

## MANAGEMENT OF NASAVIVAR SHOTHA (PARANASAL SINUSITIS) BY BHARANGYADI TAILA NASYA AND PATHYADI KWATHA

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### ABSTRACT

Sinusitis is characterized by tenderness over sinus region, headache, nasal blockage, nasal discharge, fever and bad breath. Chronic infected Sinusitis leads to complications like otitis media, rheumatic heart disease, poly arthritis etc. In Allopath, conservative treatment includes a wide range of antibiotics and decongestants. However, these drugs are not beneficial in chronic conditions. If conservative measures fail, various operative procedures are performed to drain the sinus. But, even these costly surgical procedures are not devoid of complications ranging from bleeding, oro-antral fistula, infra orbital anesthesia leads to neuralgia and par aesthesia. This condition can be correlated with *Nasavivar shoth* in *Ayurveda* and lot of treatment modalities including *Nasya* therapy are explained by *Acharya* for this condition as per the condition of patient and progression of disease. In this study, *Bharangyadi taila Nasya* and *Pathadhyadi kwath* internally were used to establish a definite treatment protocol for this disease. The statistical analysis revealed significant improvement in the subjective parameters like Facial pressure on pain, Headache, Stuffiness, Purulent nasal discharge, Fever, Bad breath etc. and also improvement in objective parameters i.e. X ray PNS seen after completion of treatment which was significant statistically.

**Keywords:** Sinusitis, *Nasavivar shoth*, *Nasya*, *Bharangyadi taila*, *Pathadhyadi kwath*

### INTRODUCTION

Sinusitis is a common problem among all age groups and is a leading cause of hospital visits worldwide. This disease is characterized by tenderness over sinus region, headache, nasal blockage, nasal discharge, fever and bad breath. Once sinus is infected, improper management and dietary habits lead the disease into a chronic phase this chronic sinusitis is too difficult to drain out completely. It remains as a focus for infections and in-

flamations in all associated structures like tonsil, ear, pharynx, larynx etc. Finally it may lead to many complications like otitis media, rheumatic heart disease, poly arthritis etc.

In modern medical system a wide range of antibiotics and decongestants are available. But these drugs have nothing to do with such a chronic condition. FESS (Functional Endoscopic Sinus Surgery), Caldwell-Luc operation, Haworth's operation etc. are the chief operative procedures

to drain the sinus if conservative measures fail. All these costly surgical procedures will lead a lot of complications ranging from bleeding, oro- antral fistula, infra orbital anesthesia leads to neuralgia and par aesthesia.<sup>1</sup>

In Ayurveda a detailed description of *nasaroga* is available.<sup>2</sup> All *Acharyas* described various *nasa* and *shiroroga* which can correlated to sinusitis. This condition is described under various diseases like *Pratishyaya*, *dushta pratishyaya*, *kshavathu*, *branashathu*, *kaphaj shiroroga* etc. and lot of treatment modalities are also explained by *Acharya* for this disease according to condition of patient and progression of disease.<sup>3</sup> In the present study therapeutic efficacy of *Bharangyadi taila* and *Pathadhyadi kwath* in *Nasvivar Shotha* was evaluated.

## AIMS AND OBJECTIVES

1) Clinical evaluation of combined therapy of *Bharangyadi taila Nasya* and *Pathadhyadi kwath* internally on sinusitis

2) To develop evidence based support for effect of *Bharangyadi taila Nasya* in sinusitis (*Nasavivar shotha*) as mentioned in our ancient literature and also to analyze the observations and to find the significance of the drug action.

## MATERIALS AND METHODS

**Study Design:** Open uncontrolled Study

**Number of Patients:** 30

**Drug:** *Bharangyadi taila* and *Pathyadi Kwatha*

**Drug schedule:**

1. *Bharangyadi taila Nasya*- 6 drops in each nostril every morning for 7 days. 2 cycles of *nasya* were done with 1 week gap in between them.

2. *Pathyadi kwatha*- 20 ml twice a day for 5 week with Lukewarm water orally.

**Duration of Treatment:** 5 week

**Criteria for selection of patient**

Patient diagnosed clinically & on the basis of criteria by American Academy of Otolaryngology Head & Neck Surgery (AAO-HNS).

**Table 1:** AAO-HNS Chart for sinusitis diagnosis as per clinical manifestation.

Sl. No	Symptoms	Occurrence	
1	Facial pressure or pain	Yes	No
2	Headache pain	Yes	No
3	Congestion or Stuffy nose	Yes	No
4	Thick yellow green nasal discharge	Yes	No
5	Low fever (99-100 degree F.)	Yes	No
6	Bad breath	Yes	No
7	Pain in upper teeth	Yes	No

If patient answers 'Yes' to 3 or more symptom with inclusion of first three symptoms, then patients were diagnosed as *Nasavivar shotha* (sinusitis).

**Inclusion criteria:** All patients in the age group of 15-65 presenting with signs & symptoms of sinusitis (*Nasavivar shotha*) & fulfilling the American Academy of Otolaryngology Head & Neck Surgery (AAO-HNS) - criteria for sinusitis.

**Exclusion criteria**

1. Patients not willing for trial
2. Pregnant women
3. Patient who need surgical and other intervention (Polyp etc.)
4. Patient suffering from Diabetes, Tuberculosis, Hypertension, Malignancy and poor general health.

**Investigations:** X- ray PNS Caldwell & Waters View, before starting the treatment

& after completion of the treatment. To assess the improvement in symptoms of Sinusitis symptoms were graded in 4 gradations on the basis of severity & duration.

**Grade:**

1-Mild

2-Moderate

3-Severe

0-No Symptom

**Criteria for the assessment**

The efficacy of the therapy was assessed on the basis of subjective as well as objective criteria. Most of the symptoms & signs of Sinusitis described in texts are subjective in nature. Hence multidimensional scoring system was adapted for statistical analysis and to give results on subjective parameters. Score was given according to the severity of symptoms as follows:

**Clinical Assessment**

**1. Facial pressure or pain or local sinus tenderness**

Grade 0 – No pain or local sinus tenderness

Grade 1–Present but no interference with daily Activities

Grade 2 – Present and some interference with daily activity

Grade 3 – Present with incapacitation.

**2. Headache**

Grade 0 – No headache

Grade 1– Occasional headache not interference with daily activity

Grade 2– Intermittent headache and some interference with daily activity

Grade 3 – Continuous headache

**3. Congestion or Stuffy nose.**

Grade 0 – Absent

Grade 1 –Occasional (1-2 episodes in a day not at regular intervals)

Grade 2 – More than 2 episodes in a day at regular intervals

Grade 3 – Continuous

**4. Nasal discharge**

Grade 0 – Absent

Grade 1 – Occasional scanty discharge

Grade 2 – Intermittently mucoid discharge

Grade 3 – Continuous muco purulent nasal discharge with foul smell.

**5. Fever**

Grade 0 – Absent

Grade 1 – Low fever (99-100 degree F)

Grade 2 – Fever 100 degree F-102 degree F

Grade 3 – Fever more than 102 degree F

**6. Bad breath**

Grade 0 – Absent

Grade 1 – Occasional

Grade 2 – Intermittently

Grade 3 – Continuous

**7. Pain in upper teeth**

Grade 0 – Absent

Grade1-Present but no interference with daily activities

Grade 2 – Present and some interference with daily activity

Grade 3 – Present with incapacitation

**Investigational assessment:** For the purpose of assessing the disease X-ray PNS Caldwell's or Waters view was evaluated before and after the treatment.

**Assessment of effect of therapy:** The effect of the therapy was assessed in terms of cured, markedly improved, improved and unchanged. The details are as follows-

1. **Cured:** 100% relief from all signs & symptoms was considered as totally cured.

2. **Markedly improved:** 50% to 100% relief from the signs & Symptoms was considered as markedly improved.

3. **Improved:** 25% to 50% relief from the signs & Symptoms were considered as improved.

4. **Unchanged:** Less than 25% or no relief from the signs & Symptoms was considered as unchanged.

**OBSERVATION AND RESULTS**

**Demographical details**

**Gender wise distribution of subjects:** Out of 30 subjects examined, there were 15 males (50%) & 15 females were (50%).

**Age wise distribution of subjects**

- 1) Age 16-25: 12 subjects (40%)
- 2) Age 26-35: 12 subjects (40%)
- 3) Age 36-45: 05 subjects (16.67%)
- 4) Age 46-55: 03 subjects (3.33%)
- 5) Age 55-65: 0 subjects (0%)

**Economical status wise distribution:** Out of 30 subjects 3 (10%) subjects were from lower class, 25 (83.33%) subjects were from middle class and 02 (6.67%) subject were from upper middle class.

**Vihar wise distribution of subjects:** Out of 30 subjects 17 (53.33%) subjects were working in A.C. while 13 (43.33%) subjects were working in non A.C.

**Chronicity wise distribution of subjects:** Out of 30 subjects 18 (60%) were having

sinusitis from 6-12 month, 8 (26.67%) subjects since 1-2yr, 3 (10%) from 2- 3yrs and 1 (3.33%) subjects from 3-4yrs.

**Agni wise distribution:** 6 (20%) subjects were having *sama agni*, 12 (40%) having *Mandagni* (10%) subjects having *Tikshnagni* and 9 (30%) having *Vishamagni*.

**Prakruti wise distribution:** 2 (6.67%) subjects were having *pittakapha prakruti*, 1 (3.33%) having *kapha pitta prakruti*, 5 (16.67%) subjects having *vata pitta prakruti*, 4 (13.33%) having *kapha vata prakruti* and 18 (60%) subjects having *vata kapha prakruti*.

**Clinical assessment of patients**

The patients suffering from Sinusitis had to undergo clinical examination at every follow up of one week for clinical assessment of the improvement in signs & symptoms. On the basis of those criteria the statistical analysis of improvement in symptoms & signs was done.

Table 2: Statistical Analysis by Wilcoxon matched-pairs Signed-ranks test

Sl. No	Symptom	Mean	SD	SE	'W'	No. of Pairs	'Z'	p	
1	Sinus tenderness ( <i>Nasvivar pradeshi sparshasahatva</i> )	BT	2.20	0.406	0.074	465.0	30	4.78	<0.001 Highly Significant
		AT	0.53	0.507	0.092				
		Diff	1.66	0.546	0.099				
2	Headache ( <i>shirashula</i> )	BT	2.30	0.406	0.085	465.0	30	4.78	<0.001 Highly Significant
		AT	0.50	0.508	0.092				
		Diff	1.80	0.42	0.884				
3	Congestion or stuffy nose ( <i>nasavarodh</i> )	BT	1.86	0.43	0.079	406	28	4.62	<0.001 Highly Significant
		AT	0.566	0.50	0.092				
		Diff	1.30	0.59	0.108				
4	Nasal discharge ( <i>nasastrava</i> )	BT	1.46	0.571	0.104	351	26	4.45	<0.001 Highly Significant
		AT	0.566	0.626	0.114				
		Diff	0.90	0.40	0.073				
5	Fever ( <i>jwara</i> )	BT	0.067	0.546	0.099	105	14	3.29	<0.001 Highly Significant
		AT	0.2	0.406	0.074				
		Diff	0.467	0.507	0.092				
6	Bad breath ( <i>shwas durgandhata</i> )	BT	0.33	0.479	0.87	28	07	2.36	<0.001 Significant
		AT	0.1	0.305	0.055				
		Diff	0.233	0.430	0.078				
7	Pain in Upper teeth ( <i>Urdhwa Dantshul</i> )	BT	0.5	0.57	0.104	21	06	2.20	<0.001 Significant
		AT	0.30	0.46	0.085				
		Diff	0.20	0.40	0.074				

Table 3: Effect of Therapy on 30 Patients of sinusitis

Sl. No.	Total effect of therapy	No. of patients	Percentage (%)
1	Totally cured (100%)	0	0
2	Cured (75-100%)	10	33.33
3	Markedly improved (50- 75%)	15	50
4	Improved (25-50 %)	05	16.67
5	Unchanged	0	0

## DISCUSSION

This study primarily aimed at evaluating the *Shaman* effects of *Bharangyadi taila Nasya* adjuvant to *Pathadhyadi kwath* internally in *Nasavivar shoth* (Paranasal Sinusitis). For the study, 30 patients of *Nasavivar shoth* of both the sexes of age group 12 to 70 years with the symptoms Facial pressure on pain, Headache, Stuffy nose, Purulent nasal discharge, Fever, Bad breath and Pain in upper tooth were included whereas Pregnant & lactating women, patient who needed surgical and other intervention, patients suffering from Diabetes, Hypertension, Tuberculosis and malignancy were excluded from the study. *Bharangyadi taila Nasya* was given to them for consecutively 3 cycles at the interval of 7 days each. Each cycle was given for 7 consecutive days. Besides *Pathadhyadi kwath* was given to them for 5 weeks. The data obtained was put to statistical analysis and the result obtained on all the parameters was extremely significant.

### Following observations in the study can be highlighted:

1. Highest prevalence (80%) of *Nasavivar shoth* was seen in the age group 16- 35years which shows that this condition is seen more among the population.
2. Gender plays no role in the etio pathogenesis of the disease.
3. Around 33% subjects were working in A.C. which explains indulgence in un salu-

tary life

4. *Bharangyadi taila Nasya* adjuvant to *Pathadhyadi kwath* internally in *Nasavivar shoth* (Paranasal Sinusitis) proves to be an easily available, cost effective, easy, herbal alternative in the management of *Nasavivar shoth*.

### Probable Action of *Snehan Swedan* (Pre-Nasya) procedure and *Nasya* Therapy

According to the basic principles of *Ayurveda*, due to pre *nasya* procedure, *Snehan karma* i.e. local oleation procedure (done over neck and shoulders), the vitiated *doshas* which are adherent to the *srotasas* i.e. channels become soft & gets displaced from its places and because of *Swedan karma* i.e. local fomentation, it gets liquefied & come to nearest *koshta* i.e. passage or cavity, from where it can be easily removed.

Similarly, Drugs administered through '*Nasya vidhi*' i.e. nasal insufflations stimulates the optic nerve fibers which helps in pacifying the supply of nutrients to the adjacent muscle fibers and cervical vertebrae, forms newer healthier tissues thus, help in arresting degenerative process and strengthens the muscles and boney tissue.

As per *Ayurveda*, in case of *Nasavivar shoth*, which is an '*Urdhwajatrugata vyadhi* (disease located in supra clavicular region) nearest *koshtha* (passage) is '*Nasa*' i.e. nasal cavity. So vitiated *doshas* and unwanted metabolites can be easily removed '*nasa*' very effectively.<sup>4</sup>

## CONCLUSION

Effect of therapy in Sinusitis showed that the intensity of local tenderness over local sinus region relived by 77.27% ,which is statistically highly significant ( $p < 0.001$ ), headache relived by 79.41% which is statistically highly significant ( $p < 0.001$ ), congestion relived by 69.09% which is statistically highly significant ( $p < 0.001$ ), nasal discharge relived by 63.63% which is statistically highly significant ( $p < 0.001$ ), fever relived by 70% which is statistically highly significant ( $p < 0.001$ ), bad breath relived by 63.63% which is statistically significant ( $p < 0.005$ ) and pain in upper teeth relived by 28.57% which is statistically significant ( $p < 0.005$ ).

There was improvement in objective parameters i.e. X ray PNS seen after completion of treatment which was significant statistically. In this study, drug was given only for 5 weeks. As Sinusitis is a chronic disease, if this drug will be given over a long period of time, relapse would not be there & results would be more significant.

Thus by taking all these facts into consideration it can be said that there is major advantage of this classical formulation for the patient as it prolonged the duration between two attacks & decreased period of attack allow the patients to continue their day-to-day activities & saves improvement time of people & renders the patients better Quality of Life.

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