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Sindhuja BS *

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Case Report

Management of Lumbar Degenerative Spondylolisthesis by Siddha Marma (Energy) and Thokkanam Therapy: A Case Report

Bhuvanagiri Sathya Sindhuja, Injarapu Sankar, and Shweta Tiwari *

Dept of Siddha Medicine, Chakrasiddh Holistic healing centre, Hyderabad, India.

***Corresponding Author:** Shweta Tiwari, Dept of Siddha Medicine, Chakrasiddh Holistic Healing Centre, Hyderabad, India.

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Abstract:

Background: Lumbar Degenerative Spondylolisthesis (LDS) is a condition involving spinal instability characterized by the forward displacement of one vertebra over another, causing lower back pain, radiating pain, nerve compression, and restricted mobility in the lumbosacral area. In Siddha, LDS resembles a condition 'Vathasthambam' where clinical symptoms appear to be same. For managing such conditions, Siddha Marma (energy) therapy and Thokkanam therapy, have provided good results without use of any medications. Marma therapy is an ancient healing technique which focuses on stimulating specific energy points (marma points) to restore balance, alleviate pain, and enhance the body's natural healing mechanisms. Thokkanam is an external manipulation therapy similar to manual therapy employing hand pressure technique to reduce inflammation, and ease pain. Here, we discuss a case of a 65 years old female who had low back pain with radiating pain in her left leg and was diagnosed with lumbar spondylolisthesis. She was managed well by Siddha marma (energy) and thokkanam therapy in 23 days showing significant change in range of motion of pelvic region with spinal alignment, reduced pain and discomfort while all activities. At the end of the treatment and follow-up after 3 months, the patient was relieved of the symptoms and her quality of life also improved.

Conclusion: Siddha Marma (energy) and Thokkanam therapy offers a promising adjunct or an option to existing complementary treatment modalities with special reference to Spondylolisthesis.

Key words: lumbar spondylosis; degenerative spondylolisthesis; spinal stenosis; siddha marma; thokkanam therapy

Introduction:

Lumbar degenerative spondylolisthesis (LDS) is one of the most prevalent types of spondylolistheses commonly characterized by the anterior slippage of one vertebral bone relatively onto the adjacent vertebra [1]. LDS typically occurs at vertebral levels of L4-L5 and L5-S1 and are known to cause lumbar stenosis resulting in disability as a complication [2]. Epidemiologically, LDS can be seen more in female population than males with ratio of 1:6 and maximum patients with ages over 40-50 years. [3]. Though aging degeneration of intervertebral disc is the commonest factor for LDS, numerous other factors too contribute to its genesis, including anterolisthesis, iliolumbar configuration, ligament hyperlaxity, facet joint degeneration, physical overactivity, and loss of disc height at the afflicted level, and sometimes injury which may lead to central, lateral recess, and foraminal stenosis [1,4]. These degenerative conditions result into decreased quality of life of patients, due to several clinical manifestations of LDS such as low back pain, weakness, lower extremity pain of varied intensity occasionally radiating along the posterior buttocks and thighs, and increasing with activity, limited mobility and gait. In few, the occurrence of abnormal spinal curvatures or hyperlordosis is frequently linked to spondylolisthesis in older population, with nearly 29% having lumbar scoliosis at later stages of their lifespan [5]. The assessment of LDS is reported using a Visual Analogue Scale [6] for pain and the disability in daily activities can be assessed using the Oswestry Disability Index [7].

Patients with symptomatic LDS without neurologic deficits can see difference with conservative treatment, whereas those with neurologic symptoms are more prone to undergo progressive functional deterioration without surgery so it is strongly advised that these patients undergo surgery to stabilize their spinal column and relieve clinical symptoms; however, it comes with issues of post-operative recurrence and high costs. To avoid drawbacks of surgeries, it is suggestive to take up conservative measures, such as medications, spinal manipulation, physical therapy, lifestyle changes, and other pain management techniques to treat LDS [8]. Under the bracket of conservative measures, Siddha therapy an ancient traditional therapy, has offered a distinctive perspective for healthcare by

improving quality of life and managing pain [9,10]. The holistic approach of siddha focuses on addressing the cause of disease, motivates body's energetic imbalances and promotes self-healing capacity of body. It incorporates integrative approaches of energy medicine including energy and mind-body manipulation, exercises, diet to motivate the therapeutic and corrective measures. Exercises supports musculoskeletal health, which may help alleviate stiffness and discomfort and diet improves strength and helps in healing [11]

Ancient texts have described about the practice of siddha's marma (energy) therapy and thokkanam therapy as providing beneficial relief in spinal mobility, deformities and posture corrections [12]. Siddhars believed that by treating the underlying root cause of disease through working on blockages and muscle tensions, regulates the flow of energy which is thought to be obstructed due to any past incidents, negative emotions or any illness. This is perceived by marma or varmam therapy where techniques like pressing, tapping and massaging helps in lifting the targeted energy spots. Each of these points plays a vital role in energizing the joints, stimulating the flow of energy to the ligaments and surrounding muscles. These points are believed to enhance joint stability, support tissue repair, and restore mobility, aligning with concepts found in ancient texts that describe the anatomical and energetic relationship of the body's systems [13]. Thokkanam therapy is a preferable treatment option to manage pain, reduce inflammation, improve physical appearance, and potentially corrects the lumbar alignment [14].

The LDS can be compared with 'Vathasthambam' in Siddha. This is a type of Vatha disease, characterized by increased Vatham, often leading to penetrating/ boring pain, low backache and radiating pain in the posterior aspect of the thigh, increased swelling, numbness and bow like stiffness [15]. The study is carried out as per international conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP). Here, we discuss a case of a female who had lumbar spondylolisthesis with radiating pain in her left leg and was managed well by Siddha marma (energy) and thokkanam therapy in 23 days and a followup after 3 months of therapy. Even though, there are reportedly less cases of siddha therapy been used for LDS, this case provided significant relief in improving ROM (range of motion) of pelvic region, spinal correction and in easing pain, alleviating her quality of life; offering a promising adjunct or an option to existing complementary treatment modalities.

Case Report

A 65-year-old female was diagnosed with Grade-2 spondylolisthesis [16] at L4-L5, by neurosurgeon five years back, when she possessed mild symptoms of low backache and discomfort while sitting. In last few years, she suffered from chronic back pain while some activity especially during prolonged walking/standing, hyperlordosis and pelvic obliquity due to pain in that region. Patient had difficulty falling asleep, waking up because of pain, and a worsening of symptoms in pain by forward bending, or long sitting, overall, every activity demonstrated some discomfort. She was advised for spinal decompression surgery by her neurosurgeon which she denied and so was suggested to take nonsteroidal anti-inflammatory drugs (NSAIDs), light exercises, and complete bed rest for atleast 6 months. She also took epidural injections due to spike in pain for few times. She visited Chakrasiddh OPD to take a second opinion on advice for surgery by her Neurosurgeon.

On visit to Chakrasiddh outdoor, she had intermittent severe pain that was worsened by flexing and extending her legs and from last few days, she was facing a shocking pain in her left leg radiating till her ankle. Other symptoms included buttock pain, numbness, and weakness in left leg, difficulty walking, and longtime sitting. Pain was exacerbated by direct palpation of the affected segment and improved in certain positions such as lying supine. The range of motion (ROM) due to pain, instability, and nerve compression was significantly affecting her all activities.

General Examination

Patient was a Type-2 diabetic and had BP; was taking Metformin from last 10 years and Tab Telma 40 from 3 years. She was also prescribed Methylcobalamin, Vit B6, Folic acid and Pregabalin once a day after dinner.

On examining, Envagai Thervu (Eight-Fold System of Clinical Assessment) [17] according to siddha medicine, following parameters were noted:

Touch (Sparism) - Warm

Blood pressure – 140/80 mmHg

Respiratory rate – 17/min

Edema – slightly present in legs

Icterus – absent

Clubbing – absent

Cyanosis – absent

Pallor (Naa)- present

Malam - constipated

Range of movements (ROM)- LDS significantly affects spinal mobility and movements due to pain, instability, and nerve compression. At admission, patient's ROM was registered (Table-1)

Location	ROM (pre-therapy)	ROM (post-therapy)
Cervical	painful extension and flexion	Able to do with no pain
Thoracic	lateral bending not painful	No pain
Lumbo-sacral	forward bending painful	Slight discomfort
SLR (Straight Leg Raising)	both active and passive negative	No problem
Bregards	Positive (Left leg)	Negative
Fibers test	Positive (Both sacroiliac joint)	Rt negative, Lt positive
Bowstring test	Positive (Left)	Negative
Compression test	Positive (left)	Negative
Distraction test	Positive (left)	Negative
Thigh thrust test	Positive (left)	Negative
Painful heel walking	Present	Absent

Table-1 ROM at different locations pre and post therapy Investigations

Nerve conduction velocity (NCV) -Normal.

Hematological investigations- Pre-therapy few hematological values were done to compare with results post-therapy (Table-2).

X-rays (AP and Lateral views)- L4-S1 level of the spine clearly indicated lucency at the pars area which has the appearance of a Scottie dog with a collar indicating Grade 2 spondylolisthesis.

MRI Report- Depicted a mild scoliosis in lumbar region with narrowing of thecal sac at L4-L5, mild to moderate decreased disc signal and disc height with mild endplate spondylitic change, bulge and a L4-L5 left paracentral disc herniation extruded superiorly with left L5 nerve root sleeve impingement, with canal, lateral recess and foraminal stenosis. At L5-S1, mild decreased disc signal with mild/moderate decreased disc height and endplate spondylitic changes were seen, bulge and left paracentral disc herniation, with left S1 nerve root sleeve impingement in the lateral recess and foraminal stenosis was indicated, with moderate facet arthrosis.

Test	Pre-therapy value	Post-therapy value (after 1 mth)
ESR (Erythrocyte Sedimentation Rate)	37 mm/hour	21 mm/hour
HB (Hemoglobin)	8.2 G%	9.9 G%
HCT (Hematocrit)	24.6%	33.9%
M.C.V (Mean Corpuscular Volume)	62.9fl	76.2 fl
MPV (Mean Platelet Volume)	7 fl	7.2 fl
M.C.H (Mean Corpuscular Hemoglobulin)	21.2 pg	22.8 pg
Serum uric acid	3.2 mg/dl	3.7 mg/dl
Alkaline phosphatase	216 u/l	198 u/l
Renal Function Test	Normal	Normal
CRP	1.3mg/L	1.1mg/l
R A Factor	Negative	Negative

Table-2: Laboratory Investigations pre and post therapy Outcome Measures

At inception of treatment, patient was evaluated with visual analogue scale (VAS)[6], and Oswestry Disability Index [7] which was determined as 9 and severe disability (52%) simultaneously. These indicators can help us to observe the effectiveness of the Siddha therapy (marma and thokkanam) in the treatment of pain and physical disorders associated with LDS and provide a theoretical and experimental basis for further clinical application.

Therapy Interventions

The patient was intervened with Siddha marma (energy) therapy along with Thokkanam therapy for 23 days. As siddha believes in multimodal approach, the regime included diet and some exercises added in the total therapy process.

- Thokkanam (Physical manipualtion) Therapy [10,14]

This therapy offers a natural, hands-on approach to pain management with pressure techniques like tapping/punching, compressing/gripping, grasping/holding, twisting at points for 2-3 minutes for good results. Through these manual pressures it helps correct spinal alignment, and reduces the risk of further slippage.

- Marma/Varmam (Energy Sessions) Therapy [12,13]

Marma therapy focuses on stimulating specific energy points (*marma/varmam points*) to restore balance, alleviate pain, and enhance the body's natural healing mechanisms. In this patient, these points were intervened for 15-20 minutes with each marma point stimulated for only 2-3 minutes in each session and special 2 energy sessions were done.

Key varmam points [14] for LDS which were therapeutically stimulated were:

- Poovadangal - located at junction of thigh and gluteus over ischial tuberosity
- Nanganapootu - lumbosacral joint
- Vayukaalam -12th rib over the spine.
- Ulthodai - middle of medial aspect of thighs
- Mannai kaalam - At the Commencement of Triceps Surae Muscle.
- Viruthi kaalam - At the Level of Distal End of First Metatarsal Bone
- Ullangalvellai varmam - Meeting Point of Two Balls of Sole

- Treatment Diet [19]

The patient was advised for special treatment diet mentioned for vatha diseases during the process of therapy. The diet was customized according to her age, free from sweet, sour taste, tubers, food with cold potency. The major food included rice-based dishes prepared with vegetables, curry leaves, mint leaves etc. Moreover sprouts, green leafy vegetables, butter milk and milk were also included in daily diet. She was guided to take breakfast before 8 am and dinner before 6pm.

- Exercises [11,18]

Patient was guided to focus on deep, rhythmic breathing after the session to enhance relaxation and amplify the therapy's effects along with 15 minutes' walk and low back exercises at home daily.

Results

After implementing Siddha therapy for 23 days, patient reported substantive reduction in pain and swelling in thigh region. The onset of low back pain was delayed during walking/standing over the course of treatment, left leg tenderness and weakness reduced by 80%, radiating pain also completely diminished. Symptomatic activities like walking/sitting, sleeping time showed improvement, which was followed by no discomfort in lumbar motions and a decrease in spasm. The patient was able to flex and extend her legs without any effort and pain, ROM was measured pre and post therapy showed lot of flexibility in all joints (Table-1). The VAS score lowered down from 9 to 3 and level of disability reduced to mininal (19%) on Oswestry Disability Index scale. Though, laboratory reports are not indicated in LDS but there was mild improvement in values of her Hb and platelet count (Table-2).

Follow-up assessment after 6 months demonstrated furthermore improvements in mobility, tenderness and discomfort in pelvic region, indicating the effectiveness of the non-invasive treatment regimen of Siddha marma (energy) and thokkanam. X-rays clearly depicted a decrease in hyperlordosis, and hypertonicity of tensed muscles around and reduced calcifications (Figure-1).

Figure 1: Pre therapy x-ray X-ray post therapy (after 23 days) x-ray at follow-up (3 months)

Discussion

The presented case of LDS in a 65-year-old female showcases significant MRI findings indicative of structural anomalies within the lumbar spine suggestive of Grade 2 spondylolisthesis. These findings, particularly the moderate canal stenosis, moderate facet arthrosis, impingement at L5-S1 underscore the need for effective management strategies as earlier mentioned by Bydon and Majid [1,5]. Such MRI results give practitioners a fundamental grasp of the anatomical complexities that Siddha therapy methods are intended to address. With its roots in South India's historic traditional system, Siddha therapy promotes holistic recovery using non-invasive methods like thokkanam and Marma therapy for LDS. The case was dealt with supreme care due to age factor and degenerative bony condition.

The findings of this report are consistent with previous studies that have reported the benefits of Siddha therapy for various health conditions, especially mentioning lowback and radiating pain. Vibert et.al recommended conservative management as the initial approach for most patients of LDS, with different treatment options as physical and manipulative therapy, including therapeutic massages which are similar to varmam therapy of Siddha [8]. Mehta et al. conducted a randomized controlled trial study on sciatica patients, and reported that Siddha thokkanam therapy gave relief in pain, flexibility and reduced the dependency of conventional medicines [16]. Furthermore, Sreedhana's case report on a 45-year-old male patient with ACL tear and associated lumbar pain, reported a noticeable increase in his joint flexibility and significant improvement in ability to perform daily tasks when subjected to 15 days of varmam therapy [15]. A randomized controlled trial in Southern India by Ramaswamy RS, et al. [22] and Sindhuja et al. [10] found that Siddha energy sessions and therapies are an effective alternative to NSAIDs for pain reduction, joint flexibility, and quality of life improvement in patients with osteoarthritis and gait similar to our report where patient showed betterment in quality of life. Our patient also demonstrated clinical improvement in stiffness, swelling, and range of motion at pelvic region which is in accordance with another randomized controlled trial by Meena R, et al. [24] who summarized those 28 days of marma and thokkanam therapy results in a reduction in swelling and improves ROM at shoulder and cervical area. A systematic review and meta-analysis conducted by Vinayak S, et al. confirmed the effectiveness of Siddha therapy with marma chikitsa in reducing musculoskeletal pain in knees and heels [25].

Patil SB, et al., in their review about Ayurveda and Siddha medicine, mentioned marma points as centers of vital energy and consciousness that govern both physical and spiritual health [17]. They play a key role in connecting the body to the mind and subtle energies. Senthilvel, et al. have depicted Varma Kalai (Marma Art), an advanced practice in Siddha which involves precise stimulation of marma or energy points using pressure, touch, or other techniques to heal physical ailments, remove energy blockages, and enhance the flow of vital energy (prana) [13]. Sindhuja et al study mentions the cause of all blockages are negative thoughts, interactions or assault/trauma which might be reason to obstruction of the flow of pranic energy and removing them will rejuvenate life back [26]. In our case we used the process of gentle stretches and pressure applications of thokkanam technique which improved flexibility and mobility in the lower back, helping the patient to restore natural movement patterns, strengthened the muscles around the spine, providing better support and reducing stress on the affected vertebrae which is in accordance with outcome of Reddy and Maheshwari study. They also determined Thokkanam, a manipulative technique as a stimulator of vital energy points, rebalancing the body's energy pathways, addressing the root cause of discomfort and dysfunction [12]. A feasibility study by Sivaranjani, featuring an intervention and control group, compared the effectiveness of myofascial massage therapy with stretching exercises for pain management in patients with musculoskeletal disorders, can be understood by Thadaval (massage in Siddha) done at certain point to release the knots, improving tenderness, swelling and pain directing to improved functions in the lumbar joints [14].

Aishwarya A, et al., stresses on diet playing a pivotal role in Siddha therapy, considering it a fundamental aspect of both prevention and treatment of diseases [19]. Adhering to siddha's hoslistic approach which includes breathwork, herbs, and dietary recommendations alongside marma point activation to treat specific conditions, our patient was kept on anti-inflammatory diet and mild exercises to speed up the process of healing. Siddha medicine emphasizes the inter-connectedness of diet, lifestyle, and health, with the belief that food not only nourishes the body but also influences the mind and spirit. Previous studies by Tripathi SP, et al supports this theory where 20 patients treated for sciatica and heel pain showed immense improvement by mild exercises with energy-focused yoga postures and meditations. A visual change was seen in stress, strengthened core muscles, improved alignment, and wellness feeling [11].

The patient wanted to avoid the surgery and was reluctant to take much pressure so initially advised to continue her pain medications as techniques used in Thokkanam like pressing, kneading, and stroking, initiates stress on tightened muscles but once the muscles are relaxed it enhances blood circulation in the inflamed area, increasing oxygen levels and nutrients to tissues and helps in removing toxins from cells as already stated in studies done by Duraipandiyan and Renjith [18,20]. The patient felt relaxed after one week and she avoided taking her NSAID's, which was a positive sign of therapy working on her. She expressed lesser pain while any activity, muscle relaxation, increased capacity of standing/sitting and spinal movement and an ease in performing exercises in concurrence with Meena R, et al. study outcome [24]. The evaluation of her VAS was low as compared to start of therapy and there was a clear re-alignment of her spine, visible changes in her walk and standing posture as per her x-ray take post-therapy (Fig-1) The integration of traditional healing practices like Siddha therapy with modern medical

approaches opens avenues for a more comprehensive healthcare framework. Embracing a multi-disciplinary approach that amalgamates traditional wisdom with contemporary scientific understanding could foster a paradigm shift towards patient-centered and holistic healthcare [21,22].

Conclusion

In conclusion, this case report suggests that siddha marma (energy) and thokannam therapy is efficacious in the treatment of LDS, with positive outcomes continuing for months after stopping the therapy and with no relapse. The findings of the treatment show that traditional therapies of siddha, can help the elderly with low back pain related to spondylolisthesis manage pain, increase muscular tone, and improve their quality of life. Through the integration of physical therapies, and energy practices, with dietary modulations, Siddha therapy seeks to restore balance and harmony within the body, thereby reducing pain and promoting optimal health and vitality. Under conservative measures, Siddha therapy, a non-invasive, holistic way has offered a distinctive perspective for LDS by minimizing chances for high costage of surgery and adverse effects of pharmacologic treatment. However, it's crucial to note the limitations of this case report. The singular nature of the case restricts the generalizability of findings. Future research involving much larger samples is needed to support the efficacy of siddha therapy as a conservative strategy for lumbar degenerative spondylolisthesis. More scientific studies by siddha practitioners are needed to validate the applicability of these energy therapies and thokkanam for lumbar spondylolisthesis.

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