



Study of Effect of *Panchgavya Ghrit* - A *Snehik Nasya* in *Vatika Shiroroga (Shirashool)* - An Interventional Study

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Abstract

Introduction: In *Ayurveda*, diseases related to *Urdhvajatrugata* and their *Chikitsa* have a special reference in classical texts. Among all *Shirorogas*, *Shirashool* (headache) is having prime importance as it affects the individual's lifestyle and daily activities. Transmucosal routes of drug delivery (i.e., the mucosal linings of the oral, nasal, rectal, vaginal, and ocular cavities) offer distinct advantages over per-oral administration for systemic effect. Nasal drug delivery has been used since ancient times for therapeutic and recreational purposes. In *Charak Chikitsa Sthan* 26, it has been exclusively mentioned that *Snehan*, *Swedan* and *Nasya* as the best treatment for *Vaatik Shirashool*. **Aim and Objective:** To study the efficacy of *Panchagavya Ghrit* in *Vataj Shirorog*. To study the mode of action of *Panchagavya Ghrit Pratimarsha Nasya* in the same. **Materials and Methods:** 40 patients of *Vaatik Shirashool* were selected based on inclusion and exclusion criteria and symptoms based on classical symptoms in Ayurved Samhitas and evaluated based on subjective parameters. *Sneha* in the form of *Panchgavya Ghrita* was given to patients as *Pratimarsha Nasya* for 30 days. Follow-up was taken on the 15th, 30th, 45th and 60th of the study. **Observation and Results:** Observations were categorised and analysed by Wilcoxon Signed Rank Test. The results in all symptoms, i.e., pain (site, type, duration, frequency) ($p < 0.05$) and associated symptoms ($p < 0.05$) were found significant. **Conclusion:** Hence, *Panchagavya Ghrita* as *Pratimarsha Nasya* was found effective in *Vaatik Shirashool*. Neck stiffness and pulsating sensation were found most occurring symptoms along with vertigo. Hence, we can correlate *Vaatik Shirashool* with cervical spondylitis. Hence, *Panchagavya Ghrita* may be found effective in cervical spondylitis also.

Keywords: *Nasya*, *Panchagavya Ghrita*, *Urdhvajatrugata*, *Vaatik Shiroshool*

1. Introduction

Ayurveda is one of the ancient, yet, living health traditions. According to *Ayurveda*, *Shira* is considered the *Uttamang*¹ as *Shira* is the prime seat of sense organs and also the controller of the entire body. Diseases related to *Urdhvajatrugata* and their *Chikitsa* have a special reference in Ayurvedic texts. Among all the *Shiroroga*, *Shirashool* is having prime importance as it affects the person's lifestyle

and daily activities. In *Ayurveda*, *Shirashool* is not only described as a symptom of a particular disease, but it is widely explained as a separate disease also². Headache seems to be a very common disease, but sometimes it may seek major attention to rush for Physician advice.

Along with *Acharya Charaka*, many *Acharyas* have mentioned various etiological factors that cause vitiation of *Vata Dosha*, which acts as the main culprit causing any disease in the body. Hence, *Vataj Shirashool* has

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been selected for the clinical study. Out of the numerous etiological factors mentioned in classical texts in *Vataj Shirashool*, suppression of natural urges, irregular bowel habits and lack of sound sleep are now becoming common cause that aggravates *Vata Dosha*.

In *Ayurveda*, *Acharya Charaka* has mentioned in *Chikitsa Sthan* 26 that *Snehan*, *Swedan* and *Nasya* is the best treatment for *Vataj Shirashool*³. *Acharya Vagbhat* in *Ashtang Hridaya* has mentioned that “*Nasa hi Shiraso Dwaram*”⁴ (A.H. 20), which definitely means that *Nasa*, i.e., nose is the doorway to brain. Considering the above reference, we can say that *Nasya* is the nearest way to administer the drug in *Shirashool*. Transmucosal routes of drug delivery (i.e., the mucosal linings of the oral, nasal, rectal, vaginal, and ocular cavities) offer distinct advantages over per-oral administration for systemic effect⁵. Nasal drug delivery has been used since ancient times for therapeutic purposes in various neurological diseases.

The *Aushadh Skandha* elaborated in *Ayurveda* is full of various *kalpanas*. Among them *Ghrita Kalpanas* are widely used by *Ayurveda* Practitioners. One of such *Ghrit Kalpanas* is *Panchagavya Ghrit*. *Panchagavya Ghrit* is the miraculous drug used in psychosomatic disorders and found very effective in *Apasmaar* (epilepsy)⁶.

Panchagavya are the five organic products obtained from cow which enhance the immunity and growth of the well-being. Owing to its essential properties, it can be used in various diseases as their reoccurrence becomes negligible.

Among all types of *Sneha*, *Ghrita* is considered the best *Sneha* or remedy⁷. As the properties of *Ghrita* are contrary to that of *Vata Dosha*. Hence, *Ghrita* can be definitely use for aggravated *Vata Dosha*.

Our *Acharyas*, precisely mentioned, *Nasya Therapy* is the master key to all *Urdhvajatrugata Rogas*. Hence, it becomes the nearest way to administer the drug. As we have seen the close relation of *Nasa* and brain, considering the action of *Sneha* on *Vata*, we have selected *Panchgavya Ghrit* as *Pratimarsha Nasya* on *Vatik Shirashool*. The objective of the study was to evaluate the efficacy of *Panchgavya Ghrita Pratimarsha Nasya* in *Vataj Shirashool* and study the mode of action of *Snehik Pratimarsha Nasya* on *Vataj Shirashool*.

2. Materials and Methodologies

2.1 Materials

Drugs Detail - *Panchagavya Ghrita* was prepared as per AFI guidelines and standard ization of final product was done at *Ayurved Seva Sangha*, *Nashik*.

Panchagavya Ghrita (procedure) - It is obtained from five ingredients obtained from cows such as *Gomaya Rasa*, *Gomutra*, *Godugdha*, *Godadhi*, and *Goghrita*. All these contents are taken in equal quantity. *Panchagavya Ghrita* was prepared by *Sneha Nirman Vidhi* as mentioned in ancient classical texts. *Panchagavya Ghrita* as administered through nose as *Pratimarsha Nasya*.

Source of Data - Patients of both the sexes visiting *Ayurvedic Hospital* having symptoms of *Vataj Shirashool* were selected.

Type of Study - Interventional

Sampling Procedure - Simple Random Sampling Technique

Sample Size - 40

Study Group - Single

Population - Diagnosed patient of *Vataj Shirashool*

2.1.1 Inclusion Criteria

Patients presenting classical features of *Vataj Shirashool* for more than 1 year were selected.

Patients of both sexes were selected.

Patients of age group 20-60 were selected.

2.1.2 Exclusion Criteria

Patients with space occupying lesions.

Patients with Head injury.

2.1.3 Assessment Criteria

Classical symptoms of *Vataj Shirashool* in *Charak Samhitas* are considered as diagnostic parameters.

Subjective Parameters - The parameters evaluated are shown in Tables 1-5.

Table 1. Sites of pain

(<i>Shankha, Lalata, Manya, Karna</i>) ⁸	Grade
All 4 sites involved	4
Any 3 sites involved	3
Any 2 sites are involved	2
Any 1 site involved	1
No site involved	0

Table 2. Intensity of pain

Pain	Grade
Unbearable	4
Distressing	3
Tolerable	2
Mild	1
No pain	0

Table 3. Duration of pain

Duration	Grade
18-24 hr	4
12-18 hr	3
6-12 hr	2
15 min-6 hr	1
No pain	0

Table 4. Frequency of pain

Frequency	Grade
1-2 episodes/week	4
1-2 episodes/month	3
1-2 episodes/3 months	2
1-2 episodes/6 months	1
No pain	0

2.1.4 Associated Symptoms

Table 5. (a) Bhrama (Vertigo)

Intensity	Grade
Unbearable	3
Disturbance in work	2
Tolerable	1
Absent	0

Table 5. (b) Other associated symptoms

Associated Symptoms ⁹	Present	Absent
Karnasuvana (Tinnitus)	1	0
Seerapuranam (Pulsating sensation)	1	0
Hanugraha ¹⁰	1	0
Akshikarshan (STRETCHING of eyes)	1	0
Manyastambha (Neck stiffness/pain)	1	0
Prakash Akshamta (Photophobia)	1	0
Ghranastraav (Coryza/runny nose)	1	0

Total score of symptoms = 26

2.1.4.1 Interpretation of Scores

0-6 = No significant headache

7-12 = Mild headache

13-18 = Headache with moderate severity

19-26 = Severe headache

2.1.4.2 Drug Administration Details

The drug administration details are shown in Table 6.

Table 6. Drug administration details

No. of Patients	40
Therapy	Nasya
Kala	Morning And Evening
Frequency	Daily (up to 1 month)
Route of administration	Internally Through Nose
Drug	Panchagavya Ghrit
Dose	2 Bindu
Duration	1 month - 30 Days
Follow up	15 th , 30 th , 45 th , 60 th Day

2.1.4.3 Result Assessment

Assessment of result was done. Detailed proforma of scoring of grading parameters were noted and was statistically analysed. The Wilcoxon Signed Rank Test was used as per methods.

The results were categorised as below:

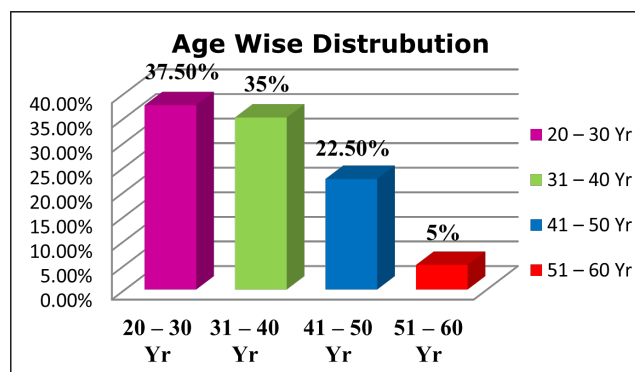
Marked Relief - Above 76% improvement

Moderate Relief - 51-75% improvement

Mild Relief - 26-50% improvement

No Relief - Below 25% improvement

3. Observations and Results

**Figure 1.** Age-wise distribution of 40 patients of Vaatik Shirashool.

In this series, maximum number of patients 15 (37.5%) were belonging to age group 20-30 years, 14 patients (35%) were belonging to age group 31-40 years followed by 9 patients (22.5%) in 41-50 years age group, 2 patients (5%) in 51-60 age group (Figure 1).

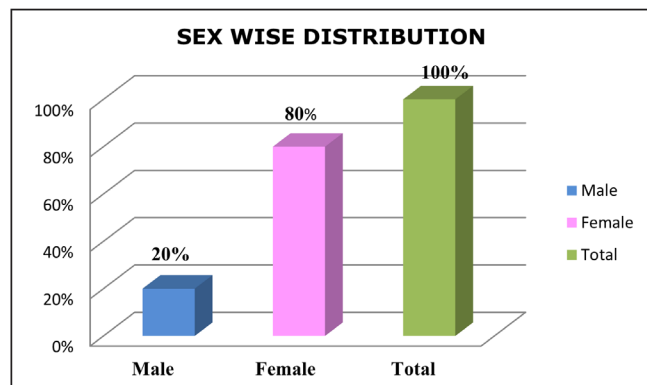


Figure 2. Sex-wise distribution of 40 patients.

Maximum number of patients, i.e., 32 (80%) were female, whereas 8 patients (20%) were Male (Figures 2, 3 and 4).

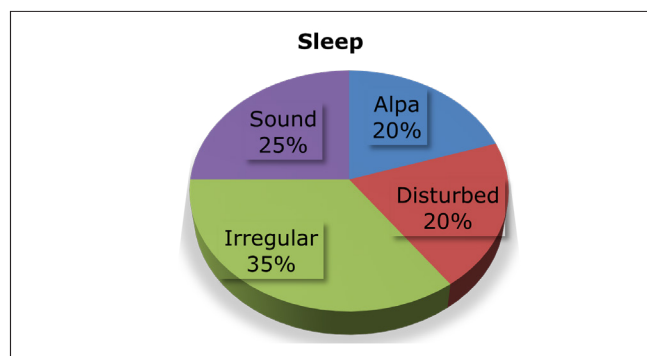


Figure 3. Distribution of patients according to sleep pattern.

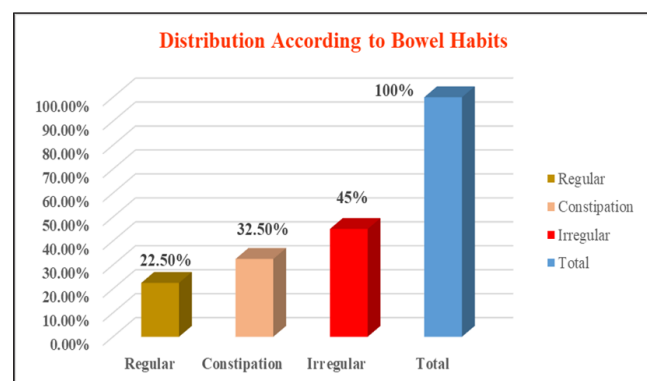


Figure 4. Distribution of patients according to bowel habits.

Table 7. Effect of *Panchagavya Ghrit* on pain

Pain Score	Mean	Median	SD	SE	Wilcoxon W	P-Value	% Effect	Result
BT	14.73	15.00	1.32	0.21	-5.524 ^b	0.000000033	47.03	Sig
AT	7.80	9.00	3.37	0.53				

Since observations are on ordinal scale (gradations), we have used Wilcoxon Signed Rank Test to test the efficacy. From Table 7, we can observe that p-value is less than 0.05. Hence, we conclude that effect observed on pain is significant (Figure 5).

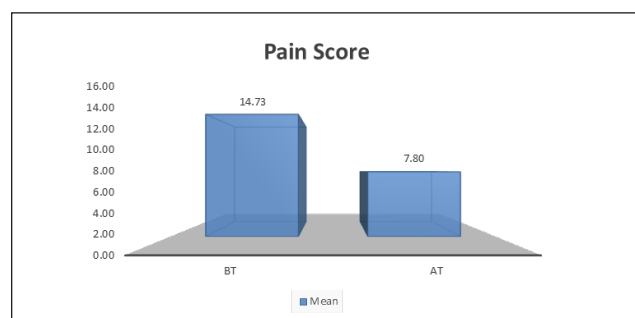


Figure 5. Pain Score before and after treatment.

Table 8. Effect of *Panchagavya Ghrit* on associated symptoms

Associated Symptoms	Mean	Median	SD	SE	Wilcoxon W	P-Value	% Effect	Result
BT	5.48	5.00	1.78	0.28	-5.530 ^b	0.000000032	83.11	Sig
AT	0.93	1.00	0.86	0.14				

Since observations are on ordinal scale (gradations), we have used Wilcoxon Signed Rank Test to test the efficacy. From Table 8, we can observe that p-value is less than 0.05. Hence, we conclude that effect observed in associated symptoms is significant (Figure 6). The overall effect *Panchagavya Ghrit* on *Vaatik Shirashool* is shown in Table 9 (Figure 7).

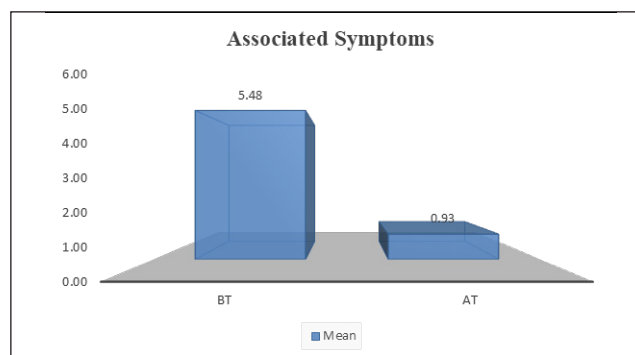
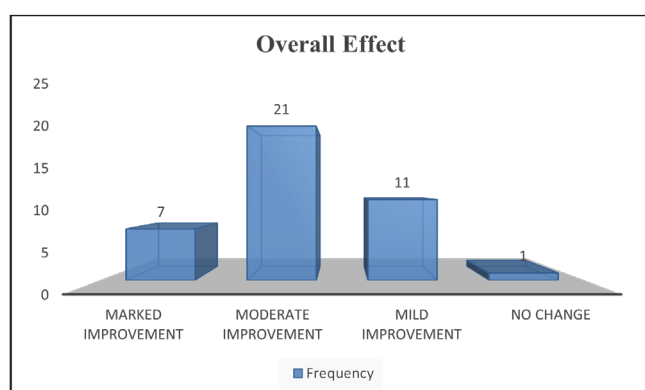


Figure 6. Associated symptoms before and after treatment.

Table 9. Overall effect of Panchagavya Ghrit on Vaatik Shirashool

Overall Effect	Frequency	Percentage
Marked Improvement	7	17.5
Moderate Improvement	21	52.5
Mild Improvement	11	27.5
No Change	1	2.5
Total	40	100

**Figure 7.** Overall effect of Panchagavya Ghrit and Vaatik Shirashool.**Table 10.** Mode of action of Panchagavya Ghrita

Contents	Rasa	Veerya	Vipaka	Guna	Dosha Karma
Gomaya Rasa	Kashaaya, Tikta	Sheeta	Katu	Laghu, Ruksha	-----
Godadhi ¹³	Amla	Ushna	Amla	Guru Snigdha	Vata Shaman, Kapha Pitta Vardhak
Godugdha ¹⁴	Madhura	Sheeta	Madhura	Snigdha, Guru, Mrudu	Vata Pitta Shaman, Kapha Vardhak
Gomutra ¹⁵	Ch-Kinchit Madhur, Su- Katu	Ushna	Katu	Laghu, Ruksha, Tikshna	Kapha Vata Shaman, Pitta Vardhak
Goghrit ¹⁶	Madhur	Sheeta	Madhura	Snigdha	Vata Pitta Shaman

4. Discussion

In this study, there was a single group (series) of 40 patients of *Vaatik Shirshula*. To alleviate the main culprit of the disease, i.e., *Vata Dosha Sneha* in the form of *Panchagavya Ghrita* was administered via nasal route as *Pratimarsha Nasya*. The drug was seen as highly effective in all the subjective parameters used for assessment. *Acharya Charaka* cited *Panchagavya Ghrita* in *Apasmaar Chikitsa Adhyay*. This drug shows its mode of action mainly on the brain, i.e., *Shirah*. *Acharya* has stated that “*Nasa hi Shiraso Dwaram*” which means the nose is the gateway to the head as nose is indirectly connected with the brain centres in the head [A.H. Su.20/1].

Nasal drug delivery has been used since ancient times for therapeutic and recreational purposes. Novel approaches used for drug targeting to get maximum drug concentration in the brain have been highlighted¹¹. Intranasal administration of the drug for any disease related to the head region offers an interesting alternative to achieve better bioavailability which is comparable to the parental route. It also determines the subsequent translocation of the deposited drug by mucociliary clearance and influences the absorption of the drug¹². Hence, *Panchagavya Ghrit Pratimarsha Nasya* has been proven very effective in *Vaatik Shirashool*.

The properties of *Panchagavya Ghrit*, are seen contrary to that of the properties of *Vata Dosha*.

Panchagavya Ghrit itself as well as a constituent of many formulations has been shown to possess neuroprotective and anticonvulsant activities in rats¹⁷. The properties of contents of *Panchagavya Ghrit*, i.e., *Gomaya Rasa*, *Godugdha*, *Godadhi*, *Gomutra* and *Goghrit*, we can notice the properties that help to pacify the vitiated *Vata Dosha*. *Gomutra* due to its *Ushna Guna* (hot potency), *Godugdha* due to its *Madhur Rasa*, *Gadadhi* due to its *Amla Rasa* and *Ushna Veerya* (hot potency) and *Goghrit* due to its *Madhur Rasa* and *Sanskaranuvartan* property (takes the herbs properties into it without leaving its own inherent properties)¹⁸ helps to pacify the aggravated *Vata Dosha* and thereby interrupts the *Samprapti* of *Vaatik Shirashool* as *Vata Dosha* — the only *Dosha* responsible for vitiation of other *Doshas* and *Dushyas* (Table 10).

Acharya Charaka has exclusively mentioned the Etiological factors for *Vaatik Shirashool* as *Uchaibhashya*, *Atibhashya*, *Tikshnapanat*, *Prajagrata* (keeping awake at night), *Vayu Nigraha* (suppression of natural urges), *Upwasat* (fasting)¹⁹. Due to these causative factors, *Vata Dosha* gets aggravated leading to *Vaatik Shirashool* showing specific symptoms depending on the variation in vitiation of qualities of *Vata Dosha*. Acharya Charaka has stated that “*Ratrau Jagranam imparts Rukshata in body*”²⁰. This contributes to the *Ruksha Guna* of *Vata* and causes *Vata Prakopa*. In this study, most patients show *Upashay* (Relief) due to *Snigdha Guna* of unctuous application like medicated oil and balm, which also show dominance of *Ruksha Guna* of *Vaat*. Hence, *Panchagavya Ghrit*, due to its *Snigdha* property, helps to pacify vitiated *Vata Dosha*.

Due to *Vata Prakopa*, *Manyastambha* was seen as the most occurring symptom with vertigo in 40 patients. These two symptoms, with pulsating sensation, can be correlated with cervical spondylosis. We can assume *Vata Prakopa* Lakshanas (symptoms) in cervical spondylosis. In this study, after 30 days of *Pratimarsha Nasya*, patients were relieved from the three *Lakshanas*. Hence, we can say that *Panchagavya Ghrit* is effective in cervical spondylosis also.

Per-oral administration of drugs has many side-effects, such as first-pass metabolism and enzymatic dehydration in the gastrointestinal tract²¹. *Pratimarsha Nasya* is the only *Nasya* that can be given daily and even in all seasons in the form of mini detoxification throughout the day²². Hence, *Pratimarsha Nasya* in *Vaatik Shirashool* proves highly effective.

5. Conclusions

- *Panchagavya Ghrit* was found effective in reducing pain duration, pain intensity and pain frequency.
- *Snehik Pratimarsha Nasya* of *Panchagavya Ghrit* is effective in *Vaatik Shirashool*.
- *Pratimarsha Nasya* of *Panchagavya Ghrit* was found highly effective in *Manyastambha* and *Seerashphuran* along with vertigo. Hence, we can say that *Panchagavya Ghrit* is effective in cervical spondylosis also.

Ethical Approval - Institutional Ethical Committee (IEC) permission was taken for the research protocol before the trial started.

Consent - As per International standards and University standards guidelines patients' consent has been taken, collected, and preserved by the authors.

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