



Clinical Evaluation of *Pippalyadi Avapeeda Nasya*, *Elakanadi Kashaya* and *Vyoshadi Ghritha* in Chronic Rhinosinusitis: Case Series

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Abstract

Introduction: Chronic Rhino Sinusitis (CRS) is an inflammatory disease of the nose and sinuses with clinical features such as nasal blockage, nasal discharge and hyposmia. Current treatment modalities are antibiotics, corticosteroids and surgical interventions but the recurrent rate is high. In classics, *dushtaprathishyaya* features are similar to chronic rhinosinusitis. **Materials and Methods:** To analyze the effect of *pippalyadi avapeeda nasya*, *elakanadi kashaya* and *vyoshadi ghritha* in reducing the symptoms of chronic rhino sinusitis using nasal signs and symptom score, anterior rhinoscopy, X-ray Para Nasal Sinus (PNS) Waters view and nasal endoscopy. The study discusses the Ayurvedic intervention of 30 cases diagnosed as CRS. *Pachana - deepana* with *astachoorna*, *snehapana* with *vyoshadi ghritha* and *virechana* with *nimbamritadi eranda taila* for *kayashodhana* followed by *shira shodhana* with *pippalyadi avapeeda nasya*. Orally *Elakanadi kashaya* and *vyoshadi ghritha* was administered. **Results and Discussion:** Combined use of *sodhana* and *samana aushadhi* showed significant reduction in nasal obstruction, nasal discharge and hyposmia with an improvement of 100, 100 and 56.66 % respectively. Statistical analyses were performed with SPSS software and are clinically significant with $p < 0.0001$. **Conclusion:** A combination of *kayasodhana* and *sirasodhana* is effective in improving subjective symptoms like nasal blockage, nasal discharge and hyposmia which was evident with anterior rhinoscopy, endoscopy and X-ray PNS Waters view.

Keywords: Alternative Therapy, *Dushtaprathishyaya*, Sinusitis

1. Introduction

Prathishyaya is one among the *nasa roga* if not treated lead to *dushtaprathishyaya* with main features being Nasal obstruction, nasal discharge, hyposmia where *tridosha* alleviates¹. CRS symptoms include nasal blockage, nasal discharge and hyposmia that lasting for more than 12 weeks where managed by the usage of antibiotics, corticosteroids and Functional Endoscopic Sinus Surgery (FESS). Empirical use of antibiotics leads to drug resistance. FESS may developed complications due to the proximity of the sinus to the orbit and the skull base where minor are bleeding, blindness and intracranial injury². So the intervention adopted was *dushtaprathishyaya chikista* in classics, *kayashodhana* with 5 gm of *ashtachoornam* with warm water, twice

daily before food, followed by *snehapana* with *vyoshadi ghritha* in arohana matra for 3 days and *virechana* with 50 ml of *nimbamritadi eranda taila*. *Shira shodhana* was done for 7 days with 6ml of *pippalyadi avapeeda nasya* with the ingredients *pippali*, *shigrubeeja*, *vidanga* and *maricha*. These are *tikshna* in nature which can help to bring out the deep rooted doshas from *shiras*³. Internally *elakanadi kashaya* formulation mentioned for *rajayakshma* administered twice daily before food.

2. Materials and Methods

The patients were selected from the O.P.D. of the Department of Shalakya of Amrita Ayurveda Hospital. 30 patients aged 20 - 60 years with presenting symptoms more than 12 weeks of nasal obstruction, nasal discharge,

hyposmia are included. Those who suffer from chronic rhino-sinusitis with nasal polyposis and any other condition that lead to nasal blockage and discharge are excluded⁴. The parameters are nasal blockage (grading 0 to 3, absent, small blockage, oral respiration, does not breath in the nose with affected smell and voice), nasal discharge (grading 0 to 3, absent, Humid mucosa appearance, visible secretion in the nasal concha or the floor of nasal fossa, profuse discharge), hyposmia graded (mild, moderate, severe), X-ray PNS (water's view) (grade 0 to 3 - Well aerated antrum i.e. Normal, Mucosal thickening i.e. a halo of increased density surrounding a central air collection, Haziness i.e. Loss of translucency of maxillary area more than orbital opacity, Complete opaque antrum i.e. more than or equal to bony opacity). Anterior rhinoscopy grading of inferior turbinate hypertrophy (mild, moderate, severe) and Nasal Endoscopy according to the Lund-Kennedy Endoscopic System (LKES) scoring discharges (0 to 2, not present, thin and thick/purulent).

2.1 Ethical Clearance

IEC of Amrita Institute of Medical Sciences approved the design of the study. Written consent has been obtained.

2.2 Design of Study

Patients after screening for the symptoms of CRS fulfilled inclusion criteria and obtained consent. Subjective and objective parameters were assessed and recorded in a case record form. Medicine and procedure done were tabulated in Table 1.

3. Results

Effect of therapy on nasal blockage, nasal discharge, hyposmia: Wilcoxon sign rank test showed reduction in nasal blockage, nasal discharge, hyposmia between BT and AT, follow up 1, follow up 2, follow up 3 in subjects which is significant at all stages $P < 0.0001$ (Table 2). 100 % of patients had relief in nasal blockage, 100 % of patients had relief in nasal discharge and 56.66 % of patients had relief in hyposmia.

3.1 Effect of therapy on Anterior Rhinoscopy

The mean score of anterior rhinoscopy before treatment was 2.67 which was reduced to 0.10 after treatment 96.25 % improvement, which is statistically highly significant at $P < 0.0001$. Follow up 1 shows 96.25 % relief which was sustained during Follow up 2 and 3, which is statistically significant ($P < 0.0001$).

3.2 Effect of therapy on Nasal Endoscopy

The mean score of Nasal Endoscopy before treatment was 1.80 which was reduced to 0.03 after treatment 98.33 % got relief, which is statistically highly significant at $P < 0.0001$. Follow up 1 shows 98.33 % relief which was sustained during follow up 2 and 3, which is statistically significant ($P < 0.0001$).

3.3 Effect of therapy on X Ray PNS (water's view)

The mean score of X-ray PNS before treatment was 2.57 which was reduced to 0.13 after treatment with

Table 1. Therapeutic intervention and internal medication

Procedure	Medicine	Dose	Duration
Pachana – Deepana	Ashtachoorna	5gm twice daily, Before food with hot water	1 st - 2nd day
Snehapana	Vyoshadi ghritha	Depends up on agni in arohana matra till samyak snigdha lakshana is achieved, Morning in empty stomach followed by sips of hot water	3 rd - 5 th day
Virechana	Nimbamritadi eranda taila	50 ml, Morning on an empty stomach followed by sips of hot water	6 th day
Nasya ⁵	Pippalyadi kwadha	8 bindu (6 ml)	7 th - 13 th day
	Elakanadi kashaya ⁶	15ml kashaya with 45 ml warm water Twice daily before food	7 th – 37 th day
	Vyoshadi ghritha ⁷	25 ml-50ml at night after food	15 th -30 th day

Table 2. Mean ranking of nasal blockage, nasal discharge, hyposmia

Nasal Blockage Ranks		N	Mean Rank	Sum of Ranks	Z - Value	Asymp. Sig. [2- tailed]
Nasal_Blockage_AT - Nasal_Blockage_BT	Negative Ranks	30	15.50	465.00	4.956	0.0001
	Positive Ranks	0	.00			
	Ties	0				
	Total	30				
Nasal Discharge Ranks		N	Mean Rank	Sum of Ranks	Z - Value	Asymp. Sig. [2- tailed]
Nasal_discharge_AT - Nasal_discharge_BT	Negative Ranks	30	15.50	465.00	4.890	0.0001
	0	.00				
	0					
	30					
Hyposmia Ranks		N	Mean Rank	Sum of Ranks	Z - Value	Asymp. Sig. [2- tailed]
Hyposmia_AT - Hyposmia_BT	Negative Ranks	17	9.00	153.00	3.758	0.0001
	0	.00				
	13					
	30					

Table 3. Mean ranking of anterior rhinoscopy, nasal endoscopy, X-ray PNS

Parameters	Mean BT	Mean AT	Mean Score	% of improvement	SD	SE	t Value	P Value
Anterior_Rhinoscopy_BT Anterior_Rhinoscopy_AT	2.67	.10	2.57	90	.568	.104	24.736	<0.001
Nasal_endoscopy_BT Nasal_endoscopy_AT	1.80	.03	1.77	96.7	.430	.079	22.494	<0.001
Xray_PNS_BT Xray_PNS_AT	2.57	.13	2.44	86.7	.568	.104	23.451	<0.001

94.94 % relief, which is statistically highly significant at $P < 0.0001$ (Table 3), (Figure 1).

3.4 Overall Effect of Therapy on 30 Patients of Chronic Rhino Sinusitis

The overall effect of therapy shows that 92.23 % of patients had marked improvement, followed by 1.6 % with moderate improvement and 1.7 % had mild improvement. Not a single case was noted unchanged.

4. Discussion

The entity *dushtaprathishyaya* covers nose and para nasal sinus infections. *Pippalyadi avapeeda nasya* in *kashaya* form is administered where the compound has *kapha vatahara, srotoshodhana, sothahara, lekha*

properties. *Pippali, vidanga, maricha* and *sigrubeeja* having *katu rasa, laghu, ruksha, tiksna guna, usna virya* and *katu vipaka*. It was found to be most effective in combating nasal blockage, nasal discharge, hyposmia and Mucociliary Clearance (MCC) time reversal. Most of the drugs in this compound having anti-inflammatory in action which can help to remove the *doshas* accumulated in the *shiras*, also indicated in *kaphanubandha urdhvajatrugata rogas*. *Elakanadi kashaya* which containing *dasamoola* used to pacify vitiated *tridosha*, increases immunity, expectorant for respiratory diseases. The *deepana* and *pachana* properties of *elakanadi kasaya* cause *amapachana*. *Vyoshadi ghrita* contains *trikatu, yavakshara, lavanatraya* and *ajamamsa rasa* which are *Vata-kaphashamaka, Shothahara, Lekhana*. *Rasayana* property of *ajamamsa rasa* has anti-oxidant effect, immune-modulator, immune-protective

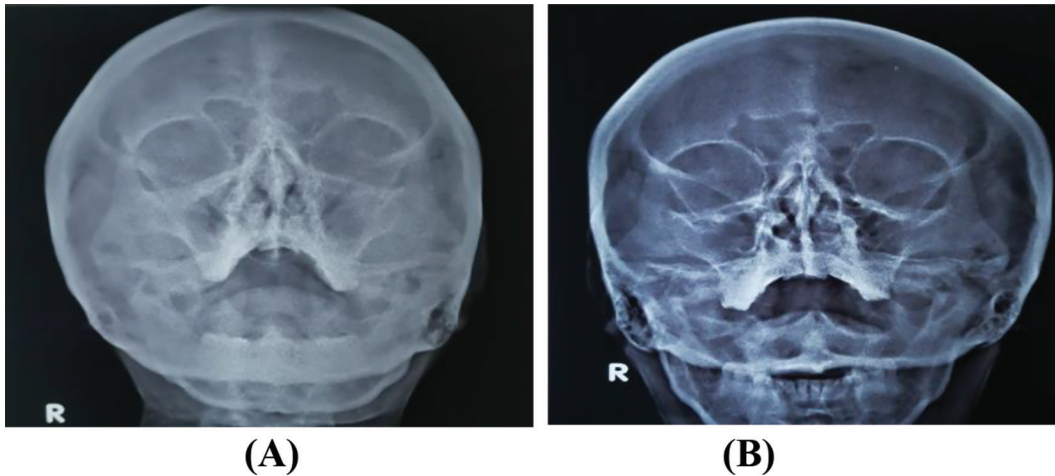


Figure 1. X-ray PNS Waters view before (A) and after (B) treatment.

properties, and free radical scavenging property. Anti-inflammatory properties of all ingredients reduce the inflammatory process in the nose and paranasal sinuses. Considering these facts, clinical trial was carried out in *dushtaprathishyaya*.

3. Conclusion

Chronic rhinosinusitis is a persistent inflammation of the nasal cavity and sinuses which significantly decreases quality of life. It needs intranasal corticosteroid sprays and antibiotics if medical management fails endoscopic sinus surgery. In *Ayurveda shodana* as well as *samana* therapy have been indicated for treating *dushtaprathishyaya* among which *nasya karma* has been given prime importance. Clinically combined medication gave better results compared to single-drug therapy. Significant variation was observed in subjective and objective parameters.

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of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

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