

Review Article

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NASAL STRUCTURAL DYNAMICS AND THEIR ROLE IN THE DEVELOPMENT OF *DUSHTA PRATISHYAYA*

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Abstract

The most prevalent issue among *Nasagata vikara* is *Pratishyaya*, which can be caused by allergy, seasonal factors, incompatible food items or occasionally deviated nasal structures, etc. Poor diet and exposure to environmental pollutants, make rhinitis is most prevalent conditions in the modern period. *Dushta Pratishyaya* is a recurring, chronic form of rhinitis that is linked to deeper tissue involvement and *Dosha* vitiation. The chronicity and problems seen in *Dushta Pratishyaya* can be attributed to structural anomalies in the nasal cavity. Any anatomical irregularity, like a deviation or obstruction, might throw off the nasal passages' natural equilibrium and damage their ability to function. Thus nasal structural dynamics play crucial role in the occurrence of *Dushta Pratishyaya*. Ayurveda suggested variety of efficient treatments including *Nasya*, *Vamana*, *Basti*, *Lepa*, *Dhumapana*, *Kavala*, *Swedana* and *Langhana*, etc. for such types of conditions.

Key-Words: *Ayurveda, Dushta Pratishyaya, Allergy, Nasal, Nasya*

Introduction

Among the *Nasaroga*, *Pratishyaya* is the most crucial and primary condition. It will cause *Jeerna Pratishyaya* if left untreated in its early stages. Consumption of cold items, unsuitable dietary items, swimming, extreme wrath and exposure to cold climatic conditions, etc. are vitiating elements that trigger disease pathogenesis. *Abhightaja karanas* include *Nasa abhigata*, *Shiroabhigata*, exposure to dust, cold wind and smoke are major causes of allergy. Primary symptoms include *Shirogurutvam*, *Kshavathu*, *Anagaarda*, *Romanchana*, *Jwara* and *Aruchi*, etc. *Acharya* also mentioned some main symptoms which include *Sravadhikyta*, *Netrasrava*, *Nasanaha*, *Teevra Shiroshoola*, *Dourbalya* and *Teevra Jwara* [1-3].

Role of Nasal Structures and Abnormalities:

According to Ayurveda, these structural anomalies cause *Vata-Kapha* vitiation, in which mucus stagnation exacerbates *Kapha* and uneven airflow aggravates *Vata*, which leads to *Dushta Pratishyaya*. Chronic inflammation and compromised nasal drainage are the outcomes of this. While chronic inflammation weakens the *Rakta Rasa* and *Mamsa Dhatus* and affects *Uttamanga Marma*, furthermore *Srotorodha* exacerbates *Dosha dushti* and causes recurring infections. Clinically, this shows up as *Shira shoola*, *Gourava* and *Nasa srava*, etc. Additionally, it disrupts *Prana* and *Udana Vayu's* function, which impacts speech and respiration [3-5].

Dushta Pratishyaya may result from neglecting the condition and engaging in *Apatya Ahara Viharana*; this stage was referred to as *Bheda Avastha*. *Samprapti Vatadi dosha*, either separately or in combination, builds up in *Shiras* as a result of *Nidana sevana* vitiates, and then spreads to the nose to induce *Pratishyaya*. *Dhrishti* and *Tarpakakapha* reside in *Shiras*, whereas *Pranavayu* circulates in *Mukha Pitta*, who is settled in *Twacha*, and *Rakta* circulates throughout the body. These are again vitiated by aggravated *Doshas*, which results in *Dushta Pratishyaya*.

Prolonged inflammation and blockage causes major dynamic changes in the nasal structures in *Dushta Pratishyaya* (**Figure 1**). These include increased mucus production, nasal mucosal edema and structural changes like hypertrophied turbinates or a deviated nasal septum. These elements work together to cause nasal congestion and poor smell, etc. Prolonged inflammation results in swelling of the nasal mucosa, which constricts the nasal passages and interferes with airflow. Mucus secretion rises noticeably and frequently takes

on a thick, purulent appearance. Prolonged inflammation can cause structural abnormalities such as turbinate hypertrophy or septal deviation, which further obstruct nasal passageways and hinder sinus drainage. Mucus stagnation and an increased risk of infection come from a reduction in the effectiveness of mucociliary clearance, which is in charge of moving mucus out of the nasal cavity [4-6].

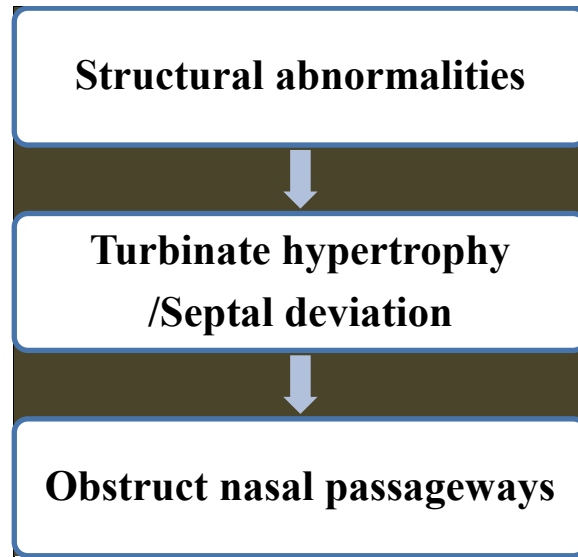


Figure 1: Major structural abnormalities which triggers *Dushta Pratishyaya*

Deviated Nasal septum

A deviated nasal septum narrows one side of the nasal cavity by shifting the thin wall between the nasal passages from the midline. This misalignment can impede airflow, making breathing challenging and occasionally giving the nose a crooked appearance. Some people with a deviated septum may have frequent nosebleeds from dryness, nasal blockage, noisy breathing when sleeping, or a predisposition for lying on one side to facilitate breathing, although many people with this condition remain asymptomatic.

Turbinate hypertrophy and a deviated septum are the most prevalent causes of allergies and *Dushta Pratishyaya*. Although the inferior turbinates are essential for filtering, humidifying, and guiding airflow, allergens, irritants, and chronic inflammation can cause them to hypertrophy. Antihistamines, decongestants, and corticosteroids are examples of drugs that relieve symptoms, but they don't address the underlying reasons and might induce side effects like sleepiness, bleeding, and dryness.

Complications including recurrent sinusitis, sleep apnea, snoring, sneezing, face pain, mouth breathing, and diminished olfactory function can result from a deviated septum

associated with *Dushta Pratishyaya*. Deviated septum is known in Ayurveda as *Nasapratinaha*, a condition where airway congestion results from an imbalance between the *Vata* and *Kapha doshas*. Swelling of the nasal submucosa and occasionally the bone is linked to it. When paired with suitable lifestyle changes, Ayurvedic methods such as *Nasya*, *Viddha Karma* and herbal medicines provide efficient long-term management [5, 6].

Modern Aspect:

The nasal septum, sinus ostia, turbinates and Eustachian duct apertures, and nasal valve make up the highly specialized anatomical structure known as the nasal cavity. Together, these elements control humidification, secretion drainage and airflow. A common anomaly is a deviated nasal septum, which impairs sinus drainage and raises the risk of infection by limiting airflow, causing mucosal dryness, turbinate hypertrophy and turbulence, etc.

Chronic inflammation frequently results in hypertrophied turbinates, which further narrow the nasal cavity and retain secretions, causing recurrent infections. The ostiomeatal complex is compressed by the concha bullosa, a pneumatized middle turbinate, which hinders sinus drainage and ventilation. Similar to this, persistent inflammatory growths called nasal polyps obstruct the sinus ostia, resulting in discomfort and post-nasal drip. When the sinus ostia become narrow, mucus gets stagnates, which promote microbial development and persistent inflammation. The rich blood supply of the nasal mucosa is comparable to that of erectile tissue, which has venous sinusoids encircled by smooth muscle fibers. Sympathetic stimulation results in mucosal shrinkage and vasoconstriction, whereas parasympathetic stimulation produces engorgement and vasodilatation in addition to excessive nasal gland production [7, 8].

Treatment

The *Pratishyaya's Ama* and *Pakva Avasta* have served as the foundation for treatment philosophy. In *Amaja Pratishyaya*, the following treatments are suggested: *Ikshu Vikara Yoga*, *Nishevyanaman Payasaardhrakan*, *Amlairhithan ca Bhojanam* and *Swedana*. During the *Pakva* stage of *Pratishyaya*, when nasal discharge appears, *Shirovirechana*, *Virechana*, *Asthapana Vasti*, *Dhumapana* and *Kawala* are advised.

Ayurvedic *Shodhana* treatments like *Nasya* and *Virechana* for detoxification, *Shamana* treatments using herbs like *Trikatu*, *Pippali*, *Haridra* and surgical procedures like *Kshara*

Karma is also part of the management. In more severe situations, correcting structural flaws and reestablishing normal nasal physiology may need contemporary ENT procedures [1, 9, 10].

Conclusion

The pathophysiology of *Dushta Pratishyaya* is greatly influenced by nasal structural dynamics, which encourage blockage, compromised mucociliary clearance, and recurrent infections. In chronic instances, the best prognosis is achieved through a holistic therapy that combines modern structural correction with Ayurvedic *Samprapti Vighatana*. It is essential to comprehend these physiological and anatomical factors for long-term and successful management of *Dushta Pratishyaya*.

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