

Effect of *Viddha Karma* (dry needle procedure) in the treatment of Sciatica – A Case report

Case Report

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Abstract

Introduction: Sciatica is a medical condition which results from the sciatic nerve, or sciatic nerve root pathology. *Viddha Karma* is a para surgical procedure which removes the accumulated *Doshas* in the human body via a pricking procedure. This case report highlights the effect of the dry needle pricking procedure on sciatica. Clinical presentation- fifty-five-year-old female patient with lower back pain radiating to the right leg area of the body, for a duration of two years was presented to the National Institute of Ayurveda, Jaipur, India. Based on the lumbar region, anteroposterior and lateral views of X-rays patient was diagnosed with sciatica. The patient was advised for treatments for 15 days with 3 settings of *Viddha Karma* for 4 *Anguli* below the knee joint. During the 15 days of treatment and after 15 days of treatment, the patient was assessed for signs and symptoms on, visual analog scale for pain, biochemical parameters (ESR, Serum Uric Acid, C-reactive Protein, and Serum Calcium), and sciatica-related indexes. Results-The patient showed remarkable improvement in the signs and symptoms and sciatica-related indexes after 15 days. The antalgic gait became normal after 15 days. The patient did not complain about the radiating pain, numbness, heaviness, and severe pain during the follow-up. **Conclusion:** *Viddha Karma* treatment is effective in alleviating sciatica pain and related symptoms regard to this patient.

Key Words: Dry needle procedure, *Gridhrasi*, Sciatic pain.

Introduction

Sciatica is a form of radicular pain in the peripheral nerve system. Pain starting from the gluteal region and radiating towards the area of the waist, low back, thigh, knee and toes are the common complains of sciatica (1). The prevalence of sciatica is appeared to have no gender predominance. The peak incidence of sciatica is reported in the fourth decade of life and the lifetime incidence is between 10% to 40%, with an annual incidence is between 1% to 5% (2). The most common cause of sciatica is herniated disc with nerve root compression. Ten percent of Cases are due to lumbar stenosis and tumours. Risk factors of sciatica are age, increasing height, smoking, mental stress, physical activity of frequent lifting, bending and twisting, driving, and vibration of the whole body (3). According to Ayurveda, Sciatica is correlated to the disease of *Gridhrasi*. *Gridhrasi* is one out of eighty types of *Vata Nanatmaja Roga* under severe debilitating syndromes among all neurological disorders (4). The cardinal symptoms of *Gridhrasi* can be elaborated as *Ruka* (pain), *Toda* (pricking sensation), *Stambha*(stiffness),

and *Muhuspandana*(twisting in the gluteal region) in *Kati*(waist), *Prishtha*(low Back), *Uru*(thigh), *Janu*(Knee), *Jangha*(calf), and *Pada*(toes) (5). It also demands *Sakthikshepa Nigraha* (restriction against the lifting of the leg causes pain) (6). *Viddha Karma* is a dry needle puncturing method used in *Ayurvedic* medicine (7). This case report highlighted the effect of *Viddha Karma* in treating a patient having sciatica.

Case presentation

A fifty-five-year-old, married house wife presented with low back pain radiating to the right leg area for 2 years' time, was reported to the *Panchakarma* department at National Institute of Ayurveda, Jaipur, Rajasthan, India. The patient was 5 feet tall, weighing 53 kg and looking unwell. The main complains were about heaviness, stiffness, and numbness of the right leg. The patient has suffered from loss of appetite also. An antalgic gait and kyphosis were the initial stage complications. On examination, the patient had a disability in straight leg raising and poor muscle strength on the right side. The patient was non-diabetes and non-hypertensive, and no related family history was found regards to the muscular skeletal-related disorders.

Diagnosis

The Magnetic resonance imaging (MRI) of the Lumbar Sacral Spine revealed Disc desiccation with diffuse disc bulge at L4-5 and L5-S1 levels, causing compression of traversing right L5 and S1 nerve roots.

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According to the Ayurveda, signs and symptoms were diagnosed as *Gridhrasi*.

Therapeutic intervention

Viddha Karma (Dry needle procedure)

The patient was advised three settings of *Viddha Karma* on day 1, day 7, and day 15. In this study location of *Viddha Karma* was four *Anguli* (distance between the second finger to the fifth finger) below the right knee joint (8).

Depth of Vedhana (puncturing)

Vrihimukha Shastra is used to execute. Here we used the muscular areas (*Mamsala Pradesha*), which are not consisting of *Marma* (vital points), and it was *Yava Pramama*. (4-6 mm) (9)

The procedure of Viddha Karma – Pre monitoring procedure

Examine the patient and take the proper history. Did the investigations of clotting time, bleeding time, fasting Blood Sugar, and liver function tests. Proceeded the *Sneha Karma* and *Sveda Karma*. After that patient was given *Yavagu*. (gruel)

Main Procedure

Using *Vrihimukha shastra* (resemblance with insulin syringe no 26) pierced up to the depth mentioned regarding the muscular area (9). The needle was taken off the body soon after pricked, and such 5-6 *Vedhana* has done at once.

Post monitoring procedure

The area was cleaned again with the cotton piece. No dressing was applied over the local area that had been pricked and applied some *Til Tail*. (Sesame oil) Finally, the disposable needle is appropriately discarded (10).

Diet and Exercise

We did not give any particular diet or exercise during the assessment period.

Effects on signs and symptoms of sciatica

Effects of signs and symptoms were assessed on day 1, day 7, day 15, and follow-up was done on day 30. According to the four-point rank scale, all the signs and symptoms were categorized. The assessment is presented in table 1.

Table 1: Effects on Signs and Symptoms

Se No	Symptoms	Day 1	Day 7	Day 15	Day 30
1	Pain	Severe	Moderate	Mild	Mild
2	Pricking pain	Severe	Moderate	No	No
3	Stiffness	Moderate	Mild	Mild	Mild
4	Twitching	Moderate	Mild	No	No
5	Heaviness	Severe	Mild	No	No
6	Anorexia	Severe	Mild	No	No

(1. Pain- No pain, mild- mild pain but no difficulty in walking, moderate- moderate pain and a slight difficulty

in walking, severe pain- severe pain with severe difficulty in walking, 2. Pricking pain- No pricking sensation, mild pricking sensation, moderate pricking sensation, severe pricking sensation, 3. stiffness- No stiffness, mild- daily 0-30 minutes, moderate- daily 30-60 minutes, severe- daily more than 1 hour 4. Twitching- No twitching, mild- 0-30 minutes, moderate- 30-60 minutes, severe-more than 1 hour, 5. Heaviness- No heaviness, mild heaviness, moderate heaviness, severe heaviness, 5. Anorexia- No anorexia, mild anorexia, moderate anorexia, severe anorexia)

All the sign and symptoms related to sciatica was reduced after 15 days. Initial stage pain was observed severe, and after 15 days, it became to a mild condition. Pricking pain, heaviness, and anorexia were severe at the initial stage, and after 15 days, they became normal. Stiffness was moderate at the initial stage, and it became mild after 15 days. All the reduced signs and symptoms were observed normal after the follow-up period.

Effects of VAS and other findings

The visual analogue scale, (11) straight leg raising test, strength, sensation, and reflex activity in the legs were assessed on day 1, day 7, and day 15. Follow-up was done on day 30. All the data is presented in table 2.

Table 2: Effects of treatment on VAS and other neurological findings

Signs	Day 1	Day 7	Day 15	Day 30
Straight Leg Raising Test	Positive (50°)	Positive (60°)	No	No
Visual Analogue Scale	9	6	2	2
Loss of sensation	Moderate	Mild	Mild	Mild
Muscle Wasting	Mild	Mild	No	No
Muscle weakness	Severe	Moderate	No	No
Knee flexion test	Positive	Positive	Negative	Negative
Popliteal compression Test	Pain radiated to the gluteal region	Pain radiated to the gluteal region	No Pain radiated to the gluteal region	No Pain radiated to the gluteal region
Tenderness at the root of the sciatic nerve	Severe	Mild	No	No
Extension of greater toe	Positive	Positive	Positive	Positive
Tingling sensation	Moderate	Mild	Mild	Mild
Numbness	severe	Moderate	Mild	Mild
Knee Jerk	Present	Present	Present	Present
Ankle Jerk	Present	Present	Present	Present
Gait	Antalgic	Antalgic	Normal	Normal

The straight leg raising test was positive on day one and day seven, but after 15 days, it became normal. VAS was also marked as nine on day one, and it became two after fifteen days.

Effects of ODI, SBI, and SFI index

All the indexes related to sciatica were assessed on day 1, day 7, day 15, and follow-up was done on day 30. All the data is presented in table 3.

Table 3: Effects of ODI, SBI, and SFI index (12)(13)(14)

Se No	Parameters	Minimum Score	Maximum Score	Day 0	Day 7	Day 15	Day 30
Oswestry Disability Index (ODI)							
1	Pain Intensity	1	6	1	3	4	5
2	Personal care	1	6	2	3	4	4
3	Lifting	1	6	2	3	4	4
4	Walking	1	6	3	4	4	4
5	Sitting	1	6	3	4	4	4
6	Standing	1	6	3	4	4	4
7	Sleeping	1	6	2	3	4	4
8	Sex life	1	6	3	4	4	4
9	Social life	1	6	3	4	5	5
10	Traveling	1	6	3	4	4	4
Total Score		10	60	20/60	36/60	45/60	46/60
Sciatica Bothersomeness Index (SBI)							
1	Leg pain	1	6	6	3	2	2
2	Numbness or tingling in the Foot or groin	1	6	5	4	3	3
3	Weakness in the leg or foot	1	6	5	3	2	2
4	Back or leg pain while sitting	1	6	5	3	2	2
Total Score		4	24	21/24	13/24	9/24	9/24
Sciatica Frequency Index (SFI)							
1	Leg pain	No	Almost always	Almost always	About half the time	A few times	A few times
2	Numbness or tingling in the foot or groin	No	Almost always	Almost always	Usually	Usually	Usually
3	Weakness in the leg or foot	No	Almost always	Usually	About half the time	A few times	A few times
4	Back or leg pain while sitting	No	Almost always	Almost always	Usually	A few times	A few times

The total score of the ODI was 20 out of 60 in the initial stage, and within 15 days it improved to 45 out of 60. The SBI total score was 21 out of 24 at the initial stage and it improved to 9 out of 24 after 15 days. All the SFI parameters were also improved after 15 days. After 15 days of follow-up, all three indexes were shown the same results (Table 3).

Hematological parameters

Hematological parameters were assessed before the treatment and after the treatment. All the data is presented in table 4.

Table 4: Hematological Findings

Parameters	Before	After Treatments
Erythrocyte	30	25
Serum Uric acid	Normal	Normal
C-reactive protein	Negative	Negative
Serum Calcium	Normal	Normal

Discussion

Conservative treatment for sciatica is primarily aimed at pain reduction, either by analgesics or by reducing pressure on the nerve root. For the pain reduction, analgesics or non-steroidal anti-inflammatory drugs, Acupuncture, epidural steroid injections, spinal manipulation, traction therapy, physical therapy, behavioral treatment, and multidisciplinary treatment were commonly applied (15). In this study, we have treated a patient who had right leg pain related to numbness and abnormal gait. According to Ayurveda, different treatment methods are used for the treatment of this condition, which are: Bheshaja (internal medicine), Snehana (oleation therapy), Swedana (sudation therapy), Sira Vedhana (bloodletting), Agni Karma (cauterization) and Basti Karma (medicated enema) (16). Bloodletting by doing the Viddha Karma was the principal procedure which was applied in this patient's treatment. Viddha Karma is a derived treatment procedure from Sira Vedhana, and in this

study, we have conducted the Viddha Karma to remove a small amount of blood (5-10 ml) by pricking it with a dry needle.

The theory behind Viddha Karma on tender points indicates that central fibers are primarily responsible for transmitting pain impulses. Moreover, this is similar to counter-irritation or hyper-stimulation techniques such as locally applied pressure, fine needle combination with thermal stimulation (Moxibustion), piercing deeper tissues (Delchi), and Acupuncture. Interestingly Viddhapoints for Sciatica are based on L4, L5, and S1 dermatomes of the sciatic nerve. In the Viddha Karma, sterile procedure-specific points may release the channels of obstructed Vata by Shonitha and trigger the reduction of pain by subsiding obstruction. After doing three settings of pricking the vein, the patient got more relief for symptoms of pain, pricking pain, heaviness, stiffness, and improved gait. Some research studies have proven the increased risk of side effects when using NSAIDs for a short time and a long time for sciatica. (17) In Viddha Karma, doing externally and the puncturing may be a better option to minimize the side effects of sciatica.

Conclusion

Above results reveal that Viddha Karma is a potential management option for the pain-related condition of sciatica. A large sample study of randomized clinical trials would be more beneficial for further evaluation of Viddha Karma.

Informed Consent

The informed consent was obtained from the patient.

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