RESEARCH PAPER

Clinical Evaluation And Cytological Analysis Of *Tulasi Swarasadi Taila Nasya* In The Management Of *Vataja Pratishyaya* W.R.T Allergic Rhinitis - A Case Report

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ABSTRACT
Introduction: *Pratishyaya* is one among the 31 *Nasagata rogas* mentioned by *Acharya Sushruta. Pratishyaya* can occur as an independent disease or as a symptom of any systemic disorder. *Pratishyaya* is basically *Vata-Kapha* dominant *Tridoshaja Vyadi* [1]. While analysing all the *Nidanas,* the allergens like dust (*Rajo*), fumes (*Dhooma*) cause paroxysmal sneezing and rhinorrhoea, while other factors like discomfort in head due to excessive temperature (*Shiro abhithapa*), exposure to extreme cold and heat (*Sheetham ati prathapa*), suppression of natural urges (*Mutra pureesha sandharana*) and others can initiate the pathological variation of the disease [2]. Characteristic features of *Vataja Pratishyaya* are *Kshavathu, Aanaddha pihita nasa, Tanu srava, Gala-talu-oshta shosha, Shanka nisthoda* and *Svaropaghata* [3]. It can be co-related to Allergic rhinitis. In India 20-30% of population suffers from Allergic Rhinitis and other allergic diseases, prevalence being increasing over past many years [4]. **Materials and Methods:** Nasal cytology is an important *Rogi Pariksha* for diagnosing *Pratishyaya.* It is a simple, economical, and non-invasive method used to assess nasal inflammation, allowing detection and quantification of cellular populations within the nasal mucosa. A 22-year-old female patient approached to *Shalakya Tantra* OPD of JSSAMC Mysuru, with chief complaints of repeated sneezing, watery nasal discharge, nasal blockage, itching sensation of nose, eyes and watering from eyes since, 8 years. This case study was carried out using *Nasya Karma* with *Tulasi Swarasadi Taila.* **Results:** The subject showed marked improvement symptomatically and in Nasal cytological investigations. **Discussion:** Severe Allergic Rhinitis has been associated with significant impairements in quality of life, sleep and work performance. Advised *Nasya* is *Vatakaphahara* in nature and possess anti-inflammatory and anti-allergic properties, hence it has shown marked improvement.
Keywords: *Vataja Pratishyaya,* Allergic Rhinitis, *Tulasiswarasadi Taila Nasya*, Nasal Cytology.
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INTRODUCTION

In *Ayurveda*, diagnosis is primarily based on *Rogi Pariksha* and *Roga Pariksha*, which helps in assessing the condition of *Dosha, Dhatu,* and *Mala. Ayurvedic* diagnostics emphasize comprehensive patient assessment through techniques such as *Ashtavidha Pariksha* (eight-fold examination) and *Dashavidha Pariksha* (ten-fold examination), which evaluate factors like *prakriti* (constitution), *vikriti* (pathological state), and *ahara shakti* (digestive capacity) [1] [2]. These traditional methods prioritize thorough clinical evaluation, aligning with *Charaka's* directive- "*rogamadhoparikshate tato anantara aushadham*"-which underscores the importance of accurate diagnosis before treatment. However, integrating modern diagnostic tools, such as nasal cytology, into these frameworks enhances precision and expands their applicability in contemporary clinical practice [3] [4]. Rhinitis is one of the most common chronic diseases seen worldwide. Rhinitis is mainly diagnosed based on clinical symptoms and investigations. Therefore, objective parameters are important for accurate diagnosis and for assessing the effectiveness of the treatment given.

A physician should possess adequate knowledge of diagnostic tools and investigative techniques to identify the nature, severity, and prognosis of a disease accurately. Along with classical examination methods, knowledge of modern diagnostic techniques is also essential in present-day clinical practice**.**

Pratishyaya is a disease of the nasal, para-nasal sinuses and upper respiratory tract. It is one among the 31 *Nasagata rogas,* mentioned by *Acharya Sushruta* [5]. *Pratishyaya* can occur as an independent disease or as a symptom of any

systemic disorder like *Udavarta, Raktapitta, Rajayakshma. Pratishyaya* is basically *Vata-Kapha* dominant *Tridoshaja Vyadhi* [6]. While explainaing the *Vataja Pratishyaya* Nidanas, the allergens like dust (*Rajo*), fumes (*Dhooma*) cause paroxysmal sneezing and rhinorrhoea, while other factors like discomfort in head due to excessive temperature (*Shiro abhithapa*), exposure to extreme cold and heat (*Sheetham ati prathapa*), suppression of natural urges (*Mutra pureesha sandharana*) and others can initiate the pathological variation of the disease [7]. Characteristic features of *Vataja Pratishyaya* are *Kshavathu, Aanaddha pihita nasa, Tanu srava, Gala-talu-oshta shosha*, *Shanka nisthoda* and *Svaropaghata* [8] [9]. It can be co-related to Allergic rhinitis. In India 20-30% of population suffers from Allergic Rhinitis and other allergic diseases, prevalence being increasing over past many years [10].

Stages of *Pratishyaya* are *Ama avastha* and *Pakwa avastha,* if these stages are left untreated or mismanagement leads to severe and complicated stage termed as *Jeerna Pratishyaya.* If *Jeerna Pratishyaya* being left untreated, it may develop into many conditions like *Kasa* (cough), *Agnisada* (indigestion), *Shopha* (oedema), *Badhirya* (deafness), *Andhata* (vision loss), *Aghrana* (anosmia) [11].

In contemporary medical science, *Vataja Pratishyaya* is compared with Allergic Rhinitis as the symptoms are similar. Allergic rhinitis is an inflammatory condition involving the nasal mucosa, paranasal sinuses, and occasionally the mucosa of the lower respiratory tract. Allergic rhinitis is a IgE mediated type 1 immunological hypersensitivity reaction of nasal mucosa to air borne allergens [12]. When allergens such as pollen or dust are inhaled by a sensitized individual, they trigger the production of IgE antibodies. These antibodies bind to mast cells containing histamine, and upon re-exposure to the allergen, mast cell degranulation occurs, leading to the release of histamine and other inflammatory mediators. This results in symptoms such as Rhinorrhea, Sneezing, Nasal obstruction, Headache/heaviness of head and itching of nose, eyes, throat, palate & pharynx as well as periorbital swelling [13]. Allergic rhinitis is commonly an acute, recurrent, and episodic disorder [14]. All medical disciplines are trying to find the effective ways to fight against such challenging tasks. Till date no satisfactory medical management has been developed for this problem. Hence, it creates a need to search for a simple and effective remedy. Globally, allergic rhinitis affects approximately 10–25% of the population, while in India, its prevalence is estimated to be around 20–30%. It is a highly prevalent condition that significantly disturbs an individual's daily routine and adversely affects quality of life

In *Ayurvedic classics, Chikitsa* mentioned for *Pratishyaya* include *Nasya, Virechana, Dhumapana, Kavala,* and *Asthapana Basti* [15]. *Chikitsa* mentioned for *Vataja pratishyaya* include *Snehapana* & *Nasya Karma* [16]. Since *Pratishyaya* is considered as a disease affecting the *jatrurdhwa, Nasya* is considered as the most important among the *Shodhana* therapies for diseases of the head [17]. Therefore, *Nasya Karma* was selected as the treatment procedure in the present study.

Nasal cytology

Nasal cytology is one such simple and objective investigation. It is an easy, low-cost, and non-invasive method used to assess inflammation of the nasal mucosa. It helps in identifying and counting different types of cells present in the nasal mucosa, thereby giving a clear picture of the disease pathology. By identifying specific inflammatory and immune cells, such as neutrophils, eosinophils, and mast cells, nasal cytology aids in distinguishing between allergic and non-allergic rhinitis and other nasal conditions [18] [19]. Eosinophilic inflammation of the nasal mucosa is a characteristic feature of allergic rhinitis [20]. Hence, measuring nasal eosinophil levels is considered useful in evaluating eosinophilic inflammation in patients with allergic rhinitis [21]

Cytological aspects of normal nasal mucosa:

Ciliated Cells: They represent the most differentiated and the most frequent cell type in the nasal epithelium. They generally have a polygonal shape with about 150-200 cilia at the top of a big central nucleus and a basal region. A perinuclear halo or hypercromatic supernuclear stria in ciliated cells is a hallmark of normal function, and its reduction has been put in correlation with severity of vasomotor, inflammatory and infectious nasal diseases.

Muciparous Goblet Cells: It is a unicellular gland interposed among the respiratory pseudostratified epithelial cells secreting mucin, that in contact with water originates mucus. On its surface, there are many microvilli and a small hole, called "stoma" from which mucin granules are secreted by exocitosis. The nucleus is always put into the lower part of cellular body, while vacuoles containing mucin and muciongenous are localized in the upper part of the cell giving it the characteristic shape of a "goblet".

Striated Cell: It is a columnar cell with the nucleus localized into its lower part, the upper portion is characterized by the presence of many microvilli containing microfilaments.

Basal Epithelial Cell: It is smaller than the other nasal epithelial cells and it is characterized by being in contact with basal membrane without reaching the surface of nasal mucosa. Its nucleus is hyperchromatic and quite big in relation to its cytoplasm.

Nasal Sampling and Cytological Examination

Nasal Scraping Procedure [22]

Nasal scraping is performed using a pencil-shaped disposable nasal curette with a small cup-shaped tip.

The cupped end of the curette is gently moved over the mucosal surface of the medial aspect of the inferior turbinate.

Two to three gentle scrapes of the epithelial layer are taken to collect the sample.

The collected specimen is then spread evenly onto a plain glass slide and allowed to air dry.

Nasal scraping provides information about living epithelial cells present in the nasal mucosa.

It can also be used to assess ciliary activity when the slide is examined under a phase-contrast microscope.

Sample Staining

May-Grunwald-Giemsa (MGG) Staining Method
The air-dried sample is first fixed by dipping it in methanol for 10 minutes.
After fixation, the slide is stained with May-Grunwald solution for 5 minutes
Followed by staining with Giemsa solution for 15 minutes.
After staining, the excess stain is washed off using distilled water. The slide is then dried completely and mounted for microscopic examination.
MGG shows the nuclei of WBC, granules of basophils granulocytes as blue, while RBC and eosinophils granules as red. The cytoplasm of WBC appears in light blue.
The entire staining procedure requires approximately 30 minutes.

Sample Reading [23]
The stained slide is examined under an optical microscope using oil immersion at 1000× magnification. For the sample to be considered adequate, at least 200 cells should be counted in a minimum of 50 microscopic fields. The number of each type of cell can be expressed as a percentage of the total cells, as an absolute count, or by using a semi-quantitative grading method.

METHODOLOGY
Chief complaints: A 22-year-old female patient approached to *Shalakya Tantra* OPD of JSSAMC Mysuru, with chief complaints of more than 20 bouts of repeated sneezing, watery nasal discharge, nasal blockage, itching sensation of nose, eyes and watering of eyes in the past 8 years.
History of present illness
As per the statement given by the patient, she was apparently healthy 8 years ago. Gradually she started experiencing of more than 20 bouts of repeated sneezing, watery nasal discharge, nasal blockage, itching sensation of nose, eyes and watering of eyes in the past 8 years. Associated with heaviness of head, throat itching and generalized weakness. Sneezing aggravates on exposure to cold and dust. Relieves on application of oil over the forehead, steam inhalation and on intake of antihistamine medications. Symptoms persist throughout the year. General examination of patient revealed normal vital signs and no significant comorbidities.
History of past illness
Nothing specific
Treatment history
Tablet Cetrizine 5mg (SOS)
Family history
Her mother and father also have similar complaints
Personal history
Aahara- Mishra aahara
Agni - Samagni
Koshta -Madhyama koshta
Mala – Prakruta
Mutra – Prakruta
Nidra – Vikruta

Vitals
Pulse – 106 b/m
Blood pressure- 120/70 mm of Hg
Respiratory rate- 26 c/m
Temperature- 97.6 F
Physical examination
Weight – 50kg
Height -152cm
Pallor- No pallor
Lymphadenopathy- No lymphadenopathy
Examination of nose
Inspection-
Shape and Size- Narrow
Secretions- Bilateral nasal cavity thin watery nasal discharge present
Anterior rhinoscopy
Distribution of cilia - Uniform
Nasal mucosa- Pale
Septum- Deviated to right
Inferior turbinate hypertrophy – Oedematous with hyperemia in both side of nostril
Examination of PNS
Tenderness – Absent
Examination of throat
Posterior Pharyngeal wall- No sign of inflammation
Palatine tonsil – No abnormality detected
Examination of ears
TABLE No.1-Showing examination of Ears

EAR	EAC	Tympanic membrane
Right	Normal	Intact
Left	Normal	Intact

Examination of eyes
Table No.2- Showing examination of Eyes

Structure	Examination	OD	OS
Eyelashes	Position	NAD	NAD
Eyelids	Position	Oedema	Oedema
Conjunctiva	Palpebral Bulbar	Hyperaemia Congested	Hyperaemia Congested
Cornea	Transparency	NAD	NAD
Pupil	Shape and size	3RRR	3RRR

TREATMENT ADOPTED - *MARSHA NASYA*
Purva Karma
Mukha abhyanga with *Moorchita tila taila*
Pradhana Karma
6 *Bindu* (3ml) of *Tulasi Swarasadi Taila* to each nostril
Paschath Karma
Kavala with *Sukoshna jala*
Dhoomapana with *Haridra Varti*
Intervention period – For 7 days
Anterior rhinoscopic findings
Nasal cytology

OBSERVATION AND RESULT

TABLE No.3- ASSESSMENT W.R.T SUBJECTIVE PARAMETERS

			Follow up observations			
SL.No.	**Subjective Parameters**	**BT**	**8th day**	**14th day**	**21st day**	**28th day**
1.	*Kshavathu* (Sneezing)	Grade 3	Grade 2	Grade1	Grade1	Grade 0
2.	*Tanusrava* (Thin secretions from nose)	Grade 3	Grade 2	Grade 0	Grade 0	Grade 0
3.	*Anaddhapihita* (Nasal bloackage)	Grade 1	Grade 0	Grade 0	Grade 0	Grade 0
4.	*Shirashoola* (Headache)	Grade 1	Grade 1	Grade 0	Grade 0	Grade 0
5.	Total Nasal symptom score [24]	10	5	3	1	0

TABLE No.4 -ASSESSMENT W.R.T ANTERIOR RHINOSCOPIC EXAMINATION

Findings	Before Treatment	After Treatment
Distribution of Cilia	Uniform	Uniform
Nasal Mucosa	Pale	Normal
Littles Area	NAD	NaD
Septum	Deviated to Right side	Deviated to Right side
Inferior turbinate hypertrophy	Present ++	Present +
Middle turbinate hypertrophy	NAD	NAD
Nasal polyp	NAD	NAD

TABLE No. 5 - ASSESEEMENT W.R.T NASAL CYTOLOGY

Findings	Before treatment	After treatment
Epithelial cells	Normal	Normal
Mucinous cells	2+	1+
Neutrophils	3+	2+
Basophils	2+	1+
Eosinophils	4+	1+
Bacteria & Spores	0	0

DISCUSSION

Allergic Rhinitis is an inflammatory disorder of the nasal mucosa caused by a type I hypersensitivity reaction, characterized by recurrent episodes of sneezing and watery nasal discharge.

Allergic rhinitis is one of the most common chronic conditions encountered in ENT practice and is known for its multifactorial etiology and diverse clinical manifestations. Increasing industrialization and urbanization have contributed to environmental pollution, thereby increasing the prevalence of allergic rhinitis. Factors such as genetic predisposition, sensitivity of the nasal mucosa, and IgA deficiency are considered important predisposing factors. Furthermore, exposure to dusty surroundings, overcrowded environments, air conditioners, carpets, curtains, bookshelves, and occupational hazards significantly contributes to the development and exacerbation of allergic responses in both residential and workplace settings [25].

Aerobiological flora acts as an important etiological factor in Allergic Rhinitis and may manifest as seasonal or perennial allergic rhinitis. The highest prevalence of allergic rhinitis is observed during the second to fourth decades of life, after which it gradually declines in later years. Allergic rhinitis imposes a considerable economic burden and significantly affects an individual's quality of life.

Management of allergic rhinitis includes avoidance of allergens, pharmacological therapy, and immunotherapy in cases where medications fail to adequately control the disease. Commonly used drugs for the treatment of allergic rhinitis include antihistamines, sympathomimetic agents, oral and topical corticosteroids, and leukotriene receptor antagonists. Many of these therapeutic modalities act by targeting inflammatory pathways or receptors of bioactive mediators involved in the allergic response.

Allergic Rhinitis immunotherapy is considered a potentially curative treatment modality for both seasonal and perennial allergic rhinitis. However, it is relatively expensive, and patients often require prolonged or regular medication during the course of treatment. Even over use of nasal decongestants drops/ sprays leads to rhinitis medicamentosa.

Allergic rhinitis is associated with a significantly higher risk of developing optic neuritis (ON). Individuals with allergic rhinitis have a higher likelihood of vision-threatening inflammation of the optic nerve, possibly due to shared inflammatory pathway. The proximity of nasal

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tissues to the optic nerve could also be relevant. Inflammatory mediators released during allergic reactions may alter blood vessel behaviour or barrier integrity near the optic nerve, making it more vulnerable to immune-mediated damage. Furthermore, systemic inflammation associated with allergic responses can affect distant tissues, including the central nervous system [26]

MODE OF ACTION

Nasya is one of the most effective treatment modalities indicated in many *Urdhwajatrugata Vikaras.* It is especially beneficial in the management of *Vataja Pratishyaya*, as it is included under *Nasagata Rogas.* Transnasal administration of medicated drugs plays an important role in the treatment by forming a protective barrier over the nasal mucosa, thereby preventing contact with allergens and reducing the recurrence of the disease [27].

In this present study *Tulasi Swarasadi Taila* is used for *Nasya Karma*. *Tulasi Swarasadi Taila,* mentioned in *Sahasrayoga Taila prakarana*[28]. Properties of *Tulasi Swarasadi Taila* can be taken as *Katu, Tikta, Kashaya rasa, Ushna, Tikshna guna,Vatakapha shamaka* and it can be used in the imbalances of *Vata* and *Kapha* disorders. It has been indicated in *Pratishyaya*. Due to its Ushna Tikshna properties, it can be used as a *Shirovirechaniya dravya* for removing *Kapha Avarana*, expelling vitiated *Doshas* from Shiras and to remove *Srotoavarodha* of channels. Its *Vyavayi, Vikasi* & *Sara Guna* may improve the availability of drugs. It has anti-oxidant, antibacterial, immunomodulatory, anti-inflammatory, anti-anaphylactic, cell stabilizing, anti-asthmatic activity may have effect on cell mediated components of the immune system. It can be used to treat dry cough, asthma, common cold and other respiratory diseases and may show the soothing effect for chest complaints [29]. (Table No.6- shows properties of drugs used in *Tulasi Swarasadi Taila*)

TABLE No.6- PROPERTIES OF DRUGS USED IN *TULASI SWARASADI TAILA*

Sl No.	Drug used	Botanical name	*Rasa*	*Guna*	*Virya*	*Vipaka*	Part used	*Doshagnata* and *Karma*
1.	*Tulasi*	Ocimum sanctum Lamiaceae	*Katu Tikta Kashaya*	*Laghu Ruksha Tikshna*	*Ushna*	*Katu*	*Panchanga*	*Vatakaphahara Pittavardhini Deepana Hridya Ruchya Durgandhahara*
2.	*Shallaki*	Boswellia serrata burseraceae	*Madhura Katu Tikta*	*Guru Snigdha Tikshna*	*Ushna*	*Madhura*	*Niryasa*	*Kaphavatahara Balya Rakta stambahahara Svedhahara*
3.	*Tila*	Sesamum indicum Pedaliaceae	*Madhura Kashaya Tikta*	*Guru Snigdha*	*Madhura*	*Ushna*	*Beeja*	*Vatashamaka Snehana Deepana Rasayana Balya*

CONCLUSION

Vataja Pratishyaya (Allergic rhinitis), if left untreated, may lead to complications such as bronchial asthma, recurrent middle ear infections, sinusitis, and chronic cough. The present case study revealed remarkable efficacy in the management of *Vataja Pratishyaya,* showing significant improvement in most of the assessment criteria. The symptom scores were effectively reduced and maintained without further worsening.

This pilot study was conducted to evaluate the efficacy of *Nasya Karma* in the management of *Vataja Pratishyaya*. The results obtained were encouraging, not only reducing the symptoms but also in enhancing resistance against allergens, reducing recurrent attacks, and promoting the overall physical, mental, and immunological health of the patient

DECLARATION OF PATIENT CONSENT

Authors certify that they have obtained appropriate patient consent. The patient has given her consent for the

publication of her clinical information and images in the journal. The patient understands that her name and initials will not be published, and efforts will be made to conceal her identity; however, anonymity cannot be guaranteed.

Fig No. 1: Anterior rhinoscopic examination of Right nostril

Fig No.2: Anterior rhinoscopic examination of Left nostril

Fig No.3: Method of Nasal scrapping for Nasal cytology

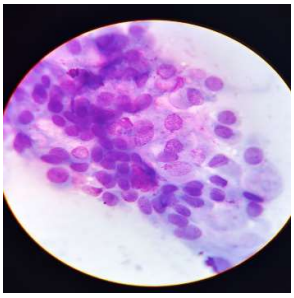

Fig No. 4: Cytological aspects of Normal

Fig No.5: Nasal smear showing increased eosinophils seen under microscope (Before treatment)

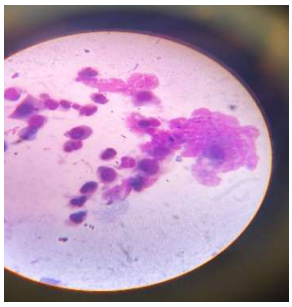

Fig No.6- Nasal smear showing decreased eosinophils seen under microscope (After treatment)

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