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**Review Article** 

## CONCEPT OF AVAPEEDA NASYA IN SHALAKYA TANTRA

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## **ABSTRACT**

Avapeeda nasya is a special procedure described to treat *Urdhwajatrugata vikaras* in Ayurveda. In this procedure fresh juice (*Swarasa*) is obtained by squeezing paste of herbs or decoction is used to instil in nostril. *Shalakya* is special branch of Ayurveda which deals with the diseases above clavicle (*Jatru*). Aiming for *Vyadhi-parimokshana* treatment can be done by *Sanshamana* or *Sanshodhan* methods. *Panchakarma* is *Shodhana* type in which *Nasya* is a procedure. *Acharyas* mentioned *Nasa hi shirso dwaram*, meaning it is the portal to head (for drug administration). To critically appraise and understand the standard *Avapeeda Nasya* is the focus of my presentation. Procedure of *Avapeeda Nasya*, its difference from *Sneha nasya*, mode of action and other norms are discussed in the paper.

Avapeeda Nasya acts as Shodhana and Shamana. When abundance of Doshas are present Tikshna dravyas are used to clear the channels (Sroto-Shodhana), when Doshas are mild or moderate Shamana dravyas are used. To expel Doshas from upper body, Nasa is the portal to Shiras. The active principle of the medicine used in Nasya reaches Shringataka marma (Sira marma) and is distributed to Moordha-Netra - Shrotra - Kantha and thereby expel morbid Doshas. Drug reaches the target area by crossing nasal mucosa, thereafter transported via nerve tract, systemic circulation or by lymphatics. Intra-nasally administered drug has higher bioavailability as it avoid first pass mechanism at liver and evade BBB.

#### INTRODUCTION

Avapeeda nasya is a procedure described to treat *Urdhwajatrugata vikaras* in Ayurveda. In this procedure, fresh juice (*Swarasa*) is obtained by squeezing paste of herbs or decoction is used as *Nasya*. *Shalakya* is special branch of Ayurveda dealing with the diseases above clavicle (*Jatru*). Ayurveda is a science of life in which *Swasthya* and *Vyadhita* are two conditions either of them are present. *Swasthawastha* is to be maintained. Aiming for *Vyadhi-parimokshana* treatment can be done by *Sanshamana* or *Sanshodhan* methods. *Panchakarma* is *Shodhana* type. It has 5 *Karmas* viz., *Vamana*, *Virechana*, *Basti*, *Nasya*, *Raktamokshana*.



Some Acharyas (Acharya Charaka) included Asthapana and Anuvasana Basti instead Raktamokshana. Nasya karma is a procedure in which morbid Doshas are expelled out by nasal route. Acharyas mentioned Nasa hi shirso dwaram, meaning it is the portal to head, it is a promising route if specifically Shiras is targeted for drug administration. However Nasya itself is of many types and act as Shodhana and Shamana both. Like for Prabhoota dosha conditions Sneh-virechana nasya or Avapeeda nasya or Pradhamana nasya or Dhooma nasya can be given depending upon the then present conditions. For Brimhana or Shamana process Sneha nasya or Marsha nasya or Pratimarsha nasya etc is given. To critically appraise and understand the standard Avapeeda Nasya is the focus of this paper.

## **METHOD**

Classical texts like *Charaka samhita, Sushruta samhita, Ashtanga Hridayama, Harita samhita* and contemporary books like *Kriya kalpa* by Prof. Dhiman were read to have keen understanding regarding

Avapeeda nasya. Articles and literature available were critically analysed and appraised for the paper.

#### **Definitions**

- 1. *Shalakya* [1]- One of the eight branches of Ayurveda dealing with diseases of ear, eye, oral cavity, nose and in supraclavicular region (*Jatru-urdhwa*).
- Nasya<sup>[2]</sup>-Drug or medicated Sneha, when administered through nose is known as Nasya.
   Synonyms of Nasya- Nasta prachhardana, Nasta karma, Navana, Shirovirechana, Murdha virechana.

#### Classification

According to Acharya Charaka

- 3 types on the basis of mode of action [3]
  - 1) Rechana, 2) Tarpana (Brimhan), 3) Shamana
- 5 types on the basis of method of administration<sup>[4]</sup>
  - 1) Navana, 2) Avapeeda 3) Dhmapana 4) Dhooma 5) Pratimarsha
- On the basis of parts used in the making of *Nasya* 7 types (*Twaka, Patra, Pushpa, Moola, Phala, kanda, niryasa*)

1) Nasya 2) Shirovirechana 3) Pratimarsha 4) Avapeeda 5) Pradhamana

According to Acharya Vagbhata<sup>[6]</sup>

1. Virechana 2. Brimhana 3. Shamana

According to Acharya Kashyapa [7]

1. Shodhana 2.Poorana

According to Acharva Sharangadhara[8]

1. Rechana 2. Snehana

According to Bhoja

- 1. Prayogika 2. Snehika
- **Eligible Age:** According to *Ashtanga Hridayam*[9] 7 years- 80 years, 8-80 years (*Sharangdhara*)
- **Avadhi/Duration:** According to **Ashtanga hridayam** Seven days [10], not more than 7 days (Arundatta), 5,7,9 days (A.S)[11]
- *Antar*/gap[12]: *Nasya* can be repeated after 1, 2, 7, 21 days (Sushruta), 1, 2, 3, 5, 7 days (Sharangadhara).
- **Types of** *Nasya* **and** *Matra*: Following table describes the *Matra* mentioned in texts.

# According to Acharya Sushruta<sup>[5]</sup>

S. No	Type of Nasya	Hraswa matra	Madhyama matra	Pravara matra
1	Snehana nasya <sup>[13]</sup>	8 Bindu	16 Bindu (Shukti matra)	32 Bindu (Pani-shukti)
2	Shodhana/Shirovirechana nasya <sup>[14]</sup>	4 Bindu	6 Bindu	8 Bindu
3	Marsha nasya <sup>[15]</sup>	6 Bindu	8 Bindu	10 Bindu
4	Pratimarsha nasya <sup>[16]</sup>	2 Bindu	2 Bindu	2 Bindu
5	Avapida nasya <sup>[17]</sup>	4 Bindu	6 Bindu	8 Bindu

 $1 \ Bindu^{[18]} = 10 \ drops = 0.5ml$  (here one Bindu means quantity of liquid which falls after dipping two phalanges of Pradeshini i.e., index finger)

#### Time of administration of Nasya/Kaala

- ✓ According to *Doshas*<sup>[19]</sup> *Kapha* At morning/*Poorvahne Pitta* Mid day/*Madhyahne Vaata* –Evening/*Aparahne*
- ✓ According to Ritu/season<sup>[20]</sup>
  Sharada, Basanta Poorvahne
  Hemanta, Shishira –Madhyahne
  Grishma Aprahne
  Varsha Saatape/sunny day
- ✓ According to Diseases: A.S.
  Vata dosha, Aptanaka, Swarabheda, Hidhma, Ayaama, Manyasthambha Pratah / saayam
  Lala Srava, Supti, Pralapa, Pooti-mukha, Karna-nada, Ardita, Trishna Ratri

# Concept of Avapeeda Nasya

The word *Avapeeda* indicates process where *Avapidana* is required to acquire drug for nasal instillation. This drug can be prepared out of *Swarasa*, *Shrita* (*Kwath*), *Sheeta* kalpana<sup>[21]</sup> or collecting the *Aushadha* swarasa by making paste (*Kalka*) (*Sharangdhar* 8/12-13)

It is used mostly for *Shirovirechan*, but according to texts:

## Avapeeda nasya is of two types[22]

- 1. Shodhana
- 2. Stambhana (Shamana)

To remove the morbid *Doshas Shodhan Avapeeda* is used, and to stop any nasal secretion which may turn into harmful situation the *Stambhana* is used like in *Raktapitta, Mastulunga kshaya* etc.

**Indications**<sup>[23]</sup>: Abhishyanda, Sarpa danshtra, Visangya, Manas-vikara, Sannipata, Vishamjwar, Atinidra, Mada-moorchha, Unmada, Apasmara, Krimijashiroroga, Ksheena, Raktapitta etc

Contraindications<sup>[24]</sup>: Ajirna, Bhukta bhakta, Peetasneha, Madya-toya patukama, Snata shirah, Kshuttrishna-shramarta, Navajwara, Murchhita, Vyavayavyayama-paana klanta, Virikta, Anuvasita, Navapratishyaya, Durdina etc and those activities where Vata dosha gets vitiated.

## **Method of Administration**

- Poorva karma:[25] Snehana and Swedana is done in Tyakta mootra pureesha patient in Vyabhra kaal (clear sky).
- Pradhana karma:<sup>[26]</sup> In supine position with Pralambita shiras (extended head), extract is instilled with right hand in one nostril (preferably Rt) keeping the other nostril closed. Process is repeated with other side. Mild massage is given over soles, palm, shoulders, ears, forehead, scalp, neck region. Patient is asked not to swallow the Nasya dravya with Doshas which are coming in mouth. He is asked to spit it.
- Pashchata karma: Avapeeda nasya is Shodhana in quality so Acharyas has suggested using Ghrita /Madhura aushadha siddha ghrita/ Sneha after Avapeeda Nasya. Then Gandusha and Dhoomapana can be done accordingly<sup>[27]</sup>. But Sharangdhara clearly said not to use Kavala and Dhoomapana after Virechanika nasya<sup>[28]</sup>.

Sushruta<sup>[29]</sup> – In Sushruta Samhita it is mentioned that Sarpi nasya or Nasya with Madhura aushadha siddha sarpi should be given at the end of Avapeeda nasya.

**Ashtanga Hridayam** [30]— In the text it is mentioned that *Sneha nasya* should be given at the end of *Virechana nasya* according to *Dosha bala*.

**Chakradatta**<sup>[31]</sup>- He suggested to use *Sneha nasya* after *Virechanika nasya* according to *Doshas* involved but he introduced a different method to give *Sneha nasya*. He advocated to give *Sneha nasya* after three days of *Virechana nasya* then to repeat *Virechana nasya* for next three days. Thus one week is obtained.

## Samyak-heena-atiyoga [32]

- *Samyak yoga* Lightness in head, cleansed sense organs and *Srotoshuddhi*, relieve in symptoms, *Manas* and *Indriyas* working properly.
- *Heena yoga* Itching in body, heaviness, feeling of being coated by something, *Kapha srava* from mouth and nose etc are *Lakshana* of *Heena yoga*.
- Atiyoga- Mastulungagamey, Vatvriddhi, Indriya vibhrama, emptiness in head, are Lakshana of Atiyoga.

# Indications of *Avapeeda nasya* in diseases from various texts

- Shirish beeja Moola avapeeda Ardhavbhedaka -Su. U. 26/31
- Vanshmoola Karpoor avapeeda Ardhavbhedaka -Su. U. 26/32
- Vacha- Magadhika avapeeda Ardhavbhedaka -Su. U. 26/32
- Guda nagar nasya Nasa roga -A. S. U. 24/39
- Hingu, Trikatu, Vatsaka etc Putinasa -Su. U 23/45
- Shunthi guda swaras All Shiroroga Vangasena Shiroroga /64
- Shunthi swaras pippali, vacha –Suryavarata -Vangasena Shiroroga /13
- Kalinga, Hingu, Maricha, Laksha Peenasa -Yoga Ratnakar, Nasa roga/1 Katphal, Saindhava etc
- Acharya Harita [33] mentioned 5 types of *Nasa roga* and he formulated only 5 combinations to treat them Four are *Avapeeda nasya*, and the fifth One is *Raktamokshan*.

### Mode of action

## > Ayurvedic Concept

- Aushadh given as Nasya reaches Shiras/brain via Nasa, as Acharyas has mentioned Nasa is portal to head<sup>[34]</sup>. Medicines get distributed to the targets and scratches out the morbid Doshas.
- Shringatak marma (Sira marma) is the conjugation of Siras of Netra-Nasa-Kantha-Shrotra, thus the medicines reaches Shringataka marma via Nasa marga and gets distributed to Netra-shrotra-kanthadi siramukha. From here all morbid Doshas gets removed like Ishika from Munja<sup>[35]</sup>.

## **▶** Modern Concept[36]

Intra-nasal drug – It represents an administration route of active pharmaceutical ingredients for local-systemic-CNS actions.

Modern science is now considering this route as a potent parenteral route for brain targeting as it bypass Blood Brain Barrier.

**BBB** is tight junctions with very high electrical resistance thus creating a barrier.

**BCB** presence of double layered membrane (Arachnoid membrane) acts as barrier for movement between blood and CSF.

Drug transport occurs by three pathways -1) Lymphatic 2) Vascular 3) Neural pathway.

**1. Lymphatic pathway-** CSF drains through Cribriform plate into nasal lymphatic which are free of valves.

- 2. Vascular pathway- Nasal cavity has rich blood supply and greater surface area provided by three turbinates on either side to absorb the administered medicine into blood. Medicine gets retained in venous supply (facial and opthalmic vein) and communicates with cavernous sinus (can be correlated to *Shringataka marma*). Lowered head, raised level of legs favours the blood circulation to head and the *Swedan karma* adds to it.
- **3. Neural pathway-** The terminal nerves running along Olfactory nerve are connected with limbic system of brain. Also drug from olfactory region is carried along olfactory neurons to CSF & CNS tissue, and from nasal cavity along with branches of trigeminal nerve to PONS.

Drug transport across olfactory epithelium occur by -

- Intracellular method- For lipophilic drug transport.
- Paracellular method- For hydrophilic drug transportation.
- Olfactory nerve pathway- The dendrite of olfactory neurons are connected to mucous layer over olfactory epithelium, and the axon enters cribriform plate of ethmoid. It passes through subarachnoid space comprising CSF.

Drug follow trigeminal nerve path as the nerve passes through olfactory and respiratory epithelium of nose, then reaches CNS thereby PONS. Cranial nerve 5,6,7,8 originates from ventral part of pontine nucleus, thus delivering the medicines from nasal cavity to pons and brain tissue.

# Advantages of Intra nasal drug Administration modern view

- Non-invasive method
- Easy self administration
- Bypassing Blood Brain Barrier
- · Can cross Blood-CSF- barrier
- Rapid absorption
- No hepatic first pass metabolism
- Increases brain exposure at similar dosage than oral.

#### **RESULT**

Avapeeda nasya is widely used in Shalakya tantra usually for removing morbid Doshas out of the Uttamanga (Shiras). It is indicated in Pratishyaya-Shiroroga-karnaroga- Nasaroga- Gala roga- Manas roga- visha etc. It is mainly used to open the blocked channels (Srotoshodhaka).

In comparison to other branches of Ayurveda, *Shalakya* has described *Avapeeda Nasya* with great compassion along with other types of *Nasya*.

#### DISCUSSION

Avapeeda nasya is a type of Nasya where process called Avapeedan is done i.e., making paste and expressing out juice or by using Kwath.

The drugs are usually of *Teekshna guna* as *Avapeeda nasya* is expected to expel out the *Dushta doshas* by *Shiro-virechana*. The instilled medicine shows local effect as getting into contact to the local tissue, systemic effect by getting into vascular system, and effect on CNS by passing via nasal lymphatics, rich nasal blood supply, and nerve like olfactory nerve & trigeminal nerve.

The vascular transport of drugs can be correlated to the *Shringataka marma* to cavernous sinus. *Shringataka marma* is a *Siramarma* thus carry blood, and the venous blood pooled gets transferred (some) to artery and reaches the target brain tissue thus showing results on different parts of interest in *Shalakya tantra*.

The brain tissue targeting is also possible by this method as the medicine by intracellular or paracellular pathway or olfactory nerve pathway. But *Avapeeda nasya* being water based drug to probable route will be paracellular pathway as it is hydrophilic in nature, however it also depends upon the affinity of the active principle of the administered drug and its nature (either lipophilic or hydrophilic).

This way the targeted medicine reaches the Pons, which is the region where major cranial nerves related to head originates and thus *Nasya* which is given by *Nasa marga* shows it's effect in *Kantha-karna-ghrana-mukha-shiro roga* and *Avapeeda nasya* removes out the morbid *Doshas* by its *Teekshna* etc *Guna*. But how to use *Snehana nasya* after *Avapeeda nasya* gives a scope for clinical research, also when to use *Dhoomapana* is also to be evaluated. The *Sneha nasya* indicated after *Avapeeda nasya* is given to pacify any *Dosha* if starts getting vitiated. It is followed by usual *Gandusha* and *Dhooma-pana* as *Pashchat karma* according to *Dosha* conditions.

# **CONCLUSION**

Ayurvedic classical texts and also one of the concept of treatment in Ayurveda mentions removal of morbid *Doshas* plays an important role in completely getting rid of any disease, rather than pacifying them. *Avapeeda Nasya* is very effective in removal of morbid *Doshas* from *Uttamanga* thus has very important place in *Shalakya tantra*. Its procedure is also somewhat different than *Snehika nasya* in terms of *Pashchata karma*. Route of transportation of intranasal drug is same for *Snehika* and *Virechanika nasya* but participating cells are probably different in lipophilic and hydrophilic drugs.

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