

Role of *Vyaghri Haritaki Avaleha* and *Anu Taila Nasya* in the management of *Dushta Pratishyaya* (Chronic Sinusitis)

Research Article

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Abstract

Chronic sinusitis-rhinosinusitis affects 5-15 % of the urban population. The prevalence of sinusitis (146/1000 population) has been reported to exceed that of any other chronic condition. The features of the disease *Dushta Pratishyaya* in general are similar to that of chronic sinusitis (rhinosinusitis) in modern science. The study was planned to evaluate the role of *Vyaghri Haritaki Avaleha* and *Anutaila Nasya* in the management of *Dushta Pratishyaya* (Chronic Sinusitis). Total 30 patients having classical sign and symptoms of *Dushta Pratishyaya* (Chronic Sinusitis) were registered and were randomly divided into two groups (Group A- *Vyaghri Haritaki Avaleha* and *Anutaila Nasya*, Group B- *Vyaghri Haritaki Avaleha*). The patients were given *Vyaghri Haritaki Avaleha* for the duration of two months and *Anutaila Nasya* in 3 sittings of seven days in each with the interval of seven days. Total 26 patients completed the treatment, 13 in each. Obtained data was statistically analyzed with the help of student 't' test. The study reveals that in both the groups no patient was totally cured. 46.15 % and 53.85 % patients got marked relief, 38.46 % and 23.08 % patients got moderate relief, 15.38% and 23.08 % patients got mild relief in signs and symptoms of the disease in Group A and B respectively. None of the patients remained unchanged.

Key words: *Anutaila*, Chronic Sinusitis, *Dushta Pratishyaya*, *Nasya*, *Vyaghri Haritaki Avaleha*

Introduction

Pratishyaya has been a major problem to the physicians since long back, this is because one separate chapter has been devoted to it after explaining *Nasagataroga* in *Shusruta Samhita*.(1) Unlike other nasal diseases, we get detailed description of *Pratishyaya*, with specific etiopathogenesis, classification, symptomatology, complications and management.

Pratishyaya by word itself indicates that it is recurrent in nature. *Vata* is the main *Dosha* and *Kapha Pitta* and *Rakta* are associated *Dosha*. (2) If these *Dosha* are vitiated more due to patient's improper dietary and behavioral habits and if *Pratishyaya* is not managed properly, lead to a severe and complicated condition called *Dushta Pratishyaya*-which is very difficult to treat and causes lot of complications like *Badhira* (Deafness), *Andhata* (Blindness), *Ghrananasa* (Anosmia) etc.(3)

The features of the disease *Dushta Pratishyaya*

in general are similar to that of chronic sinusitis (rhinosinusitis) in modern science.

Nose is a sense organ which performs two functions i.e. olfactory and respiratory. Due to its direct contact with external environment it is exposed to lot of microorganisms & pollutants present in the atmosphere. Due to the increased environmental pollution, faulty lifestyle and decreased immunity; rhinitis (acute nonspecific rhinitis- common cold) is one of the most common acute infections affecting the body.(4) If this stage is not properly treated; it will cause the spread of infection into sinuses and results into sinusitis and later on chronic sinusitis (rhinosinusitis).(5) Chronic sinusitis is a long-term inflammation of the sinuses. It is diagnosed when symptoms of sinusitis persist for longer than 12 weeks despite treatment. Because of this, the mucous membranes in the nose and paranasal sinuses are constantly inflamed and become thickened.

Medical therapy is directed toward controlling predisposing factors, treating concomitant infections, reducing edema of sinus tissues, and facilitating the drainage of sinus secretions. The goal in surgical treatment is to re-establish sinus ventilation and to correct mucosal opposition in order to restore the mucociliary clearance system. Surgery strives to restore the functional integrity of the inflamed mucosal lining.

Many treatment modalities are propounded by ancient scholars for this disease according to condition of patient and progression of disease.(6) Though all

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Acharya had described *Dushta Pratishyaya* as a complicated condition and with poor prognosis,(7) still a better management can be provided to the patient with internal and local medication without any side effects.

The places with high levels of atmospheric pollution, damp temperature climates with high concentration of pollens are associated with a higher prevalence of this disease. Jamnagar being known for Industrial pollution and having more dusty and humid environment, respiratory infections report a large number of cases. Approximately 50-60% of the ENT patients attending *Shalakyā* O.P.D., have complaint of this Rhinitis and associated sinusitis.

Considering all these facts, a clinical trial on *Dushta Pratishyaya* was carried out to find out a treatment protocol for management of the same. For this study, *Nasya* with *Anutaila* and *Vyaghri Haritaki Avaleha* orally were selected. As *Dushta Pratishyaya* (Chronic Sinusitis) is a chronic condition of *Dosha* accumulation in particular *Nasa* and *Shira*; which happens mainly due to *Sanga* type of *Srotodushti*; administration of *Sneha Virechana Nasya* of *Anu Taila* (8) was selected for *Dosha Sravana* and *Srotoshudhhi*. On the other hand, due to decreased immunity, recurrences are very common. According to Ayurveda, *Rasayana* can be used for improvement of immunity. So many *Rasayana* preparations are described in various texts, out of which *Vyaghri Haritaki Avaleha* (9) was selected for internal medication, as it is indicated for *Peenasa* (Chronic rhinitis/sinusitis) and also having *Rasayana* and anti-inflammatory effect.

Aims and objectives

To study the disease *Dushta Pratishyaya* (Chronic Sinusitis) in Ayurvedic and modern parlance.

To assess the role of *Anutail Nasya* and *Vyaghri Haritaki Avaleha* in *Dushta Pratishyaya* (Chronic Sinusitis).

Materials and methods

Patient selection:

Patients attending the O.P.D. and I.P.D of Department of *Shalakyā* (E.N.T. unit), were selected for the study, irrespective of their sex, religion, occupation, education etc. Total 30 patients were registered for the study. An elaborative case-taking proforma was specially designed for the purpose of incorporating all aspects of the disease on *Ayurvedic* and modern parlance.

Informed consent was taken from all the registered patients for the trial.

Sampling technique:

A total no. of 30 patients were divided into two groups by simple random sampling method.

Study was started after getting ethical clearance from institutional ethics committee.

Inclusion criteria

Patients fulfilling the diagnostic criteria which are based on symptomatology of *Dushta Pratishyaya*

explained in Ayurvedic classics and chronic sinusitis were selected.

- Subjective Criteria- Patients having symptoms of nasal discharge, nasal blockage, local pain, headache, nasal stuffiness, anosmia etc.
- Objective criteria- Anterior rhinoscopic examination, Radiological examination of paranasal sinuses, nasal endoscopy, C-reactive protein test (CRP Test), hematological examination.

Exclusion criteria

- Patients aged below 12 years and above 70 years.
- Chronic debilitating infectious diseases.
- Cases which require surgical treatment.

Investigations

Following investigations were carried out before and after treatment.

- Hematological examination: Hb%, TC, DC, ESR.
- Urine examination: Routine and microscopic
- Radiological examination of para nasal sinuses (X-ray PNS (Waters view & Caldwell's view)).
- Diagnostic nasal endoscopy.

Grouping of patients

- Group A - In this group patients were administered *Vyaghri Haritaki Avaleha* orally and *Marsha Nasya* with *Anutaila*.
- Group B - In this group patients were administered *Vyaghri Haritaki Avaleha* orally.

Drug and posology

Preparatory phase:

Before starting the treatment, *Deepana - Pachana* with *Trikatu Churna* (3-5 gm. BD) and *Koshtha Shudhhi* with *Eranda Bhrishta Haritaki* (5 gm at Bed time) was given for three days to all the patients. Before *Nasya*, *Urdhava Jatrugata Abhyanga* and *Swedana* was done as *Purvakarma*.

Treatment phase:

1. *Vyaghri_Haritaki_Avaleha*

Form: *Avaleha*.

Route of Administration: Oral.

Dose: 5 - 10gm/Two times a day after food with luke warm water.

Duration: 2 months.

2. *Anutaila*

Form of *Nasya* Drug: *Taila (Sneha)*.

Route of Administration: Nose.

Dose for *Nasya*: 8 drops in each nostril followed by *Dhumpana*.

Duration: *Nasya* was given once daily for continue seven days. This was repeated thrice with interval of seven days in between.

Assessment of total effect of therapy:

- Complete relief: 100% relief in subjective and objective signs and symptoms
- Marked relief: Above 75% relief in subjective

and objective signs and symptoms

- Moderate relief: 51-75% relief in subjective and objective signs and symptoms
- Mild relief: 26-50% relief in subjective and objective signs and symptoms
- No relief: Below 25% relief in subjective and objective signs and symptoms

Statistical Analysis:

The effect of therapy in both the groups was assessed by applying student t test. The results obtained are considered highly significant for $p < 0.001$, significant for $p < 0.01$, $p < 0.05$, and insignificant for $p > 0.05$.

Observations and Results:

For this study total 30 patients were registered and randomly divided into two groups, among which 26 patients (13 patients in each group) completed the treatment.

Age:

Maximum number of the patients (40%) belonged to the age group of 20-29 years. While 30 % and 23.33 % patients were from the age group of 40-49 years and 30-39 years respectively.

Sex:

Majority of the patients were female i.e. 56.67% and rest patients were male i.e. 43.33 %.

Surroundings:

Maximum number of the patients i.e. 63.33 % were from dusty surrounding followed by 30 % were from smoky and 23.33% were from polluted surroundings.

Chronicity:

Maximum i.e. 46.67% patients were having chronicity of 1-5 years. 33.33% patients were having the disease since 1 year. 20% were having chronicity of 5-10 years.

Nasal examination:

In nasal examination i.e. anterior rhinoscopy 93.33 % patients were having Deviated Nasal Septum (DNS). 66.67 % patients had congestion. This is because of the body response to remove the retained discharge and also indicate a long standing inflammatory process. 60 % patients were having turbinate hypertrophy.

Nasal discharge:

46.67 % patients had thick nasal discharge; followed by 30 % had yellow discharge. 23.33 % patients had watery discharge. 13.33 % patients had purulent discharge.

Sinus examination:

100 % patients had right and left maxillary sinus tenderness on examination, 76.67 % patients had right and left frontal sinus tenderness. On radiological examination 83.33 % patients had frontal sinusitis. 60

% and 50 % patients had right and left maxillary sinusitis respectively.

Table 1: Sinus examination wise distribution of 30 patients

A: Palpation:

Sinuses		No. of patients		Total	%
		Group A	Group B		
Frontal	Rt	15	15	30	76.67
	Lt	15	15	30	76.67
Maxillary	Rt	12	11	23	100
	Lt	12	11	23	100
Ethmoid	Rt	9	7	16	53.33
	Lt	8	7	15	50

B: Radiological:

Sinuses		No. of patients		Total	%
		Group A	Group B		
Frontal	Rt	13	12	25	83.33
	Lt	14	11	25	83.33
Maxillary	Rt	12	6	18	60
	Lt	9	6	15	50

Nidana:

Maximum patients i.e. 60.33 % had *Ajirna*. 50 % patients had habit of *Ati Ambu Pana* and 43.33 % patients were doing *Sheeta Ambu Pana*. 56.67 % patients had exposure to *Raja* (dust). 46.67 % patients were used to sleep in day times. 70 % patients had short tempered nature.

Chief and associated complaints:

Maximum i.e. 96.67 % patients had *Shirashoola* (headache) as their chief complaint. 86.67 % patients had *Shirogurava* (heaviness in head). *Shirashoola* and *Shirogurava* were observed as a characteristic feature of the disease. Majority of the patients i.e. 90 % and 73.33 % patients had complaints of *Nasavarodha* (nasal obstruction) and *Nasavrava* (nasal discharge). 80 % patients had post nasal drip. Post nasal drip will result a lot of descending infections like pharyngitis, laryngitis, coughing etc.

Table 2: Chief and associated complaint wise distribution of 30 patients

Complaints	No. of patients		Total	%
	Group A	Group B		
<i>Nasasrava</i> (Nasal discharge)	12	10	22	73.33
<i>Nasa Avrodha</i> (Nasal blockage)	12	15	27	90
<i>Gandha Agyanata</i> (Anosmia)	5	6	11	36.67
<i>Mukha Daurgandhya</i> (Halitosis)	2	4	6	20
<i>Shirah Shoola</i> (Headache)	15	14	29	96.67
<i>Kasa</i> (Coughing)	2	8	10	33.33
<i>Jwara</i> (Fever)	9	13	22	73.33

Effect of therapies on subjective symptoms (13 patients in each group)

Nasasrava was reduced in 80.77 % patients in Group A ($p < 0.001$), while 88.22 % patients in Group B ($p < 0.01$).

Nasaavrodha was reduced in 66.46 % patients in Group A, while 84.21 % patients in Group B. Both these values are statistically highly significant ($p < 0.001$).

Shirashoola was reduced in 72.73 % patients in Group A, while 75.86 % patients in Group B. Both these values are statistically highly significant ($p < 0.001$).

In *Gandhagyanata* 50 % relief was observed in Group A which is statistically significant ($p < 0.05$) and 42.86 % relief was found in Group B which is statistically not significant ($p > 0.05$).

Mukhadaurgandhya was reduced in 100 % of

the patients in group A and 71.43 % in Group B. Because of the less number this data couldn't be analyzed statistically.

In associated symptoms like *Kasa* and *Jwara* 100 % relief was observed in both the groups.

Table 3: Effect of therapies on chief and associated complaints in both the groups:

Complaint	Group A		Group B	
	% relief	P	% relief	P
<i>Nasasrava</i>	80.77	<0.001	88.24	<0.01
<i>Nasaavrodha</i>	66.46	<0.001	84.21	<0.001
<i>Gandha-Agyanta</i>	50	<0.05	42.86	>0.05
<i>Shirashoola</i>	72.73	<0.001	75.86	<0.001
<i>Mukha daurgandhya</i>	100	-	71.43	-
<i>Kasa</i>	100	-	100	-
<i>Jwara</i>	100	-	100	-

Effect of therapy on examination of sinuses:

Rt. maxillary sinus:

In 80 % patients in Group A and 75 % patients in Group B, relief was observed on tenderness of sinuses. Both these values are statistically highly significant ($p < 0.001$). In 38.46 % patients in Group A and 25 % patients in Group B, haziness or opacity was reduced on radiological examination. Among these, the result of Group A is statistically significant ($p < 0.05$) but in case of Group B it is statistically not significant ($p > 0.05$).

Lt. maxillary sinuses:

In 85 % patients in Group A and 83.33 % patients in Group B, relief was observed on tenderness of sinuses. Both these values are statistically highly significant ($p < 0.001$). In 60 % patients in Group A and 33.33 % patients in Group B haziness or opacity was reduced on radiological examination. Among these, the result of Group A is statistically significant ($p < 0.01$) but

Table 4: Effect of therapies on sinus examinations:

Sinuses	Palpation				Radiological			
	Group A		Group B		Group A		Group B	
	% relief	P	% relief	p	% relief	P	% relief	P
Rt.Maxillary	80	<0.001	75	<0.001	38.46	<0.05	25	>0.05
Lt.Maxillary	85	<0.001	83.33	<0.001	60	<0.01	33.33	>0.05
Rt.Frontal	76.19	<0.001	81.25	<0.001	50	<0.05	25	>0.05
Lt.Frontal	76.19	<0.001	81.25	<0.001	61.54	<0.05	10	>0.05

in case of Group B it is statistically not significant ($p > 0.05$).

Rt. frontal sinuses:

In 76.19 % patients in Group A and 81.25 % patients in Group B, relief was observed on tenderness of sinuses. Both these values are statistically highly significant ($p < 0.001$). But Group B showed better result. In 50 % patients in Group A and 25 % patients in Group B haziness or opacity was reduced on radiological examination. Among these, the result of Group A is statistically significant ($p < 0.05$) but in case of Group B it is statistically not significant ($p > 0.05$).

Lt. frontal sinuses:

In 76.19 % patients in Group A and 81.25 % patients in Group B, relief was observed on tenderness of sinuses. Both these values are statistically highly significant ($p < 0.001$). But Group B showed better result. In 61.54 % patients in Group A and 10 % patients in Group B haziness or opacity was reduced on radiological examination. Among these, the result of Group A is statistically significant ($p < 0.05$) but in case of Group B it is statistically not significant ($p > 0.05$).

Overall effect of therapies on subjective and objective parameters:

In both the groups no one was totally cured. In Group A 46.15 % patients and in Group B 53.85 % patients got marked relief in signs and symptoms of the disease. In Group A 38.46 % patients and in Group B 23.08 % patients got moderate relief in signs and symptoms of the disease. In Group A 15.38 % patients and in Group B 23.08 % patients got mild relief in signs and symptoms of the disease. None of the patients remained unchanged.

Table 5: Overall effect of therapy

Overall effect	Group A		Group B		Total %
	No. of pt.	%	No. of pt.	%	
Complete relief	0	0	0	0	0
Marked relief	6	46.15	7	53.85	50
Moderate relief	5	38.46	3	23.08	30.77
Mild relief	2	15.38	3	23.08	19.23
No relief	0	0	0	0	0

Discussion:

Age and sex:

According to references chronic sinusitis can affect any age group, but young and middle age group persons are affected the most. In this study also the same observations were found. Both the sex are equally

affected from the disease but in present study female were affected more than male.

Surroundings of residence and work place:

Most patients were from dusty, smoky or polluted environment; *Rajah Sevana* is one of the *Sadyojanaka* cause of *Pratishyaya*.

Chronicity:

Maximum patients were having chronicity of 1-5 years, and 20% were having chronicity of 5-10 years. This factor directly influences the prognosis.

Nasal examination:

More than 90% of patients were having DNS, DNS is a factor which plays a key role in blocking of the frontonasal duct (Frontal sinus ostium) and the ostia draining the ethmoid and maxillary sinuses which lead the sinusitis to a chronic phase. Majority of the patients were having turbinate hypertrophy that plays a major role in the blockage of sinus ostia which hampers the natural drainage system, resulting in sinusitis.

Nasal discharge:

Majority of the patients were having thick-yellowish or purulent nasal discharge, except 23.33% patients having watery nasal discharge. This data supports the fact that in *Dushta Pratishyaya* there will be *Puyopam- Grathita Srava*.(10)

Sinus examination:

All the observations point out that anterior group of sinuses are affected more than posterior group. Fronto-maxillary sinusitis was the most common variety found in this study. Amongst 30 patients 53.33% and 50 % patients had right and left ethmoid sinus tenderness respectively. But with X-ray Water's view of paranasal sinuses to rule out ethmoid sinusitis was not possible.

Nidana:

Majority of the patients were having *Ajeerna*, most of patients were having habit of *Ati Jalapana* and *Shitambu Sevana*. *Aharaja Nidana* are reflection of the changing and busy lifestyle which played a role in the pathogenesis of the disease. Most of patients were having, *Viharaja Nidana* like *Ritu Vaishanya*, *Raja*, *Dhuma Sevana* etc. they are unavoidable etiological factors which are described by *Acharya Sushruta* as *Sadyojanaka Nidana* for *Pratishyaya*. Chronic contact with such unavoidable *Nidana* will nullify the effect of the therapy. It can be one reason why the patients were not getting relief even after taking treatment for years. *Krodha* as *Manasika Nidana* is also reflection of the *Prakriti* of the patients and also today's lifestyle. This also plays a major role in the etiopathogenesis of the disease.

Chief and associated complains:

The inflammation of nasal and sinus mucosa causes hyperemia, exudation of fluid and increased activity of serous and mucous glands. This causes nasal discharge. Increased blood flow due to infection causes

oedema of nasal and sinus mucosa which results in nasal obstruction. Deviated Nasal septum and hypertrophied turbinates worsen the conditions like *Nasavrava* and *Nasavarodha*.

Effect of therapy on chief and associated complains:

In both the group statistically significant relief was observed in *Nasavrava*, *Nasavarodha* and *Shirashoola* like symptoms. Oral drug administration of *Vyaghri Haritaki Avaleha* helped in reduction of inflammation and infection, and thus relieved *Nasavarodha* due to oedema and *Nasavrava* due to infection and over activity of mucous secreting glands. When both inflammation and infection are checked; the sinuses get proper drainage and ventilation. As a consequence *Shirashoola* was reduced. In symptom of *Gandhagyanta* significant result was not found in group B. Smell perception is done by olfactory receptors situated at olfactory bulb. If the smell perception is obstructed due to oedema of mucosal lining, it can be restored by reducing inflammation. But if the olfactory epithelium is destroyed once cannot be restored. In group A *Nasya* was given which acts locally and helped in reduction of oedema. Thus in the symptom of *Gandha Agyanta* Group A showed better result.

Associated symptoms like *Kasa*, *Jwara* and *Mukhadaurgandhya* were cured with the treatment of main disease.

Effect of therapy on sinus examination:

On the above data, we can see that subjectively both the groups showed statistically significant improvement but objectively Group A showed statistically significant result while Group B didn't show statistically significant improvement. This happened because of *Nasya Karma*, as drainage of retained secretions is facilitated by local *Swedana* and *Aushdha* instillation. This helps in early and better improvement in local pathology.

Overall effect of therapy:

Maximum numbers of patients got marked relief. In both the groups none of the patient was totally cured, this is because the etiological factors of the disease are such as dust, moisture, wind, smoke, pollution, pollens etc. These are unavoidable environmental factors which cannot be completely avoided. So if the exposure to *Nidana* is continuous simultaneously with *Chikitsa* one cannot get proper or desired result. The result also depends upon the chronicity. In *Ayurveda* it is said that if the disease is chronic (*Purana*) it is difficult to treat-*Yappa*(8). Moreover the patients' lowered immunity status is also one of the causes. It may require long time to boost up the immunity to fight against recurrences.

The variation of results also depends upon *Roga Bala*, *Rogi Bala* and the *Bhishagvashyata*-compliance/obedience of the patient.

Probable mode of action of *Vyaghri Haritaki Avaleha*

Two main ingredients of *Vyaghri Haritaki Avaleha* are *Haritaki* and *Kantkari*. *Haritaki* has

Tridoshshamaka property and *Kantkari* has *Kapha-Vatahara* property. Both the drugs have *Kapha-Vatahara* properties. *Kantkari* is an immunostimulating agent.(11) *Haritaki* also has immunomodulatory activity.(12) *Haritaki* is having *Shothahara* and *Rasayana* property also. Medicines of the *Rasayana* group are believed to promote health, immunity, and longevity. *Prakshepa Dravyas-Trikatu* and *Chaturjata* have *Ushna-Tikshna* properties, which promote *Agni*, indirectly help in absorption and metabolism of active principles. *Trikatu* helps to increase the bioavailability of the medicine and more over removes the *Srotorodha* at the cellular level. *Trikatu* is the best bioavailability enhancers, which helps in maintaining the major therapeutic principles in the systemic circulation for longer duration and they are good *Anulomana*, *Deepana* and *Pachana Dravyas* and subsides the aggravated *Vata*. *Trikatu* possesses potential immunomodulatory activity and has therapeutic potential for the prevention of autoimmune diseases. (13) *Madhu* has *Kaphahara* and *Chhedana* properties. *Guda* is also used in this formulation and *Haritaki* with *guda* is said to be *Tridoshahara*.

Anti-inflammatory activity of *Terminalia chebula* Retz. was at least in part due to its modulatory effect on pro-inflammatory cytokine expression in the inflammation.(14) Antibacterial Activity of Hydroalcoholic Extract of *Terminalia chebula* Retz. on different Gram-positive and Gram-negative Bacteria is also well documented. (15) This resolves infection and inflammation and removes obstruction at sinus ostia & also liquifies stagnant discharge in sinuses, thus facilitates drainage.

Thus the formulation *Vyaghri Haritaki Avaleha* acts by rectifying *Vayu* by *Ushna Veerya*, *Madhura Rasa*, *Anulomana* property and *Sroto-Shodhana* by its *Katu-Tikta-Kashaya Rasa*, *Ushna Veerya* and *Katu Vipaka*, thus breaking the *Samprapti*. It will open the obstructed path like sinus ostia and facilitate the drainage of collected discharge. The formulation is having qualities like *Madhura Rasa*, which increases the *Bala* (strength) which is usually decreased in chronic condition, thus improving the condition of the patient.

Probable mode of action of *Anutaila Nasya*

Instead of detailed description of the mode of action of *Nasya Karma*, *Acharya Charaka* and *Vagbhatta* have given some details regarding it. They mentioned that the medicine administered through *Nasya* can easily spread into *Shira* and get absorbed and eliminates the *Dosha* from *Urdhva Jatrugata Pradesha*. *Urdhvajatrugata Abhyanga* and *Swedana* are done before *Nasya*. These pre procedural measures help in facilitating drug absorption. The drug administration is done in head low position, which plays a major role in retaining the instilled medicine in the nasopharynx, thus increasing the contact time with mucosa. After the absorption of the drug it may follow neural (olfactory and trigeminal) and circulatory (cavernous sinus) course to reach the site of action. It can influence the psychic level (limbic system), sensory level, motor level

(Trigeminal nerve) and general circulation and ultimately produce the action. (Excitation or sedation).

Due to *Sukshama-Vyavayi Guna* and special preparatory process, *Anutaila* possess a good spreading capacity through minute channels. *Tikta- Katu Rasa, Laghu- Tikshna Guna, Ushna Veerya* and *Katu- Vipaka* make *Srotoshodakatwa*. By the above two properties the *Nasya* drug removes the obstruction of natural sinus ostia and facilitate the drainage of purulent discharge. *Indriyadardhyakaratawa, Balya, Preenana* and *Brimhana* properties can increase general and local immunity. *Madhura Rasa, Sheeta Veerya, Snigdha Guna* and *Tridoshahara* properties will promote the nourishment of *Dhatu* which ultimately increases the general and local immunity (mucosal health). This immunomodulation will reduce the frequent episodes of inflammation in nasal cavity and sinuses. Majority of ingredients possess anti-inflammatory activity which also prevent the inflammatory process. The local irritation made by the drug is helpful to liquefy the purulent sputum and ultimately expulsion. The bacteriostatic property of ingredients will arrest the secondary infection.

Conclusion:

Recurrent attack of *Pratishyaya* continue for months and years, will turn in to a chronic phase with much complication called *Dushta Pratishyaya*. On the basis of similarity between the signs, symptoms, complications, prognosis and chronicity, chronic sinusitis can be correlated with *Dushta Pratishyaya*.

Both the group showed almost equal results in different symptoms. But objectively Group-A (*Vyaghri Haritaki Avaleha* with *Anutaila Nasya*) showed better result. So it can be said say that *Nasya* with oral medication may be much beneficial for early cure of the disease.

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