drug, processing, finished products, verification of the claims, mechanism of action, heavy metal and microbial contamination etc., has become some of the major issues, which have to be taken into consideration in order to increase the world wide
acceptability of herbo-mineral drugs throughout the globe and also to prove the clinical efficacy of the old age remedies.

So an attempt has been made in analytical study to lay down standards of different samples of Panchamrita Rasa. The samples of Gandhaka, kajjali and Panchamrita rasa was analyzed on classical and modern analytical parameters.

On classical parameters, the characters analysed were organoleptic characters, rekhapurnatwa, varitaratwa, slakshnatwa, nischandratwa. On modern analytical parameters pH, loss on drying, ash value, x-ray diffraction, scanning electron microscopy, Inductively Coupled Plasma Mass Spectroscopy (ICPMS) was analysed.

On analysing total loss in shodhana process, the total loss found was as follows

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Parada</td>
<td>-</td>
<td>29.33%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gandhaka</td>
<td>-</td>
<td>52.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tankana</td>
<td>-</td>
<td>56.66%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vatsanabha</td>
<td>-</td>
<td>46%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maricha</td>
<td>-</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loss in kajjali nirmana</td>
<td>-</td>
<td>2.08%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On considering Shodhana process of Gandhaka, which was repeated for 7 times, the loss found is given in table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Shodhana no.</th>
<th>Wt. of Gandhaka Taken</th>
<th>Wt. of Godugdha Taken</th>
<th>Wt. of Gandhaka obtained</th>
<th>Loss of Gandhaka</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>2000 gm.</td>
<td>3 ltr</td>
<td>1810 gm.</td>
<td>190 gm.</td>
</tr>
<tr>
<td>2.</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>1810 gm.</td>
<td>3 ltr</td>
<td>1690 gm.</td>
<td>120 gm.</td>
</tr>
<tr>
<td>3.</td>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>1690 gm.</td>
<td>3 ltr</td>
<td>1590 gm.</td>
<td>100 gm.</td>
</tr>
<tr>
<td>4.</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>1590 gm.</td>
<td>3 ltr</td>
<td>1470 gm.</td>
<td>120 gm.</td>
</tr>
<tr>
<td>5.</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>1470 gm.</td>
<td>3 ltr</td>
<td>1330 gm.</td>
<td>140 gm.</td>
</tr>
<tr>
<td>6.</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>1330 gm.</td>
<td>3 ltr</td>
<td>1155 gm.</td>
<td>175 gm.</td>
</tr>
<tr>
<td>7.</td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>1155 gm.</td>
<td>3 ltr</td>
<td>950 gm.</td>
<td>205 gm</td>
</tr>
</tbody>
</table>

The analysis of asuddha and shuddha gandhaka reveals that appearance become granulous from stony, colour become light yellow from yellow, touch become smooth from hard and smell was found sulphurous. This was the effect of shodhana process which was done for 7 times. On analysing kajjali, it shows all the characters mentioned in classic. These were rekhapurnatwa, varitaratwa, shalakshnatwa, nischandratwa.
Now considering physiochemical parameters on analysis of Panchamrita Rasa it has pH of about 6, this indicates its alkali nature. Loss on drying was 10% w/w this means it has 10% of moisture content. X-ray diffraction study, Scanning Electron Microscopic study and ICP-AES was also done to characterise crystalline structure and to find trace elements.

**DISCUSSION ON CLINICAL STUDY**

The evaluation of a drug is considered incomplete unless and until it is tried clinically. Clinical study has its importance in assessing the efficacy of a test drug in treating the disease. In this present study, the clinical efficacy of Panchamrita Rasa was evaluated on patients of Peenas roga. The patients were selected randomly from OPD of Shalakya Deutt. Of Govt. Ayurvedic College Hospital, Patna on the criteria adopted for inclusion and exclusion which I have described in clinical study. After proper selection of patients they were advised to take Panchamrita Rasa 250 mg. twice a day. They were also advised to take care of pathya and apathy as mentioned in classical text.

After completion of therapy, results were analyzed and presented statistically. The statistical data observed is as follows.

- Incidence of age- maximum patients were from the age group 25 – 50 years (56.66%) followed by 10 – 25 years of age (26.66%). This indicates that this disease is more prevalent in 25 – 50 years of age, may be due to the fact that they are working person who were mostly subjected to pollution.
- Incidence of sex- Male were 66.66% and females were 33.33%. this may be due to males are working persons as compared to females in this region.
- Incidence of religion- In the study 93.33% patients were Hindu and only 6.66% patients were Muslim, this may be due to Hindu dominant area.
- Incidence of marital status- About 66.66% patients were married 33.33% patients were unmarried.
- Incidence of occupation- Maximum patients were doing service (govt. Job about 26.66%) or were house wife (30%).
- Incidence of duration of complains- Maximum patients were having duration of complains, prevailing from 5 – 10 years (56.66%)
- Incidence of socio-economic status- About 70% patients were from middle income group. This may be due to trial was conducted in govt. hospital, which is in more reach of middle income group persons.
Incidence of dietary habit- In my study 66.66% patients were having mixed diet.

Incidence of appetite- This was mixed in nature having good, moderate and poor appetite of about 46.66%, 30%, 23.33% respectively

Incidence of sleep- About 66.66% of patients were having sound sleep.

Incidence of bowel habit- 66.66% patients had regular bowel habit and 33.33% patients were constipated.

Incidence of addiction- This was surprising that about 66.66% patients doesn’t have any addiction to tobacco, alcohol etc. This may suggest that today’s environmental condition is affecting the life rapidly.

Incidence of built- About 70% patients were of moderate built.

Incidence of rogabala & rogibala- 50% of patients were having madhyama rogabala 53.33% patients were having madhyama rogibala.

Incidence of agnibala- Its incidence was mixed having 46.66%, 30% and 23.33% of uttam, madhyama and heena agnibala respectively.

Incidence of satwa- 70% of patients were having madhyama satwa.

Incidence of pulse- About 50% of patients were having pulse rate between 80 – 90 beats per minute.

Effect of therapy
First considering about sign & symptom of Peenas roga mentioned in ayurvedic texts. The percentage relief in various symptoms is shown below.

Table: Effect of drug on essential Ayurvedic clinical features in trial group.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Symptoms</th>
<th>n</th>
<th>Mean Score</th>
<th>Mean Score</th>
<th>% Relief</th>
<th>SD±</th>
<th>SE±</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nasagata Aanah</td>
<td>17</td>
<td>1.71</td>
<td>0.5</td>
<td>48.28</td>
<td>0.95100</td>
<td>0.23065</td>
<td>3.57043</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>2</td>
<td>Nasagata Shuska</td>
<td>23</td>
<td>1.48</td>
<td>0.67</td>
<td>41.18</td>
<td>0.89133</td>
<td>0.18585</td>
<td>3.27511</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>3</td>
<td>Prakllina Nasa</td>
<td>27</td>
<td>1.70</td>
<td>0.63</td>
<td>58.69</td>
<td>0.73379</td>
<td>0.14122</td>
<td>7.08116</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>4</td>
<td>Gandhajyan- nas</td>
<td>4</td>
<td>1.25</td>
<td>0.13</td>
<td>20</td>
<td>0.5</td>
<td>0.25</td>
<td>1</td>
<td>&gt;0.1</td>
</tr>
<tr>
<td>5</td>
<td>Rasajyan- nas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Jantuyukta Nasa</td>
<td>21</td>
<td>1.62</td>
<td>0.57</td>
<td>50</td>
<td>0.81357</td>
<td>0.17754</td>
<td>4.55975</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>7</td>
<td>Ghr-ghur Swasa</td>
<td>23</td>
<td>1.78</td>
<td>0.6</td>
<td>56.10</td>
<td>0.90453</td>
<td>0.18861</td>
<td>5.30199</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>8</td>
<td>Vedna</td>
<td>27</td>
<td>2</td>
<td>0.47</td>
<td>70.37</td>
<td>0.79707</td>
<td>0.15340</td>
<td>9.17493</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>9</td>
<td>Avi Saman Srav</td>
<td>27</td>
<td>1.96</td>
<td>0.87</td>
<td>50.94</td>
<td>0.91987</td>
<td>0.17702</td>
<td>5.64881</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>10</td>
<td>Tanu Srava</td>
<td>27</td>
<td>1.96</td>
<td>0.8</td>
<td>54.72</td>
<td>0.78082</td>
<td>0.15027</td>
<td>7.14764</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>11</td>
<td>Ghana srava</td>
<td>25</td>
<td>1.04</td>
<td>0.53</td>
<td>38.46</td>
<td>0.81650</td>
<td>0.16330</td>
<td>2.44949</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>
In the study this was observed that relief in the symptom- prakllina nasa, jantuyukta nasa, ghur-ghur swasa, vedna, aavi-samana srava and tanu srava was statistically highly significant having percentage relief about 59%, 50%, 56%, 70%, 51% and 55% respectively.

Relief in symptom- nasagata aanaha, nasagata sushkata was statistically significant having percentage relief about 48% and 41% respectively.

In symptom- gandhajyana nas and ghana srava percentage relief was 20% and 38% respectively but these were statistically non-significant.

Now considering effect of drug on essential modern clinical features, the percentage relief in various symptoms is shown below.

Table: Effect of drug on essential Modern clinical features in trial group.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Symptoms</th>
<th>n</th>
<th>Mean Score</th>
<th>% Relief</th>
<th>SD±</th>
<th>SE±</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Sneezing</td>
<td>26</td>
<td>1.85</td>
<td>0.77</td>
<td>52.08</td>
<td>0.87090</td>
<td>0.17080</td>
<td>5.62972</td>
</tr>
<tr>
<td>2.</td>
<td>Running Nose</td>
<td>27</td>
<td>1.96</td>
<td>0.87</td>
<td>50.94</td>
<td>0.91987</td>
<td>0.17703</td>
<td>5.64881</td>
</tr>
<tr>
<td>3.</td>
<td>Discharge</td>
<td>30</td>
<td>2</td>
<td>1.03</td>
<td>48.33</td>
<td>0.66867</td>
<td>0.12208</td>
<td>7.91812</td>
</tr>
<tr>
<td>4.</td>
<td>Headache in Morning</td>
<td>23</td>
<td>1.83</td>
<td>0.43</td>
<td>69.05</td>
<td>1.09617</td>
<td>0.22857</td>
<td>5.51642</td>
</tr>
<tr>
<td>5.</td>
<td>Headache while bending</td>
<td>14</td>
<td>1.64</td>
<td>0.37</td>
<td>43.48</td>
<td>0.72627</td>
<td>0.19410</td>
<td>3.67990</td>
</tr>
<tr>
<td></td>
<td>forward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Pain over bridge of nose</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>7.</td>
<td>Facial or eye pain</td>
<td>6</td>
<td>2</td>
<td>0.23</td>
<td>41.67</td>
<td>0.75277</td>
<td>0.30732</td>
<td>2.71163</td>
</tr>
<tr>
<td>8.</td>
<td>Fever</td>
<td>5</td>
<td>1.8</td>
<td>0</td>
<td>100</td>
<td>0.83666</td>
<td>0.37417</td>
<td>4.81</td>
</tr>
<tr>
<td>9.</td>
<td>Nasal Blockage</td>
<td>7</td>
<td>2.43</td>
<td>0.23</td>
<td>58.82</td>
<td>0.53452</td>
<td>0.20203</td>
<td>7.07107</td>
</tr>
</tbody>
</table>
Relief in sneezing, running nose, discharge, headache in morning and nasal blockage were statistically highly significant having percentage relief of about 48% - 69%. Relief in headache while bending forward was about 43% and in fever was 100% and both of these were statistically significant. Relief in facial or eye pain was about 42% but was statistically non-significant.

Again considering essential lab investigations.

**Table: Effect of drug on essential laboratory investigations in trial group.**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Lab investigations</th>
<th>Mean Score</th>
<th>% Change</th>
<th>SD±</th>
<th>SE±</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>T.L.C.</td>
<td>9210</td>
<td>7566.67</td>
<td>17.84</td>
<td>1934.56</td>
<td>353.201</td>
<td>4.65268</td>
</tr>
<tr>
<td>2.</td>
<td>E.S.R.</td>
<td>32.37</td>
<td>17.8</td>
<td>45.01</td>
<td>15.83685</td>
<td>2.8914</td>
<td>5.03793</td>
</tr>
<tr>
<td>3.</td>
<td>Total billirubin</td>
<td>0.58</td>
<td>0.55</td>
<td>4.05</td>
<td>0.09714</td>
<td>0.01774</td>
<td>1.31560</td>
</tr>
<tr>
<td>4.</td>
<td>Blood Urea</td>
<td>13.27</td>
<td>12.97</td>
<td>2.26</td>
<td>1.20773</td>
<td>0.22050</td>
<td>1.36054</td>
</tr>
<tr>
<td>5.</td>
<td>S.Creatinin</td>
<td>0.84</td>
<td>0.81</td>
<td>3.19</td>
<td>0.10483</td>
<td>0.01914</td>
<td>1.39335</td>
</tr>
</tbody>
</table>
TLC was reduced to 17.84% and ESR was reduced to 45.01%. Both of these were statistically highly significant whereas Total Bilirubin, Blood Urea and S. Creatinin were reduced 2% – 4% but these were statistically non-significant.

SUMMARY AND CONCLUSION

In this dissertation ‘Study of Panchamrita Rasa w.s.r. to Peenas Roga’, these are the following chapters to describe the various aspect of Panchamrita Rasa right from its preparation to evaluation of its clinical effect.

In literally review/conceptual study, ayurvedic as well as modern concepts regarding drug and disease has been described. The drug taken for the study was Panchamrita Rasa. The reference for this drug was taken from rasendra sara samgraha written by Gopal Krishna Bhatta. This formulation has five ingredients- Parada, Gandhaka, Tankana, Vatsanabha, Maricha and having bhawana of Ardraka swarasa. Combining the gunas of all the ingredients, this drug mainly has ushna guna.

Considering about disease, having in mind all the skeptical points regarding Peenas Roga, it was decided that this disease is same as Dusta Pratishyaya. So all points regarding nidana to samprapti and its treatment has been described. Taking into account its modern counterpart this disease closely resembles Chronic Sinusitis, thus modern view has also been described. This disease was described in texts having kapha-vata predominance.

In Pharmaceutical study, the processes to prepare the drug has been described. As Panchamrita Rasa has five ingredients, first of all each ingredients undergoes the process of shodhana to remove the impurities present in it. Shodhana of Parada was done with sudha, lasuna and saindava as, this process is easy and most common. Shodhana of Gandhaka was done by dhalana method. This process was done for seven times to obtain gandhaka as pure as possible. Then Tankana was made pure by heating and sieving. Shodhana of Vatsanabha was done by gomutra and lastly Maricha was rinsed with water to make it free from impurities. Then Kajjali was made by triturating Parada and Gandhaka. When Kajjali was prepared all the other ingredients were mixed according to the ratio mentioned in texts. Then bhawana of Ardraka swarasa was given to the mixture and filled in an empty capsule as to have 250 mg. of drug in each capsule. This drug was then administered by patients twice a day. Then clinical observations with results were shown in clinical study.
In Analytical study, the analysis of the trial drug sample was done. The samples were analyzed on Ayurvedic and modern analytical parameters as laid down in Protocol for testing for ASU Drugs published by Dept. of Ayush, Govt. of India in collaboration with PLIM, Ghaziabad. The finding shows various characters of the trial drug.

In Clinical Study, the effect of drug has been described in detail and all the data observed was presented statistically. The observed data were grouped as general considerations, effect of therapy on sign and symptoms according to ayurvedic texts, effect of therapy on essential modern clinical features, effect of therapy on essential lab investigation.

Observation on effect of therapy on ayurvedic and modern clinical features, reveals that maximum relief was observed in the symptom of vedna, praklinna nasa, tanu srava, headache in morning and nasal blockage. Observing essential lab investigations, TLC & ESR was lowered significantly while Total billirubin, B. Urea, S. Creatinin doesn’t showed any significant change. This indicates that this drug will reduce TLC & ESR levels but does not show abnormal function on liver and kidney.

CONCLUSION
From the present study the following conclusion can be drawn.

- The Panchamrita Rasa having its reference in Rasendra Sara Samgraha is having ingredients mainly of ushna guna. This makes the drug ushna in guna.
- The disease Peenas has kapha-vata predominance.
- After administering the drug, relief in the symptoms was observed. Clinically this formulation has better efficacy on symptom of vedna, praklinna nasa, tanu srava, headache in morning and nasal blockage in Peenas Roga.

Scope for further Study

- Analytically this drug can be tested on more parameters to evaluate its property.
- This drug can be tried on larger number of population and for longer time duration to evaluate its effect more accurately.

REFERENCES


Other Literature


Thesis

Websites