



A Comparative Clinical Study to Evaluate the Effect of *Matra Vasti* with *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka* in the Management of *Vataja Gridhrasi*

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Abstract

Gridhrasi comes under *Nanatmaja Vata Vyadhi* can be correlated to sciatica, is the pain in the area of distribution of the sciatic nerve (L4-S3), which is commonly felt in the buttock and over the postero-lateral aspects of the leg. *Matra Vasti* is a simplest form of *Vasti* can be administered irrespective of age, sex, and time with least complications. *Vajigandhadi Taila* is described in *Yogaratanakara*, *Vatavyadhi Adhikarana* with special indication in *Gridhrasi* for *Vasti*. *Acharya Charaka & Vagbhata* explained *Sneha* in *Madhyamapaka* is useful for *Vastikarma*, whereas *Acharya Susruta* opines that *Kharapaka* is beneficial.

A comparative clinical study was performed in 40 patients of both sexes aged 20-60 from IPD and OPD of MVR Ayurveda Medical College, Parassinikadavu diagnosed with *Vataja Gridhrasi*. The total 40 participants were subjected to block randomization divided into 2 groups (Group A and Group B). In Group A, *Matravasti* was given with *Vajigandhadi Taila* in *Kharapaka* with a fixed dose of 72 ml for 9 consecutive days and in Group B, *Vajigandhadi Taila* in *Madhyamapaka* was given in the same manner. Assessment was done with regards to Visual Analogue Scale for pain, *Stambha*, *Spandana*, SLR Test & Walking Time with *Samyak Lakshana* & retention time of *Matravasti*. Both *Vajigandhadi Taila* in *Kharapaka* & *Madhyamapaka* were subjected to physico-chemical analysis for the quality assurance.

Both preparations produced statistically significant within-group improvement (Friedman test, $p < 0.05$) across all major clinical parameters, sustained through an 18-day follow-up (Wilcoxon signed-rank test). Between-group (Mann-Whitney U) comparison showed no significant difference in most parameters, except a transient advantage for *Kharapaka* in SLR immediately after treatment, while *Madhyamapaka* showed a more gradual but sustained pattern of improvement, particularly in *Bala* and *Toda* during follow-up. Physico-chemical analysis indicated that *Madhyamapaka* more closely approximated standard reference values.

Keywords: *Matravasti*, *Gridhrasi*, *Sciatica*, *Vajigandhadi Taila*, *Snehapaka*, Physico-chemical analysis of *Taila*.

Introduction

Gridhrasi is a *Vata Nanatmaja Vyadhi* in which vitiated *Vata* afflicts the *Kandara* extending from *Parshni* to *Anguli*¹, producing *Ruk*, *Toda*, *Muhur Spandana* and *Stambha* over the *Sphik*, *Kati*, *Uru*, *Janu*, *Jangha*, and *Pada*, with *Sakthikshepa Nigraha* as a diagnostic hallmark. The clinical picture corresponds closely with sciatica, a debilitating condition of pain or paraesthesia distributed along the sciatic nerve root.² Sciatica is among the most common musculoskeletal complaints, with a prevalence of 1–5% in India and an annual incidence of about 11.6 per 1000 persons for low back pain with sciatica; it is more common in males at a younger age and in females around the peri menopausal period, and is aggravated by sedentary habits, increasing computerization, excess body weight, and mental stress.

Modern management relies heavily on analgesics, muscle relaxants, and, in refractory cases, surgery approaches that offer only symptomatic relief and carry the risk of long-term adverse effects, leaving a genuine need for a safe and sustainable alternative. *Vasti* is a unique form of treatment modality which expels the vitiated *Doshas* rapidly and produce nourishment to the body, is described as '*Ardha Chikitsa*' by *Acharya Charaka*. *Vasti* is considered as the best treatment for *Vata* as it acts in *Pakvasaya*, the main site of *Vata*, hence quoted as "*Vastihi Vataharanam Sreshtam*"³. *Matra Vasti* is a subtype of *Anuvasana Vasti*⁴, is given in extremely little dose of one and half *Pala* (72ml) is regarded as a unique among *Panchakarma* procedures for being safe enough to give to children, the elderly, and debilitated patients, and even to those engaged in daily activity, without the elaborate *Purvakarma* and *Paschatkarma* required for classical *Vasti*.

Vajigandhadi Taila, described by *Vangasena*, is a formulation containing *Ashwagandha*, *Bala*, and *Dashamoola* in *Eranda Taila* base, and is specifically indicated for *Vasti* in *Gridhrasi*⁵. A point of divergence exists in the classical texts regarding the *Sneha Paka* appropriate for *Vasti*: *Acharya Charaka* and *Vagbhata* recommend *Sneha* in *Madhyamapaka*, whereas *Acharya Sushruta* recommends *Kharapaka*⁶. In contemporary practice, *Madhyamapaka* is the form most commonly dispensed, while classical opinion favours *Kharapaka* also, a discrepancy that has not previously been resolved through comparative clinical and pharmaceutical evaluation. This comparative clinical study undertaken to address this gap, evaluating both the therapeutic effect and the physico-chemical quality of *Vajigandhadi Taila* prepared in the two *Pakas*.

Aim

To Compare the Effect of *Matravasti* with *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka* in the management of *Vataja Gridhrasi*.

Objectives

Primary Objective

To compare the effect of *Matravasti* with *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka* with pharmaceutical analysis in the management of *Vataja Gridhrasi*.

Secondary Objectives

- To assess the *Samyak*, *Ayoga* and *Atiyoga Lakshanas* of *Matravasti* with *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka*.
- To assess the *Prathyagamanakala* of *Matravasti* with *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka*.

Materials and Methods

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Study Design

- A Randomized Comparative Clinical Study Design
- Technique: Block Randomization
- 40 participants were divided into 2 blocks first and then randomly assigned treatments within these participants by simple random sampling- lottery method.

Study Population

Participants affected with *Vataja Gridhrasi* were selected from OPD and IPD of MVRAMC, Parassinikkadavu, during the year 2025-2026 within the age group 20-60 years satisfying inclusion and exclusion criteria.

Selection of Participants

Diagnostic criteria:

- Participants showing any two or more symptoms of *Vataja Gridhrasi* out of *Ruk/Toda/Stambha/Muhur Spandana* in *Sphik, Prushtha, Uru, Janu, Jangha* or *Pada*.
- Positive SLR Test

Inclusion criteria:

- Participants fulfilling the diagnostic criteria
- Participants between the age group of 20 – 60 years will be selected
- Irrespective of gender
- Participants indicated for *Matra Vasti*

Exclusion criteria:

- Participants with a history of traumatic injuries to the lumbo-sacral vertebra
- Participants affected with lumbar stenosis
- Participants with benign and malignant tumors of lumbo-sacral region
- Participants with pre-diagnosed serious systemic illness
- Participants with *Vata-kaphaja Gridhrasi* having *Arochaka & Gourava*
- Participants contra-indicated for *Matra Vasti*
- Pregnant and lactating women

Sample Size

A sample size of 40 (20 per arm) was arrived at using the formula $n = (r+1)\sigma^2(Z\beta+Z\alpha/2)^2 / r(d)^2$, with a Type-I error rate of 5%, power of 90%, effect size (d) = 1, and $\sigma = 0.82$, giving a base requirement of 18 per group; this was rounded up to 20 per arm allowing for a 10% dropout margin.

Intervention

Study Drug — *Vajigandhadi Taila*

Method of Preparation

Since *Kashaya Dravya* and *Kalka Dravya* of *Vajigandhadi Taila* are not mentioned separately, the same drugs were used and prepared its *Kharapaka* and *Madhyamapaka* in the proportion of 1:4:16 for *Kalka*, *Taila*, and *Kashaya* respectively according to *Snehapakavidhi* mentioned in *Sharangadhara Samhita*⁷ at MVRAMCH Pharmacy, Kannur.

Table No: 1 Ingredients of *Vajigandhadi Taila*

Sl. No.	Dravya	Botanical Name	Parts Used
1	<i>Ashwagandha</i>	<i>Withania somnifera</i>	Root
2	<i>Bala</i>	<i>Sida cordifolia</i>	Root
3	<i>Bilva</i>	<i>Aegle marmelos</i>	Root
4	<i>Agnimantha</i>	<i>Premna serratifolia</i>	Root
5	<i>Syonaka</i>	<i>Oroxylum indicum</i>	Root
6	<i>Kashmari</i>	<i>Gmelina arborea</i>	Root
7	<i>Patala</i>	<i>Stereospermum suaveolens</i>	Root
8	<i>Kantakari</i>	<i>Solanum xanthocarpum</i>	Root
9	<i>Brihati</i>	<i>Solanum indicum</i>	Root
10	<i>Salaparni</i>	<i>Pseudarthria viscida</i>	Root
11	<i>Prishniparni</i>	<i>Desmodium gangeticum</i>	Root
12	<i>Gokshura</i>	<i>Tribulus terrestris</i>	Fruit
13	<i>Eranda Taila</i>	<i>Ricinus communis</i>	Seed oil

Analytical Study

The analytical study deals with the physical and chemical evaluation of *Vajigandhadi Taila* in *Kharapaka* and *Madhyamapaka* were carried out in the laboratory of MVRAMCH, Kannur. Organoleptic and physico-chemical analysis were carried out by following standard procedures mentioned in *Ayurvedic Pharmacopeia of India*⁸.

Table No: 2 Organoleptic parameters of *Vajigandhadi Taila*

Parameters	<i>Kharapaka</i>	<i>Madhyamapaka</i>
Colour	Opaque brown	Light brown
Odour	Characterestic odour	Characterestic odour
Taste	Slightly bitter	Slightly bitter
Nature of <i>Varti</i>	<i>Kalka</i> is hard & not able to form <i>Varti</i>	<i>Kalka</i> is soft, non-sticky & possible to form <i>Varti</i>

Sound by putting <i>Kalka</i> on fire	No cracking sound	Cracking sound
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Table No: 3 Physico-chemical parameters of *Vajigandhadi Taila*

Parameters	<i>Kharapaka</i>	<i>Madhyamapaka</i>
Specific gravity	0.9552	0.9595
Refractive index	1.4710	1.4710
Loss on drying	0.1776 %	0.2677 %
Viscosity	521 cp	524 cp
Acid value	2.1904	2.6690
Iodine value	90.0102	91.0902
Saponification Value	174.8052	172.0688
Ester Value	172.6148	169.3998
Unsaponified Matter	0.713 %	0.732 %
Rancidity Test	-ve	-ve

Table No: 4 Therapeutic Intervention

Particulars	Group A (Trial)	Group B (Control)
Drug	<i>Vajigandhadi Taila</i> — <i>Kharapaka</i>	<i>Vajigandhadi Taila</i> — <i>Madhyamapaka</i>
Sample size	20	20
Dose	72 ml	72 ml
Duration	9 days	9 days
Time of administration	Soon after lunch	Soon after lunch
Route	Anal	Anal
Follow-up	18th day after treatment	18th day after treatment

Procedure of *Matravasti*

- Matravasti* was administered following the standard sequence of *Poorvakarma* as *Stanika Abhyanga* with *Murchita Tila Taila*, hot-water bath, a light meal, and satisfaction of natural urges followed by per-rectal administration of the lukewarm *Taila* in the left lateral position using a 100 ml glycerine syringe.
- The patient's buttocks and flanks were beaten; the lower limbs were raised thrice and were flexed at knee and hip thrice. The soles were beaten with the fist. Mild massage over abdomen was given. Patient was asked to lie in the supine position itself with pillow for head for 1 hour as *Paschatkarma*.

- The procedure was repeated daily for nine consecutive days, and the Samyak, Ayoga, and Atiyoga Lakshanas along with the retention time were charted after each administration.

Assessment Criteria

a) Subjective Parameters

- **Ruk:** Grading of pain was done on the basis of **Visual Analogue Scale (VAS)** of 10 cm. The patient was asked to mark against the number corresponding to how he/she feels the pain at that moment.

Grade 0: No pain (scale reading 0)

Grade 1: Trivial pain (scale reading 1)

Grade 2: Mild pain (scale reading 2-4)

Grade 3: Moderate pain (scale reading 5-7)

Grade 4: Severe pain (scale reading 8-10)

- **Toda** (pricking sensation)

Grade 0: No pain (scale reading 0)

Grade 1: Trivial pain (scale reading 1)

Grade 2: Mild pain (scale reading 2-4)

Grade 3: Moderate pain (scale reading 5-7)

Grade 4: Severe pain (scale reading 8-10)

- **Stambha** (stiffness in *Sakthi*)

Grade 0: No stiffness

Grade 1: Sometimes for 5-10 minutes.

Grade 2: Daily for 10-30 minutes

Grade 3: Daily for 30-60 minutes

Grade 4: Daily for more than 1 hour.

- **Spandana** (twitching)

Grade 0: No twitching

Grade1: Occasionally discontinued twitching.

Grade2: Occasionally continuous twitching

Grade 3: Persistent continuous twitching

b) Objective Parameters

- **Walking Time:** Time taken by the patient to walk 20 meters in a straight way in medium speed was assessed.

Grade 0: Upto 20 seconds

Grade1: Takes 21 -30 seconds

Grade2: Takes 31 -40 seconds

Grade 3: Takes 41 -50 seconds

Grade 4: Takes 51 -60 seconds.

Grade 5: More than 60 seconds.

- **Straight Leg Raising Test**

Grade 0: More than 70 degree without pain.

Grade1: 61-70 degree without pain.

Grade2: 51-60 degree without pain.

Grade 3: 41-50 degree without pain.

Grade 4: 31-40 degree without pain.

Grade 5: Can't raise due to pain.

c) Assessment of *Samyak Lakshanas* of *Matravasti*

Table No: 5 Assessment of *Samyak Lakshanas* of *Matravasti*

<i>Samyak Lakshanas</i>	Grade (0) Absent	Grade (1) Present
<i>Sapurisha Sneha Nivrithi</i>		
<i>Sanila Sneha Nivrithi</i>		
<i>Svapnanuvrithi</i>		
<i>Laghutha</i>		
<i>Bala</i>		
<i>Srishta Vega</i>		

Statistical Analysis

Data were analysed using SPSS v27. The Friedman test was used to detect overall within-group change across the three assessment points (before treatment, after treatment, and follow-up) or across the nine treatment days; the Wilcoxon signed-rank test was applied for pairwise within-group comparisons; and the Mann-Whitney U test was used for between-group comparisons at each time point. The level of significance was set at 0.05.

Observation & Result

Demographic and Clinical Profile

The 50–59 years age group was the most represented (40%, $n = 16$), followed by 30–39 years (20%) and 40–49 years (17.5%), reflecting the tendency of *Vataja Gridhrasi* to affect middle-aged and older adults in whom *Dhatukshaya* predisposes to degenerative musculoskeletal change. A pronounced female preponderance was observed (77.5%, $n = 31$), consistent with post-menopausal *Dhatukshaya* and the physically demanding domestic labour undertaken by many participants. Occupationally, 47.5% were engaged in active work and 37.5% in manual labour, together accounting for 85% of the sample performing repetitive or mechanically loading work be a recognised *Nidana* for *Gridhrasi*.

Effect on Clinical Parameters

Both *Kharapaka* and *Madhyamapaka* groups showed highly significant within-group improvement (Friedman test, $p \leq 0.015$ for all parameters) from before treatment to after treatment and through the follow-up period, with pairwise Wilcoxon comparisons confirming that improvement continued to be statistically significant even beyond the active treatment phase for most parameters. The Mann-Whitney U test showed no significant between-group difference in outcomes for *Ruk*, *Toda*, *Spandana*, *Stambha*, walking time, or retention time at any time point, the sole exception being the SLR test immediately after treatment, where *Kharapaka* showed a significantly better mean score (0.90 vs 1.30, $Z = -2.351$, $p = 0.019$); this advantage had disappeared by follow-up ($p = 0.562$), with both groups converging to comparable scores.

Table No: 6 Mann-Whitney U Test results between Group A and Group B at each treatment stage

<i>Vataja Gridhrasi Lakshanas</i>		Before Treatment	After Treatment	Follow Up
Ruk	Z value	-1.678	-0.673	-0.333
	P value	0.093	0.501	0.739
Toda	Z value	-0.395	-1.006	-0.593
	P value	0.693	0.314	0.553
Spandana	Z value	-0.090	0.000	-1.000
	P value	0.928	1.000	0.317
Stambha	Z value	-1.089	-0.29	0.000
	P value	0.276	0.772	1.000
SLR Test	Z value	-1.224	-2.351	-0.58
	P value	0.221	0.019	0.562
Walking time	Z value	-0.03	-0.748	-0.411
	P value	0.976	0.454	0.681

Samyak Lakshanas and Retention Time

All participants in both groups attained the classical *Samyak Lakshanas*, with no *Ayoga* or *Atiyoga Lakshanas* and no major adverse events recorded throughout the treatment or follow-up period. *Kharapaka* produced faster *Sanila Sneha Nivriti* from day 1 and earlier *Svapnanuvriti*, whereas *Madhyamapaka* achieved faster *Sapureesha Sneha Nivriti*, earlier *Laghuta* and *Srishta Vega*, and a significantly superior restoration of *Bala* from day 7 onward ($p = 0.037$) that persisted to day 9, the only parameter in which a between-group difference was sustained to the end of the observation period. Retention time of *Matra Vasti* increased progressively over the nine days in both groups (Friedman $p \leq 0.002$); *Kharapaka* showed higher retention in the first five days (129–158 minutes) compared with *Madhyamapaka* (95–132 minutes), but the groups converged from day 6 onward, with no statistically significant between-group difference on any individual day.

Physico-chemical Analysis of Vajigandhadi Taila

Both preparations were negative for rancidity and comparable on most parameters, though *Madhyamapaka's* acid value, iodine value, saponification value and ester value lay marginally closer to standard reference ranges.

Discussion

Mode of Action of Matra Vasti

Administered per rectum in *Pakvasaya*, the primary seat of *Vata*, *Matra Vasti* acts through its *Veerya* to pacify vitiated *Doshas* from the *Kati*, *Prishtha*, while simultaneously nourishing the *Dhatus*, thereby producing *Vatanulomana* without the more elaborate preparatory and after-care regimen required for classical *Vasti*. Because *Asthi* and *Majja* are the specific seats of *Vata*, and a course of nine *Vastis* is classically held necessary for *Sneha* to penetrate to *Majja Dhatu*⁹, the nine-day protocol used in this study

aligns with the classical framework. Through combined procedural, purificatory, and drug-specific action, *Matra Vasti* is understood to reduce the radiating pain, stiffness, numbness, and restricted movement characteristic of *Gridhrasi*.

Specific Action of *Vajigandhadi Taila*

Ashwagandha, with its *Guru-Snigdha Guna* and *Ushna Veerya*, is *Balya*, *Brimhana*, and *Rasayana*, pacifying *Vata* while nourishing *Mamsa*, *Asthi*, and *Majja* and acting as a nervine tonic. *Bala* similarly offers *Balya*, *Brimhana*, and *Vata-shamaka* action along with *Shothahara* and *Vedanasthapana* properties that relieve spasm and radiating pain. *Bilva* contributes *Deepana*, *Pachana*, and *Vatanulomana* effects that normalize *Apana Vata* and prevent further aggravation. *Dashamoola* offers strong *Vata-Kapha Shamaka*, *Shothahara*, and *Vedanasthapana* action along with *Srotoshodhana* that improves circulation. *Eranda Taila*, the base oil, is *Vataghna* and *Anulomana*, lubricating joints and nerves and relieving constipation. Collectively, the *Vedanasthapana*, *Shothahara*, and *Vataghna* properties of *Vajigandhadi Taila* address the classical symptoms of *Ruk*, *Toda*, *Stambha*, and *Spandana*, by reducing peri-radicular inflammation and nerve-root irritation. while its *Brimhana* and *Rasayana* action supports musculoskeletal strength and functional mobility.

Interpreting the *Kharapaka–Madhyamapaka Comparison*

The overall clinical equivalence demonstrated between *Kharapaka* and *Madhyamapaka* across most parameters as both forms are therapeutically effective, while the differing time-courses of response point to genuine pharmacodynamic distinctions arising from *Paka*. *Kharapaka's* faster early *Vatanulomana*, superior short-term SLR improvement, and higher initial retention time may reflect its comparatively lower viscosity in the immediate post-administration period allowing quicker distribution, whereas *Madhyamapaka's* higher viscosity, lower saponification value, and more complete absorption profile likely underlie its steadier, more sustained effects particularly its superior restoration of *Bala* and its continuing improvement in *Toda* and walking time even after active treatment ended. In practical terms, *Kharapaka* may offer a modest early advantage, particularly in patients with *Krura Koshta* while *Madhyamapaka* shows a gradual, well-sustained recovery of strength.

Conclusion

The present comparative clinical study evaluated *Matra Vasti* with *Vajigandhadi Taila* in *Kharapaka* (trial) and in *Madhyama Paka* (control) in the management of *Vataja Gridhrasi*. Statistical analysis using the Friedman test revealed that both *Kharapaka* and *Madhyamapaka* groups showed significant improvements ($p < 0.05$) across all major clinical parameters.

Kharapaka

- Shows early and immediate improvement with less consistent over time.
- Faster improvement in SLR test after treatment ($p = 0.019$).
- Higher and more consistent early *Sanila Sneha Nivriti*.
- Complete *Svapnanuvriti* achieved by day 7.
- Higher mean retention times in the first half of the treatment course.

Madhyamapaka

- Shows gradual, steady, and sustained improvement with more consistent progression across days.
- Significantly earlier appearance of *Laghuta*.
- Earlier normalization of *Srishta Vega*.

- Earlier achievement of *Sapureesha Sneha Nivriti*.
- Superior restoration of *Bala* from day 7 onward representing a statistically significant difference ($p = 0.037$) that persisted through day 9.
- Continued significant improvement in *Toda* and *walking time* during the follow up period suggesting a more sustained post-treatment action.

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