

[https://www.researchgate.net/publication/360347440\\_Scientific\\_Understanding\\_of\\_Kati\\_Basti\\_and\\_its\\_Application\\_in\\_Sciatica\\_Gridhrasi](https://www.researchgate.net/publication/360347440_Scientific_Understanding_of_Kati_Basti_and_its_Application_in_Sciatica_Gridhrasi)

[https://www.researchgate.net/publication/343925983\\_ROLE\\_OF\\_ANUVASANA\\_BASTI\\_AND\\_KATI\\_BASTI\\_IN\\_THE\\_MANAGEMENT\\_OF\\_GRIDHRASI\\_SCIATICA](https://www.researchgate.net/publication/343925983_ROLE_OF_ANUVASANA_BASTI_AND_KATI_BASTI_IN_THE_MANAGEMENT_OF_GRIDHRASI_SCIATICA)

[https://www.researchgate.net/publication/352067574\\_A\\_CLINICAL\\_EVALUATION\\_OF\\_MATRA\\_BASTI\\_AND\\_KATI\\_BASTI\\_WITH\\_DHANWANTARAM\\_TAILA\\_IN\\_THE\\_MANAGEMENT\\_OF\\_GRIDHRASI](https://www.researchgate.net/publication/352067574_A_CLINICAL_EVALUATION_OF_MATRA_BASTI_AND_KATI_BASTI_WITH_DHANWANTARAM_TAILA_IN_THE_MANAGEMENT_OF_GRIDHRASI)

Gridhrasi comes under 80 types of Nanatmaja Vatavyadhi. The cardinal signs and symptoms of Gridhrasi are Ruk (pain), Toda (pricking sensation), Spandana (twitching) in the Sphik, Kati, Uru, Janu, Jangha and Pada in order and Sakthikshepa Nigraha i.e., restricted lifting of the leg associated with Gourava, Aruchi. Kati Basti is widely being practiced throughout country as Bahyaupakrama which has both Snehana and Swedana effects. Matra Basti is Snehana procedure which does Vata anulomana, Vatashamana. Objectives: To evaluate the efficacy of Matrabasti and Katibasti with Dhanwantaram Taila in the management of Gridhrasi. Materials and Methods: Patients presenting with the classical features of Gridhrasi and between the age group of 16 to 50 years irrespective of sex were selected and allotted in Group A, B and C with 15 patients in each group. Group A was administered with Matra basti with Dhanwantram Taila and Group B with Kati basti with Dhanwantram Taila and Group C with both Matra basti and Kati basti with Dhanwantram Taila for 9 days. Results: In combined treatment of Kati Basti and Matra Basti in Group C there was tremendous response in relieving Ruk (73%), Toda (46%), Spandana (60%), Supti (80%), Gourava (73%), Aruchi (66%), Sparshasahyata (73.3%) SLR (60%). In Group A, patients subjected to Matra Basti was effective in relieving Ruk (26.7%), Toda (13.3%), Spandana (26.7%), Supti (66.7%), Gourava (46.7%), Aruchi (53.3%), Sparshasahyata (13.3%) SLR (6.7%). In Group B patients subjected to Kati Basti was effective in relieving Ruk (6.7%), Toda (0%), Spandana (0%), Supti (40%), Gourava (20%), Aruchi (0%), Sparshasahyata (20%) SLR (0%).

Conclusion: On the basis of the results of this study, it can be clearly concluded that combined treatment of Matrabasti and Kati basti with Dhanwantaram taila provided significant relief in the signs and symptoms of Gridhrasi than individually performed Matra basti and Kati basti with Dhanwantaram taila.

[https://www.researchgate.net/publication/320151334\\_REVIEW\\_ON\\_KATI\\_BASTI\\_-\\_OIL\\_POOLING\\_AYURVEDA\\_PROCEDURE](https://www.researchgate.net/publication/320151334_REVIEW_ON_KATI_BASTI_-_OIL_POOLING_AYURVEDA_PROCEDURE)

[https://www.researchgate.net/publication/350571006\\_ROLE\\_OF\\_KATI\\_BASTI\\_AND\\_PATRA\\_POTTALI\\_SWEDA\\_IN\\_THE\\_MANAGEMENT\\_OF\\_GRIDHRASI-A\\_CASE\\_STUDY](https://www.researchgate.net/publication/350571006_ROLE_OF_KATI_BASTI_AND_PATRA_POTTALI_SWEDA_IN_THE_MANAGEMENT_OF_GRIDHRASI-A_CASE_STUDY)

[https://www.researchgate.net/publication/331113403\\_Effect\\_of\\_Kati\\_Basti\\_Patra\\_Pinda\\_Sveda\\_and\\_Basti\\_Karma\\_In\\_The\\_Management\\_of\\_Gridhrasi\\_wsr\\_to\\_Sciatica](https://www.researchgate.net/publication/331113403_Effect_of_Kati_Basti_Patra_Pinda_Sveda_and_Basti_Karma_In_The_Management_of_Gridhrasi_wsr_to_Sciatica)

[https://www.researchgate.net/publication/350911442\\_Evaluation\\_of\\_effect\\_of\\_Kati\\_basti\\_in\\_spinal\\_anaesthesia\\_induced\\_low\\_backache](https://www.researchgate.net/publication/350911442_Evaluation_of_effect_of_Kati_basti_in_spinal_anaesthesia_induced_low_backache)

Low backache is localized pain between twelfth thoracic vertebrae and fifth lumbar vertebrae. About 60% population in India suffers with backache at least once in their life. But in the present context we are concerned with backache, which arises, in postoperative cases following spinal anaesthesia. We cannot avoid SA because of its tremendous good effects and the ease, which it provides during surgery to both the surgeon and the patient, but

backache after SA has become very common problem. According to Ayurveda this type of backache can be considered as Aghat Janya Kati Shoola. The procedure is done at the site between L1 – L4 vertebrae where there is assortment of various structures like Sira, Sandhi, Asthi, Mansa, Snayu etc. including three important Marma named Nitambha, Kukundar and Katikatarun. Objective: To evaluate the efficacy of Kati Basti in spinal anesthesia induced backache. Methods: Kati Basti with Til Taila was performed for fourteen days in thirty patients.

Results: The preliminary study yields significant reduction in the symptoms of stiffness, pain, tenderness, lateral flexion, rotation, SLR, fatigue and ADL. In this condition, Kati Basti is the treatment of choice as it provides long-term symptomatic relief and nourishes the traumatized structures and helps them to heal better.

[https://www.researchgate.net/publication/349166893\\_Effect\\_of\\_Panchatikta\\_Ksheera\\_basti\\_with\\_Kati\\_basti\\_in\\_Katishoola\\_w\\_s\\_r\\_lumbar\\_disc\\_degeneration\\_-\\_A\\_clinical\\_study](https://www.researchgate.net/publication/349166893_Effect_of_Panchatikta_Ksheera_basti_with_Kati_basti_in_Katishoola_w_s_r_lumbar_disc_degeneration_-_A_clinical_study)

CONTEXT: Low back pain is the most common clinical presentation in musculoskeletal disorder due to spinal pathology. Factors such as improper sitting postures, jerky movements in travel, sports activities, aging, and bad sleeping posture are the important factors to produce spinal disorders. Lower back pain has been associated with degeneration of the intervertebral disc. AIMS: This clinical study was carried out to judge the effectiveness of Panchatikta Ksheera Basti (medicated herbal therapeutic enema) with Kati Basti in lumbar disc degeneration-induced Katishoola. SETTINGS AND DESIGN: This was an open-labeled, single-arm, interventional clinical study. SUBJECTS AND METHODS: Fifteen diagnosed cases of low backache with lumbar disc degeneration were registered from the outpatient and inpatient departments of All India Institute of Ayurveda, New Delhi, India, and Panchatikta Ksheera Basti as yoga basti followed by Kati Basti for 8 days was administered. STATISTICAL ANALYSIS USED: The data were statistically analyzed using paired t-test. RESULTS: Significant ( $P < 0.05$ ) result was found in all the assessment parameters, namely, pain, stiffness, and fasciculation.

CONCLUSIONS: Panchatikta Ksheera Basti with Kati Basti is an effective treatment method for safe and effective management of Katishoola w. s. r lumbar disc degenerative disease. Keywords: Kati Basti, Katishoola, lumbar disc degeneration, Panchatikta Ksheera Bast

[https://www.researchgate.net/publication/334455197\\_Evaluation\\_of\\_the\\_efficacy\\_of\\_Punarnavadi\\_Guggulu\\_and\\_Mahamashadi\\_Taila\\_Kati\\_Basti\\_in\\_the\\_management\\_of\\_Gridhrasi\\_Sciatica](https://www.researchgate.net/publication/334455197_Evaluation_of_the_efficacy_of_Punarnavadi_Guggulu_and_Mahamashadi_Taila_Kati_Basti_in_the_management_of_Gridhrasi_Sciatica)

Background: Gridhrasi is one among the Vataja Nanatmaja Vyadhi. Now a day Gridhrasi is a common disease to all class of people, and can be correlated to Sciatica which is affecting the day today life of individuals. Even though the scientific world has conducted extensive studies but couldn't find a safe and effective therapy or medicine for this disease, only they are giving many analgesics, in Ayurveda we offer several treatment modalities. Due to busy lifestyle people cannot spare much time even for long term procedures. Objective: Evaluation of the efficacy of Punarnavadi Guggulu and Mahamashadi Taila Kati Basti in the management of Gridhrasi (Sciatica). Materials and Methods: This study is a prospective clinical trial, 30 patients were divided in 2 groups, Group A: 15 patient of Gridhrasi disease were treated by Punarnavadi Guggulu orally. Group B: 15 patient of Gridhrasi were treated by Mahamasadi Taila Kati Basti.

Results and Conclusion: The assessments of result among groups are, in group A, 12 (80%) patient have got mild response, 3 (20%) patient have got moderate response. In group B, 10

(66.66%) patients have got marked response and 5 (33.33%) patient have got moderately relieved.

[https://www.researchgate.net/publication/359373516\\_A\\_Study\\_to\\_Compare\\_the\\_Efficacy\\_of\\_Kati\\_Basti\\_with\\_Different\\_Oils\\_Prasarani\\_Oil\\_and\\_Moorchita\\_Tila\\_Oil\\_in\\_Sciatica\\_Gridhrasi](https://www.researchgate.net/publication/359373516_A_Study_to_Compare_the_Efficacy_of_Kati_Basti_with_Different_Oils_Prasarani_Oil_and_Moorchita_Tila_Oil_in_Sciatica_Gridhrasi)

Sciatica is a painful ailment caused by the pathology of the sciatic nerve or the sciatic nerve root. Pain and paresthesia in the sciatic nerve distribution or a lumbosacral nerve root are common in patients with this condition. A herniated disc with nerve root compression is the most common cause of sciatica; however lumbar stenoses and (less frequently) tumors are also probable causes. In general, 5 to 10 percent of people with low back pain have sciatica, but the lifetime prevalence of low back pain is reported to range from 49% to 70%. Gridhrasi having the same symptomatology as sciatica described in ayurvedic classics under vata vyadhi, is a condition in which pain, stiffness, gripping, and pulsations begin in the buttocks [gluteal region] and progress to the posterior aspect of the Kati (pelvis and lumbosacral regions), Uru (thigh), Jaanu (behind the knee), Jangha (leg), and Pada (foot). Among different modalities of treatment described in Ayurveda, Kati Basti is the most popular and commonly practiced one. In the present study an effort has been made to treat 30 patients of Gridhrasi with Kati Basti with Prasarini Taila and Tila taila separately in two groups. The treatment was given 48 minute long daily for seven days. The assessment was done by analyzing the changes in clinical signs and symptoms before and after treatment. The majority of patients (93.33 percent) improved after treatment. In this study, kati basti with prasarini taila outperformed moorchita tila taila in terms of reducing Gridhrasi or sciatica signs and symptoms. The snehana property of oil and medications in Prasarini taila was helpful in the relief of gridhrasi, as well as the swedana impact of Kati Basti.

[https://www.researchgate.net/publication/273358006\\_OA0318\\_A\\_comparative\\_study\\_of\\_kati\\_basti\\_with\\_sahacharadi\\_taila\\_and\\_maha\\_narayana\\_taila\\_in\\_the\\_management\\_of\\_gridhrasi\\_Sciatica](https://www.researchgate.net/publication/273358006_OA0318_A_comparative_study_of_kati_basti_with_sahacharadi_taila_and_maha_narayana_taila_in_the_management_of_gridhrasi_Sciatica)

Purpose: The symptoms seen in Gridhrasi can be well correlated with «DQ»Sciatica«DQ» in modern terminology. Moreover, the modern treatment of sciatica is not very satisfactory and includes use of analgesics and few surgical procedures which is often associated with many adverse effects Among the Panchakarma therapy; Kati Basti is reliable to control the disease. Hence an attempt is made to compare the effect of Kati Basti with Sahacharadi Taila and Maha Narayana Taila in the management of Gridhrasi Method: It was an open clinical study with a pre and post design, for the duration of 14days for both Kati Basti groups 90 patients, fulfilling the inclusion and diagnostic criteria, were selected and randomly divided into 2 groups with 45 patients in each group. In Group A, Kati Basti with Sahacharadi Taila was administered daily during the trial period while In Group B, Kati Basti with Maha Narayana Taila was administered daily. Result: Kati basti with Maha Narayan Taila group and Kati basti with Sahacharadi Taila group showed almost same percentage relief in all assessment parameters. Both group showed highest percentage relief in the Functional ability while no relief in the Aruchi Kati basti with Sahacharadi Taila is more effective to control Kapha dominance symptoms like Stambha, Graha, Gaurava and Tandra and also on walking distance and magnitude of Pain Kati basti with Maha Narayan Taila group is more effective to control vata dominance symptoms like Ruk, Toda, Numbness, Burning Sensation and Muhuspandana and also on the Functional ability , Sakthikshepanigraha and the functional disability.

Conclusion: Kati basti with Sahacharadi Taila and with Maha Narayan Taila is almost equally effective in the management of Gridhrasi but Kati basti with Sahacharadi Taila is more

effective to control Kapha dominance symptoms while Kati basti with Maha Narayan Taila group is more effective to control vata dominance symptoms.

[https://www.researchgate.net/publication/343412381\\_A\\_Comparative\\_Clinical\\_Study\\_on\\_the\\_effect\\_of\\_Ajmodadi\\_Churna\\_and\\_Kati\\_Basti\\_in\\_the\\_management\\_of\\_Gridhrasi\\_wsr\\_to\\_Sciatica](https://www.researchgate.net/publication/343412381_A_Comparative_Clinical_Study_on_the_effect_of_Ajmodadi_Churna_and_Kati_Basti_in_the_management_of_Gridhrasi_wsr_to_Sciatica)

[https://www.researchgate.net/publication/358179617\\_A\\_RANDOMISED\\_OPEN\\_LABELLED\\_COMPARATIVE\\_PARALLEL\\_GROUP\\_CLINICAL\\_STUDY\\_TO\\_EVALUATE\\_THE\\_EFFICACY\\_OF\\_INTERFERENTIAL\\_THERAPY\\_KATI\\_BASTI\\_IN\\_GRIDHRASI\\_WITH\\_SPECIAL\\_REFERENCE\\_TO\\_SCIATICA](https://www.researchgate.net/publication/358179617_A_RANDOMISED_OPEN_LABELLED_COMPARATIVE_PARALLEL_GROUP_CLINICAL_STUDY_TO_EVALUATE_THE_EFFICACY_OF_INTERFERENTIAL_THERAPY_KATI_BASTI_IN_GRIDHRASI_WITH_SPECIAL_REFERENCE_TO_SCIATICA)

Snigdha Swedana plays an important role in the management of Vata Vyadhi among which Katibasti is one which is indicated in Vata related pathogenesis in Kati Pradesha. Gridhrasi is a Vataja Nanatmaja Vyadhi. Katibasti is an effective treatment in Gridhrasi as it acts as both Snehana and Swedana. Interferential therapy is a form of electrical current that is primarily used for relief from pain. It is said to be effective in case of low back pain. Both Katibasti and Interferential therapy are commonly used treatment modalities in sciatica, hence the present study is intended to compare the efficacy of Katibasti and Interferential therapy in the treatment of Gridhrasi. Thirty-four subjects of Gridhrasi were randomly distributed in 2 groups (A and B) of 15 subjects each. Group A subjects were treated with Katibasti using Maha Vishagarbha Taila for 7 days. Group B subjects were treated with Interferential Therapy for 7 days. Follow up was done on the 14th day.

The statistical analysis within the group showed significant improvement in all the parameters in Katibasti group as well as IFT group. Comparative analysis between the groups showed no significant difference between the groups in all the parameters. Clinically, there was a slight difference between two groups. During follow up it was noticed that symptomatic relief was more in Katibasti than Interferential Therapy.

[https://www.researchgate.net/publication/336007350\\_Evaluation\\_of\\_efficacy\\_and\\_safety\\_of\\_traditional\\_Katibasti\\_and\\_infrared\\_aided\\_Katibasti\\_with\\_Sahachara\\_Taila\\_in\\_Katigraha\\_Lumbar\\_Spondylosis](https://www.researchgate.net/publication/336007350_Evaluation_of_efficacy_and_safety_of_traditional_Katibasti_and_infrared_aided_Katibasti_with_Sahachara_Taila_in_Katigraha_Lumbar_Spondylosis)

Kati Graham comes under Vatavyadhi and it is one of most common diseases. There is no direct references about Kati Graham in Bruhatrayi it is explained by Kashyapa Samhita. It is characterised by Shoola, Stabdta, Vedana during Prasarana and Akunchana of Kati and involves Vata and Kapha Dosha. It can be correlated to lumbar spondylosis and involves the Vata and Kapha Dosha. So treatment involves Vata Kapha Shamana i.e. Snehana, Swedana, Shodhana, Bahirparimarjana Chikista like Kati Basti etc. So research work is carried out with the aim to evaluate the efficacy and safety of traditional and Infrared aided Kati Basti with Sahachara Taila in Kati Graham, and also to make the therapies simpler, easier, convenient, effective and economical and less time taking.

Statically both groups show almost same results or group B shows better results compare to group A and clinically group B had good improvement.

[https://www.researchgate.net/publication/350731619\\_Clinical\\_efficacy\\_of\\_Katibasti\\_and\\_yog\\_basti\\_in\\_the\\_management\\_of\\_Katigraha\\_lumbar\\_spondylosis](https://www.researchgate.net/publication/350731619_Clinical_efficacy_of_Katibasti_and_yog_basti_in_the_management_of_Katigraha_lumbar_spondylosis)

Katigraha is degenerative condition in which affecting vertebral bodies, and vertebral discs and its associates with lumbar spine. We can correlate katischoola with lumbar spondylosis, Low back pain affects approximately 60.85% of adults during some point of their life and 10% of this is because of Lumbar Spondylosis (LS). In current study, the assessment of kati

basti and yog basti in the management of Kati Graha with special reference to Lumbar spondylitis has been attempted on a patient female patient has age of 50yrs. having signs and symptoms of L.S. were selected and were administered katibasti and yogbasti for a period of 8 days.

Highly significant results were observed and improvement in cardinal symptoms of Kati Graha was observed. It also provided highly significant results in improving range of movements and pain intensity this procedure appears to provide good clinical improvement in pacifying pure Vataja Kati Graha.

[https://www.researchgate.net/publication/337648934\\_Management\\_of\\_Bertolotti\\_Syndrome\\_through\\_Ayurveda\\_wsr\\_to\\_Gridhrasi\\_A\\_Case\\_Study\\_International\\_Journal\\_of\\_Ayurveda\\_Pharmaceutical\\_Chemistry](https://www.researchgate.net/publication/337648934_Management_of_Bertolotti_Syndrome_through_Ayurveda_wsr_to_Gridhrasi_A_Case_Study_International_Journal_of_Ayurveda_Pharmaceutical_Chemistry)

Bertolotti's syndrome alludes to the nearness of anatomically related pain of hybridization of the last lumbar vertebrae. The predominance of Bertolotti's syndrome in the overall public is obscure due to under diagnosis. Deformation of the lumbar vertebrae is related with changes in spinal anatomy and biomechanics, with no broad understanding for its clinical centrality, in spite of the fact that Bertolotti's syndrome as a differential finding for low back pain. The ailment originates from Gridhrasi, referenced in Ayurveda under the umbrella of Vatavyadhi, and here is a penetrating sort of torment that confines the development of the influenced leg, making the gait of the person is very similar to vulture (Gridhra) hence the name is given as Gridhrasi. The case study being presented is of an 18 year old female patient suffering from Gridhrasi, in which the manifestations of agony begin from Sphik (buttock) and afterwards reach to Kati, Prushta (back), Uru (thigh), Janu (knee), Jangha (calf), and Pada (foot) just as Stambha (firmness), Toda (pricking torment), Spandana (jerking) and causes the Sakthiutkshepa Nigraha (confined development of leg raising). Patient treated with Valuka Svedana (fomentation by Sand), Basti (enema of medicated oils and decoctions),

Kati basti and oral medications such as Rasnasaptak kwatha, Dashmoola kwatha, Simhanada guggulu. At the end of treatment patient got significant relief in symptoms like Ruja (50%), Toda (100%), Stambha (75%), Visual analogue scale for overall assessment (75%) etc.

[https://www.researchgate.net/publication/348926348\\_AN\\_AYURVEDIC\\_APPROACH\\_TO\\_A\\_CASE\\_OF\\_LOW\\_BACK\\_PAIN\\_KATIGRAHA\\_WITH\\_SPECIAL\\_REFERENCE\\_TO\\_LUMBAR\\_SPONDYLOSIS](https://www.researchgate.net/publication/348926348_AN_AYURVEDIC_APPROACH_TO_A_CASE_OF_LOW_BACK_PAIN_KATIGRAHA_WITH_SPECIAL_REFERENCE_TO_LUMBAR_SPONDYLOSIS)

[https://www.researchgate.net/publication/355975606\\_A\\_REVIEW\\_ON\\_THE\\_PHARMACODYNAMICS\\_OF\\_BASTI\\_KARMA](https://www.researchgate.net/publication/355975606_A_REVIEW_ON_THE_PHARMACODYNAMICS_OF_BASTI_KARMA)

[https://www.researchgate.net/publication/361424918\\_USE\\_OF\\_STHANIKA\\_EXTERNAL\\_BASTI\\_IN\\_SPONDYLITIS\\_DISEASES](https://www.researchgate.net/publication/361424918_USE_OF_STHANIKA_EXTERNAL_BASTI_IN_SPONDYLITIS_DISEASES)

[https://www.researchgate.net/publication/271099076\\_Evaluation\\_of\\_Combined\\_Efficacy\\_of\\_Greeva\\_Basti\\_Patra\\_Pottali\\_Sweda\\_and\\_Nasya\\_in\\_the\\_Management\\_of\\_Cervical\\_Spondylosis\\_A\\_Pilot\\_Study](https://www.researchgate.net/publication/271099076_Evaluation_of_Combined_Efficacy_of_Greeva_Basti_Patra_Pottali_Sweda_and_Nasya_in_the_Management_of_Cervical_Spondylosis_A_Pilot_Study)

[https://www.researchgate.net/publication/317543030\\_MANAGEMENT\\_OF\\_CERVICAL\\_SPONDYLOSIS\\_THROUGH\\_AYURVEDA\\_A\\_CASE\\_STUDY](https://www.researchgate.net/publication/317543030_MANAGEMENT_OF_CERVICAL_SPONDYLOSIS_THROUGH_AYURVEDA_A_CASE_STUDY)

Cervical spondylosis is a common spinal problem seen now a day. Though degeneration of cervical vertebrae is mostly seen in elderly people but its prevalence is increasing in early or middle age also. In the present case study, a diagnosed case of cervical spondylosis has been included for its ayurvedic management. Effect of Griva basti (external therapy) and Nasya (Internal therapy) along with oral medication of Trayodashanga guggulu and Dashmoola Kwatha on cervical spondylosis has been evaluated. Different parameters has been assessed during and after the treatment schedule.

There is a complete relief in the parameters like neck pain & stiffness whereas the parameters like pain in arm & vertigo has also shown significant improvement.

**EFFICACY OF *DASHAMULA TAILA KATI BASTI* (OIL POOLING AYURVEDA PROCEDURE) IN THE MANAGEMENT OF *GRIDHRASI* W.S.R. TO SCIATICA**

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**ABSTRACT**

Modifications in professional and social life, improper sitting posture in office, continuous work in one posture, overexertion, heavy weight lifting, jerky movements during travelling create undue pressure and stress injury to the spine and play role in producing disease like sciatica. The lifetime incidence of Sciatica is estimated to be between 13% and 40%. In *Ayurveda* sciatica can be correlated with *Gridhrasi*, mentioned under *Nanatmaja Vata-Vyadhi*, having symptoms like *Ruka* (pain), *Toda* (piercing pain), *Stambha* (stiffness), *Suptata* (numbness) and pain radiating from *Kati-Pradesha* (lumbosacral region) to *Pada* (foot). 30 patients were selected undergoing *Kati Basti* randomly from the *panchkarma* unit. Patients were observed during for the relief in symptoms. *Dashamula* oil *Kati Basti* had relieved pain, stiffness and other symptoms. *Dashamula* oil may have nourished the joints of the back region, pacified the *Dosha*. *Dashamula* has *Vata Kapha Shamak* property. *Dashamula* poses anti-inflammatory and analgesic action. By using Wilcoxon sign rank test *Kati Basti* with *Dashamula Taila* was found significant in the management of *Gridhrasi*.

**Keywords:** *Gridhrasi*, Sciatica, *Ayurveda*, *Kati Basti*

**INTRODUCTION**

*Gridhrasi* mentioned as one among the *Vata Vyadhi*<sup>1</sup> has no specific *Vishesh Nidana*, but the *Samanya Vata prakopaka Nidanas* and *Vata Vyadhi Samanya Nidana* can be considered as the *Nidana* for *Gridhrasi*. *Gridhrasi* is one among the eighty *Nanatmaja Vatavikaras*<sup>2</sup>, the causative factors for *Vata Prakopa*<sup>3</sup> is to be considered as the *Nidana* of *Gridhrasi*. Lifestyle

changes, continuous work in one posture, overexertion, lifting heavy weight, jerky movements during travelling create undue pressure and stress injury to the spine and play an important role in producing disease like sciatica. The lifetime incidence of Sciatica is estimated to be between 13% and 40%<sup>4</sup>. The prevalence of sciatic symptoms reported in the literature varies con-

es in channels at *Kati Pradesha* (back region) fulfill the phases of pathogenesis of *Gridhrasi*. *Kati Basti* is a treatment procedure in which medicated oils are poured and pooled for a fixed duration of time in a compartment or a cabin constructed over lower back using wet flour of black gram. *Kati Basti* provides *Snehana* and *Svedana* simultaneously. *Snehana* gives *Snigdhatata* and provides *Brimhana* as therapeutic effect to the lesion in lumbar spine. *Sweda* increase sweat and brings out *Maladravya* along with sweat. Thus it decreases *Kleda* in the body resulting in the reduction of *Stabdhdhata*, *Gaurava* which are common symptoms in *Vata Vyadhi*. *Dashamula Taila Kati Basti*<sup>10</sup> may have relieved pain and stiffness. *Dashamula* oil may have nourished the joints of the back region, pacified the *Dosha*. *Dashamula* has *Vata Kapha Shamak* property and most of the ingredients have *Vata Kapha Shamak* property. *Dashamula* poses anti-inflammatory and analgesic action. *Kati Basti* provides an alternative mode to administer the properties of drug directly to target point through the skin and cease the degeneration.

## CONCLUSION

*Kati Basti* with *Dashamula Taila* was highly effective in the management of *Gridhrasi*. It can be concluded that *Kati Basti* with *Dashamula Taila* can be a better option in the management of *Gridhrasi* (Sciatica).

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# COMPARISON OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION AND KATI BASTI FOR PATIENTS WITH SCIATICA

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## ABSTRACT

**Study Design:** Experimental study.

**Background:** The majority of the people experience low back pain at some point in their life. World data reveals 40 % or more people have sciatica due to lumbar disc prolapse mostly in younger adults in association with 50-70% lifetime incidence of low back pain.

**Objective:** To compare the effectiveness of Transcutaneous Electrical Nerve Stimulation and Kati Basti in reducing the Sciatica.

**Method:** Fifty Eight patients with chronic pain were recruited for the study. Investigator explained the study to the patients and obtained an informed consent form and they were divided into two groups such as group A (Transcutaneous Electrical Nerve Stimulation) and group B (Kati Basti). Twenty nine patients were given Transcutaneous Electrical Nerve Stimulation and 29 patients were given Kati Basti for two weeks. Outcome measures were assessed before and after the treatment in both groups. To measure the angle of movement and intensity of pain Straight Leg Raise Test and Visual Analogue Scale were administered respectively before and after the treatment for both groups.

**Results:** The study shows that after two weeks of intervention, there was a significant reduction of pain and improvements in Straight Leg Raise Test in both the groups from baseline. Thus, both interventions were found to be effective in reducing pain for patients with sciatica. However, Transcutaneous Electrical Nerve Stimulation was more effective than Kati Basti in relieving the pain.

**Conclusion:** Both the interventions, Transcutaneous Electrical Nerve Stimulation and Kati Basti, were effective in improving Straight Leg Raise Test and reducing the pain. However, patients in Transcutaneous Electrical Nerve Stimulation have improved more in terms of reduction of pain than in patients who were treated with Kati Basti after two weeks of treatment.

**Key Words:** Straight leg raising test, Transcutaneous electrical nerve stimulation, Kati basti intensity of pain, Sciatica

## INTRODUCTION

World data reveals 40 % or more people have sciatica due to lumbar disc prolapse mostly in younger adults in association with 50-70% lifetime incidence of low back pain. Sciatica involves compression of the sciatic nerve roots caused by a herniated (torn) or protruding disc in the lower back that causes radiating pain in the distribution along the course of sciatic nerve in the hip, thigh lower leg and reaches up to the foot. The prevalence of sciatic symptoms reported in the lit-

erature varies considerably ranging from 1.6% in the general population to 43% in a selected working population<sup>1,2</sup>.

There are number of treatment options available for sciatica. However, Transcutaneous Electrical Nerve Stimulation (TENS) is a simple, non-invasive analgesic technique that is used extensively in health-care settings by physiotherapists for sciatica<sup>3</sup>. The use of conventional (high-frequency) Transcutaneous Electrical Nerve Stimulation is originally based on the gate-control theory of pain, which suggested

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that counter stimulation of the nervous system could modify the perception of pain. Later studies suggested that with low-frequency, high-amplitude (acupuncture-like) stimulation, TENS could also raise endorphin levels in the spinal fluid<sup>4,5</sup>.

Kati Basti is one of the treatments of Keraliya Panchakarma for Gridrashi (sciatica) in ayurveda. The word Kati Basti is formed by combining two letters 'Kati' and 'Basti' and it is the procedure in which Dough-well is formed by warm medicated oil which is placed on Kati (lumbo-sacral region) for a specified period of time (40 to 45 minutes) while the patient is lying prone position<sup>6,7</sup>.

A study conducted by Khagram RV (2004) showed that the patients treated with Kati Basti had relief in the symptoms of pain and Straight Leg Raising Test<sup>8</sup>. Transcutaneous Electrical Nerve Stimulation was significantly effective in decreasing the pain<sup>9</sup>. In order to find the outcome measures, Visual Analogue Scale (VAS) scores and Straight Leg Raise Test (SLRT) were used. The Visual Analogue scale (VAS) is a simple and frequently used method for the assessment of variations in intensity of pain. The Straight Leg Raising Test (SLRT) is a useful measure because immediate effects of treatment can be determined.

However, studies have been conducted using Kati Basti and other modalities in physiotherapy to find out the effectiveness in reduction of pain in sciatica, but studies on effectiveness of Kati Basti and TENS in sciatica have not been conducted in this region. Hence, the current study was undertaken to find the effectiveness between TENS and Kati Basti in reducing pain in sciatica patients caused by herniated or protruding disc.

## MATERIALS AND METHODS

The present study is an experimental study conducted in 60 Sciatica patients of age group ranging from 18 to 50 years. The inclusion criteria were patients with Sciatica more than six weeks, and SLRT positive between 30° to 70°. Patients with the history of piriformis syndrome, spinal stenosis, spondylolisthesis, tuberculoma causing cord compression, diabetic neuropathy, and contraindicated for TENS and Kati basti were excluded. Participants were divided into two groups such as group A and B. The sciatica patients admitted in Yenepoya Medical College Hospital and Shaffi Ayurvedic Nursing Home constituted the population of the study.

## PROCEDURE

The approval from the University ethical committee was obtained prior to the commencement of the study. Total of 75 patients with history of chronic lumbar radiculopathy were

screened those who are admitted in Yenepoya Medical college Hospital and Shaffi Ayurvedic Nursing Home Mangalore. Out of 75 patients 15 patients were not met the inclusion criteria, hence a total of 60 patients were included as participants for the study. The patients were assigned into two groups by a convenience sampling method. Each group consisted of 30 patients. Group A - Patients admitted in Yenepoya Medical Hospital and given treatment Transcutaneous Electrical Nerve Stimulation for 2 weeks. Group B - Patients admitted in Shaffi Ayurvedic Nursing Home taking treatment Kati Basti for 2 weeks.

However, one patient from Group A did not participate in this study due to severe pain and undergone surgery and one patient from Group B due to hypersensitivity of heat. Hence, a total 29 patients in each group have undergone a procedure. Patients were explained about the study in their local language and informed consent was taken from each patient.

Patients in the Group A, received TENS with frequency of 2Hz pulse duration of 0.2 ms and intensity was given until getting visible muscle contractions for 20 minutes daily for two weeks by the same researcher. Electrodes were placed and secured with Velcro straps on the affected leg as well as back in the course of Sciatic nerve. Patients in Group B received Kati Basti treatment by the Ayurvedic physician, in the presence of researcher, in which warm medicated oil was applied to the lumbo-sacral region daily for 45 minutes for two weeks. After administration of two weeks of treatment, outcome measures of Group A, was assessed by another Physiotherapist in the presence of researcher, whereas Ayurvedic physician in the presence of the researcher assessed Group B.

## OUTCOME MEASURES

Straight Leg Raising Test was administered prior to the treatment by using goniometer to find the angle of movement. To measure the angle of SLRT, patients were asked to lie down on his or her back on an examination table. The examiner lifts the patient's leg passively while the knee is straight until patient experiences pain in course of sciatic nerve and the angle was measured by goniometer. Intensity of Pain was measured by Visual Analogue Scale.

## DATA ANALYSIS

The Data was analyzed by using SPSS version 17 software. Demographics were done by using Unpaired t test (age and duration), Fishers exact test (Gender) and between the two groups Paired t test was used. P value less than or equal to 0.05 was considered to be significant.

## RESULTS

Baseline characteristics of the 58 patients in two treatment groups are presented in following Tables. The two groups were considered comparable for all measured baseline characteristics.

**Table 1: Baseline characteristics of patient’s age and duration of pain**

Variables	Group	N	Mean	Std. Deviation	Mean difference	T	P
Age	A	29	41.24	9.199	-0.069	-0.030	0.976
	B	29	41.31	8.063			
Duration (months)	A	29	21.90	15.952	-4.759	-1.205	0.233
	B	29	26.66	14.064			

**Table 2: Baseline characteristics of patient’s gender distribution among groups**

Group		Gender		
		F	M	Total
A	Count	17	12	29
	% within group	58.6%	41.4%	100.0%
B	Count	18	11	29
	% within group	62.1%	37.9%	100.0%
Total	Count	35	23	58
	% within group	60.3%	39.7%	100.0%

**Table 3: Level of disc prolapse distribution within the group**

Group		LEVEL OF PROLAPSE		
		L4 - L5	L5 - S1	Total
A	Count	11	18	29
	% within group	37.9%	62.1%	100.0%
B	Count	9	20	29
	% within group	31.0%	69.0%	100.0%
Total	Count	20	38	58
	% within group	34.5%	65.5%	100.0%

**Table 4: Comparison of Straight Leg Raising Test in Group A (Transcutaneous Electrical Nerve Stimulation)**

	Variables	N	Mean	Std. Deviation	Mean diff	T	P
Pair 1	RIGHT SLRT - pre	29	62.07	14.911	-15.345	-8.751	<0.001*
	RIGHT SLRT - post	29	77.41	11.999			
Pair 2	LEFT SLRT- pre	29	60.69	15.220	-16.897	-8.834	<0.001*
	LEFT SLRT- post	29	77.59	12.580			

\*significant at  $p < 0.05$

SLRT- Straight Leg Raising Test

**Table 5: Intensity of Pain in Group A (Transcutaneous Electrical Nerve Stimulation)**

	Variables	N	Mean	Std. Deviation	Mean diff	T	P
Pair1	Intensity of pain -pre	29	8.59	1.181	2.862	10.953	<0.001*
	Intensity of pain -post	29	5.72	1.386			

\*significant at  $p < 0.05$

**Table 6: Comparison of Straight Leg Raising Test (SLRT) in Kati Basti (Group B)**

	Variables	N	Mean	Std. Deviation	Mean diff	T	P
Pair 1	RIGHT SLRT- pre	29	61.55	17.377	-10.690	-7.648	<0.001*
	RIGHT SLRT- post	29	72.24	12.927			
Pair 2	LEFT SLRT- pre	29	64.48	15.315	-12.414	-6.534	<0.001*
	LEFT SLRT- post	29	76.90	12.636			

\*significant at  $p < 0.05$

**Table 7: Intensity of Pain in Kati Basti (Group B)**

Variables	N	Mean	Std. Deviation	Mean diff	t	P
Pair 1 Intensity of pain - pre	29	9.10	0.817	2.414	13.747	<0.001*
Intensity of pain -post	29	6.69	0.930			

\*significant at  $p < 0.05$

**Table 8: Straight Leg Raising Test in both the groups**

Variables	Group	N	Mean	Std. Deviation	Mean Difference	T	P
RIGHT SLRT – pre	A	29	62.07	14.911	0.517	0.122	0.904
	B	29	61.55	17.377			
LEFT SLRT - pre	A	29	60.69	15.220	-3.793	-.946	0.348
	B	29	64.48	15.315			
RIGHT SLRT – post	A	29	77.41	11.999	5.172	1.579	0.120
	B	29	72.24	12.927			
LEFT SLRT- post	A	29	77.59	12.580	0.690	0.208	0.836
	B	29	76.90	12.636			

SLRT- Straight Leg Raising Test

**Table 9: Intensity of Pain in both the groups**

Variables	Group	N	Mean	Std. Deviation	Mean Difference	T	P
Intensity of pain - pre	A	29	8.59	1.181	-0.517	-1.940	0.057
	B	29	9.10	0.817			
Intensity of pain - post	A	29	5.72	1.386	-0.966	-3.115	0.003
	B	29	6.69	.930			

\*significant at  $p < 0.05$

## DISCUSSION

The Study was conducted to compare the effectiveness of Transcutaneous Electrical Nerve Stimulation (TENS) and Kati Basti in 58 Sciatica patients (29 in each group) by means of Visual Analogue Scale(VAS) and Straight Leg Raise Test(SLRT). Physiotherapy and Ayurveda modality are most commonly used as conservative treatments in India for Sciatica patients.

Result of the study shows that the degree of SLRT was improved in both right and left lower extremity in TENS group ( $p < 0.001$ ) and Kati Basti group ( $p < 0.001$ ). A study by Melzack R et al revealed that SLRT for left and right leg after TENS treatment was improved ( $p < 0.005$ ) in patients with Sciatica<sup>10</sup>.

The study found that TENS was effective in relieving pain in Sciatica patients. The results showed that pain reduced by 2.86 on VAS. Ghoname EA et al., found that the intensity

of pain was reduced by 1.6 on VAS<sup>10</sup>. Hence, the result of present study and various studies conducted elsewhere found that TENS is effective treatment in reducing Sciatica pain<sup>11-13</sup>.

The study also found that there was significant reduction in sciatica pain in Kati Basti treatment. A similar result was found in another study that there was improvement in reduction of pain in 50% of cases and Straight Leg Raising Test 60% of cases in Kati Basti<sup>14</sup>.

Result of the study also showed that intensity of pain reduced from 8.59 to 5.72 in Group A and 9.10 to 6.69 in Group B on Visual Analogue Scale. Comparison between the groups showed that both groups were effective in reducing the pain in Sciatica however Group A shows more improvement than Group B ( $p = .003$ ). Similar study<sup>15</sup> found that there was significant improvement for the conventional Transcutaneous Electrical Nerve Stimulation in both the objective outcomes (VAS and SLRT) and functional measurements. A study

evaluated the therapeutic effect of Kati Basti in patients of Sciatica and revealed that there was a statistically significant improvement seen in the parameters like magnitude of pain, neurological deficit, functional ability and functional disability<sup>16</sup>.

The primary finding of this study was that the use of TENS and Kati Basti is improving the condition and symptoms. Patients suffering from low back pain with Sciatica in India have the option to choose between Allopathic medicine and traditional medicine. There are no studies to be found in the major databases comparing the treatment of low back pain with Sciatica in physiotherapy and Ayurveda. Hence, our aim was to explore how physiotherapists and Ayurvedic physicians in India work with patients suffering from low back pain with Sciatica. Both treatments were found to be effective in relieving pain and improving the range in SLRT in patients with low back pain with Sciatica.

### CONCLUSION

The work was performed to ascertain out the result of treatment offered by physiotherapists and Ayurvedic physicians in India for patients suffering from low back pain with Sciatica. The information presented here concludes that Transcutaneous Electrical Nerve Stimulation and Kati Basti were found to be effective in alleviating the pain and improving the range in Straight Leg Raising Test in patients with Sciatica. However, the analgesic action of Transcutaneous Electrical Nerve Stimulation by acting on both peripheral and central nervous system was more effective in relieving pain than the Kati Basti.

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