

## EFFECT OF MARMA CHIKITSA IN THE MANAGEMENT OF GRIDHRASI (SCIATICA) - A LITERATURE REVIEW

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### ABSTRACT

**Background:** Gridhrasi, one of the 80 Nanatmaja Vatavyadhis, corresponds to Sciatica (L4 -S3 sciatic nerve irritation/compression). Classical Ayurveda designates Pakwashaya (colon) as the Ashraya Sthana of Gridhrasi — precisely corroborated by viscerosomatic reflex neuroscience, where constipation, IBS, IBD, and pelvic adhesions perpetuate sciatica through fascial continuity and lumbosacral plexus sensitization.<sup>[1,2,3]</sup> **Objectives:** (1) Explore the classical Ayurvedic conceptualization of Gridhrasi. (2) Document the role of intestinal pathology in Gridhrasi causation. (3) Present standardized diagnostic procedures integrating Marma Pariksha and 10 provocative tests. (4) Compile the complete Marma Chikitsa protocol. (5) Review clinical evidence and compare with TCM acupuncture therapy. **Key Findings:** Vatakaphaja Gridhrasi maps precisely to Piriformis Syndrome; constipation can mechanically compress L4-L5 nerve trunks.<sup>[32,33]</sup>; IBS produces lumbosacral viscerosomatic sensitization<sup>[34]</sup>; IBD can cause psoas abscess-mediated plexopathy<sup>[35]</sup>; pelvic adhesions cause traction neuropathy.<sup>[36]</sup> Nine Marma Sthanas constitute an anatomically coherent therapeutic protocol. Mechanisms are explicable through MTrP deactivation, gate control neuromodulation, Vasa nervorum improvement, and transdermal pharmacology.<sup>[24,25,26]</sup> **Conclusion:** Marma Chikitsa with integrated Basti Chikitsa is a clinically sophisticated, anatomically grounded therapeutic system. Classical recognition of intestinal involvement as co-causative factor, validated by modern viscerosomatic reflex science, enriches both diagnosis and treatment.

**KEYWORDS:** Gridhrasi, Sciatica, Marma Chikitsa, Piriformis Syndrome, Pakwashaya, Vatavyadhi, Nitamba Marma, Kukundara Marma, Intestinal Neuropathy, Basti Chikitsa, Viscero-somatic Reflex.

### LIST OF ABBREVIATIONS

| Abbreviation | Full Form         |
|--------------|-------------------|
| A.H.         | Ashtanga Hridayam |
| C.S.         | Charaka Samhita   |
| S.S.         | Sushruta Samhita  |

| Abbreviation | Full Form                                         |
|--------------|---------------------------------------------------|
| M.N.         | Madhava Nidana                                    |
| B.P.         | Bhavaprakasha                                     |
| Y.R.         | Yoga Ratnakara                                    |
| C.D.         | Chakradatta                                       |
| Sh.S.        | Sharangadhara Samhita                             |
| EMG          | Electromyography                                  |
| SLR          | Straight Leg Raise Test                           |
| VAS          | Visual Analogue Scale                             |
| TCM          | Traditional Chinese Medicine                      |
| IBS          | Irritable Bowel Syndrome                          |
| IBD          | Inflammatory Bowel Disease                        |
| ODI          | Oswestry Disability Index                         |
| FAIR         | Flexion Abduction Internal Rotation               |
| MTrP         | Myofascial Trigger Point                          |
| SIJ          | Sacroiliac Joint                                  |
| DNIC         | Diffuse Noxious Inhibitory Control                |
| NCV          | Nerve Conduction Velocity                         |
| PSIS         | Posterior Superior Iliac Spine                    |
| NCISM        | National Commission for Indian System of Medicine |
| GTO          | Golgi Tendon Organ                                |
| ITB          | Iliotibial Band                                   |
| CNS / PNS    | Central / Peripheral Nervous System               |

## CHAPTER 1: INTRODUCTION

### 1.1 Background and Rationale

Gridhrasi is one of the most debilitating Vatavyadhis characterized by piercing pain radiating from the hip through the gluteal region, posterior thigh, calf, and foot — corresponding to Sciatica from sciatic nerve root compression (L4-S3).<sup>[1,2]</sup> Sciatica has a lifetime prevalence of 10-40%.<sup>[15]</sup> Marma Chikitsa targets the 107 vital anatomical junctions catalogued by Sushruta in Sushruta Samhita, Sharir Sthana Chapter 6, representing the confluence of Mamsa, Sira, Snayu, Asthi, and Sandhi. The classical designation of Pakwashaya as the Ashraya Sthana (primary seat) has precise biomedical correlates in viscerosomatic reflex pathways and colonic inflammation-induced lumbosacral plexopathy.<sup>[32]</sup>

### 1.2 Objectives

To explore the classical Ayurvedic conceptualization of Gridhrasi; document the role of intestinal pathology

in Gridhrasi causation with full treatment protocol; present standardized diagnostic procedures integrating Marma Pariksha, neurological examination, and 10 provocative tests; analyze Marma Chikitsa mechanisms; review clinical evidence; and draw comparison with TCM acupoint therapy.

## CHAPTER 2: GRIDHRASI IN CLASSICAL AYURVEDIC LITERATURE

### 2.1 Etymology and Nomenclature

The term Gridhrasi is derived from Sanskrit *Gridhra* (vulture). The forward-leaning, limping gait of a severe sciatica patient resembles the gait of a vulture.<sup>[2]</sup> Sushruta provided the earliest systematic description: गृध्रवद् गतिर्यस्यां सा गृध्रसी।

*Grdhravad gatiṛ yasyāṃ sā Grdhrasī.* — That condition wherein the gait resembles that of a vulture is called Gridhrasi. (Su.S. Ni.1.74)

### 2.2 Disease Classification

| Classification Axis | Category / Details                                         | Prognosis                                                    |
|---------------------|------------------------------------------------------------|--------------------------------------------------------------|
| Dosha               | Vataja (pure Vata) and Vatakapahaja (Vata-Kapha mixed)     | Vataja — Kricchasadhya;<br>Vatakapahaja — Yapya/Kashtasadhya |
| Ashraya Sthana      | Pakwashaya (primary); Kati, Sphik, Uru, Janu, Jangha, Pada |                                                              |

### 2.3 Nidana (Aetiology)

#### 2.3.1 Charaka Samhita (Ch.S. Chi.28.17-56)

Charaka attributes Gridhrasi to Dhatu kshaya, Margavarana, and Vata-vitiating factors: Rooksha-Laghu-Sheeta food intake; Ati-vyayama; Vegadharana (especially suppression of defecation urges — a critical perpetuating factor); trauma to Kati-Sphik; prolonged

sitting on hard surfaces.<sup>[1]</sup>

#### 2.3.2 Sushruta Samhita (Su.S. Ni.1.74-76)

स्पन्दनं तोदं च कटीजानुजंघापादयोर्वेदना। गृध्रसीति वदन्त्येनां वातश्लेष्मसमन्विताम्॥

*Spandanam todaṃ ca kaṭī-jānu-jamghā-pādayor vedanā | Grdhrasīti vadanty enām*

*vātaśleṣmasamanvitām || — Throbbing and piercing pain from hip to knee, calf and foot — this is Gridhrasi when associated with Vata and Kapha. (Su.S. Ni.1.75)<sup>[2]</sup>*

*Sphig-ūru-jānu-jaṃghā-pādēṣu stabdhākṣeparuk ca sā | Vātaśleṣmakaphodṛktā guruṣītā sayonijā || — Stiffness, spasms, and pain in gluteal, thigh, knee, calf, and foot; heaviness and coldness when Vata-Kapha both elevated. (A.H. Ni.15.59)<sup>[3]</sup>*

### 2.3.3 Ashtanga Hridayam (A.H. Ni.15.57-62)

*स्फिगूर्जानुजंघापादेषु स्तब्धाक्षेपरुक् च सा। वातश्लेष्मकफोदृक्ता गुरुशीता सयोनिजा॥*

### 2.4 Samprapti — Shatkriyakala

| Kala (Stage)     | Pathological Event                                                                                                                                    | Clinical Relevance   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Sanchaya         | Accumulation of Vata in Pakwashaya — Apana Vayu dysfunction with bowel irregularity and constipation.                                                 | Constipation onset   |
| Prakopa          | Vata provocation with increased Ruksha and Chala Gunas; colonic distension impinges on lumbosacral structures.                                        | Intermittent LBP     |
| Prasara          | Spread of vitiated Vata along Vatavaha Srotas from Kati to Pada — corresponding to the sciatic nerve pathway.                                         | Radiation begins     |
| Sthana Samshraya | Lodgement in Kati-Sphik region; piriformis tension, SIJ dysfunction, perineural inflammation established.                                             | Piriformis syndrome  |
| Vyakti           | Manifestation of Spandana, Toda, Stambha, Akshepana, Ruk along sciatic distribution.                                                                  | Full sciatica        |
| Bheda            | Chronification with Asthi Kshaya and Majja deterioration — neurodegeneration and disc pathology. Pakwashaya may show frank inflammation or adhesions. | Neurological deficit |

### 2.5 Correlative Analysis: Gridhrasi vs. Modern Sciatica

| Ayurvedic Feature     | Modern Correlation                                   | Classical Reference       |
|-----------------------|------------------------------------------------------|---------------------------|
| Toda (piercing pain)  | Radiculopathic pain L4-S3 dermatomes                 | Ch.S. Chi.28; A.H. Ni.15  |
| Stambha (stiffness)   | Piriformis muscle spasm, myofascial rigidity         | A.H. Chi.21; M.N.22       |
| Supti (numbness)      | Hypoesthesia / paresthesia in sciatic distribution   | B.P. Chi.24               |
| Shosha (wasting)      | Disuse atrophy, denervation muscle wasting           | Ch.S. Chi.28              |
| Gridhravat Gati       | Antalgic gait pattern                                | Su.S. Ni.1; Y.R.          |
| Sthaimitya (rigidity) | Piriformis fibrosis / myofascial induration          | M.N. 22; A.H. Ni.15       |
| Pakwashaya origin     | L4-S3 lumbosacral plexus; colonic fascial continuity | Ch.S. Su.30; Ch.S. Chi.28 |

### 2.6 Lakshana (Clinical Features)

**Vataja:** Spandana, Toda, Ruja (severe hip-to-foot pain), Stambha, Shosha (wasting), Supti (paresthesia), Utsaha kshaya (inability to bear weight).<sup>[1,2,3]</sup>

**Vatakaphaja:** Additionally — Gaurava (heaviness), Tandra, Arochaka, Mamsagata Shotha, Sthaimitya (persistent rigidity, corresponding to piriformis fibrosis), Praseka.<sup>[5]</sup>

*तोदः स्फुरणमायामः स्तम्भो गृध्रस्य वा गतिः। वातश्लेष्मसमुद्भूते गुरुत्वं स्तैमित्यमेव च॥*

*Todaḥ spharaṇam āyāmaḥ stambho grdhra-sya vā gatiḥ | Vātaśleṣmasamudbhūte gurutvaṃ staimityam eva ca || — Pricking pain, pulsation, spasm, stiffness, and vulture-gait; when Vata-Kapha: heaviness and persistent rigidity. (Madhava Nidana 22.11-12)<sup>[5]</sup>*

## CHAPTER 3: ROLE OF INTESTINAL PATHOLOGY IN GRIDHRASI

### 3.1 Classical Ayurvedic Basis — Pakwashaya as the Seat of Origin

Charaka Samhita, Chikitsa Sthana Chapter 28, explicitly states that Vata accumulated in the Pakwashaya traverses the Vatavaha Srotas downward and outward to produce Gridhrasi.<sup>[1]</sup>

*पक्वाशयात् समुत्पन्नो वातः संसृत्य देहगः। करोति विविधान् रोगान् प्राणायापि च संशयः॥*

*Pakwāśayāt samutpanno vātaḥ saṃsr̥tya dehagaḥ | Karoti vividhān rogān prāṇāyāpi ca saṃśayaḥ || — Vata arising from the Pakwashaya, spreading through the body, creates various diseases — even endangering life. (Ch.S. Chi.28.15)<sup>[1]</sup>*

This insight — that the colon and lumbosacral nerve roots share fascial continuity — anticipates modern viscerosomatic reflex neuroscience. The lumbosacral

plexus (L1 -S4) supplies both the lower limb and major pelvic viscera; shared spinal cord segments enable pathological afferent input from intestinal structures to sensitize the same dorsal horn neurons processing sciatic signals.<sup>[32]</sup>

### 3.2 Biomedical Correlates — Summary

**Constipation/Faecal Impaction:** A distended sigmoid colon directly impinges on the left L4-L5 nerve trunk; case reports document sciatic symptom resolution following bowel evacuation alone.<sup>[32,33]</sup>

**IBS:** Quantitative sensory testing in IBS patients demonstrates reduced pain thresholds at lumbar dermatomes (L4-S1), consistent with viscerosomatic sensitization.<sup>[34]</sup>

**IBD:** Crohn's disease and ulcerative colitis can cause lumbosacral plexopathy through psoas abscess formation with secondary sciatic nerve irritation.<sup>[35]</sup>

**Pelvic Adhesions:** Post-surgical adhesions can entrap lumbosacral plexus branches, producing traction-mediated sciatica resistant to conventional spinal management.<sup>[36]</sup>

**Pelvic Malignancy:** Must be excluded in patients >50 with new-onset sciatica, constitutional symptoms, or no identifiable spinal pathology — corresponding to Asadhya Gridhrasi.<sup>[31]</sup>

### 3.3 Clinical Indicators of Intestinal Involvement in Gridhrasi

| Clinical Indicator                                   | Ayurvedic Interpretation                   | Modern Correlation                                     |
|------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|
| Constipation preceding/worsening sciatica            | Mala Sanchaya → Apana Vayu Dushti          | Sigmoid colon distension compressing L4-L5 nerve trunk |
| Left-sided dominant sciatica + sigmoid tenderness    | Pakwashaya Ashraya — left colonic position | Sigmoid colon proximity to left lumbosacral plexus     |
| Sciatic pain relieved by defecation or enema         | Apana Vayu Anulomana                       | Lumbosacral plexus decompression by bowel evacuation   |
| Bloating, gas, IBS symptoms + sciatica               | Adhyamana / Anaha — Vata in Pakwashaya     | Viscero-somatic reflex sensitization of L4-S1          |
| History of abdominal surgery + new sciatica          | Srotas Abhighata (channel injury)          | Pelvic adhesion-mediated nerve traction                |
| Night pain + weight loss + blood in stool + sciatica | Asadhya Gridhrasi — Bheda Avastha          | Pelvic malignancy with lumbosacral plexopathy — REFER  |

### 3.4 Basti Chikitsa — Primary Intervention for Intestinal Involvement

Basti Chikitsa is designated as Ardha Chikitsa (half of all treatment) for Vatavyadhi by Charaka,<sup>[1]</sup> and as the most effective intervention for Pakwashaya Vata by

Vagbhata.<sup>[3]</sup> It simultaneously addresses: (a) Pakwashaya Vata — direct Apana Vayu normalization through the colonic route; and (b) Vatavaha Srotas — systemic Vata pacification and Snayu nourishment through absorbed medicated oils.

| Type of Basti        | Formulation                                                             | Indication                                                | Course                          |
|----------------------|-------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------|
| Anuvasana Basti      | Sahacharadi Taila 120 ml / Ksheerabala Taila 100 ml                     | Vataja Gridhrasi; dry stools; emaciated constitution      | Daily in Kala Basti             |
| Kashaya Basti        | Dashamula Kwatha 640 ml + Sahacharadi Taila + Saindhava + Madhu + Kalka | Vatakaphaja Gridhrasi; constipation; colonic inflammation | Alternate days in Kala Basti    |
| Yoga Basti (15-day)  | 8 Niruha Basti + 7 Anuvasana Basti (alternating)                        | Chronic Gridhrasi with established bowel dysfunction      | 15 days; repeat after 7-day gap |
| Karma Basti (30-day) | 12 Niruha + 18 Anuvasana                                                | Severe chronic Gridhrasi with neurological deficit        | 30 consecutive days             |

## CHAPTER 4: DIAGNOSTIC CLINICAL PROCEDURES — STAGING AND STATUS

The diagnosis of Gridhrasi demands a multi-tiered assessment integrating Marma Pariksha, Nadi Pariksha, and Ashtasthana Pariksha with modern neurological evaluation. Goals: confirm Gridhrasi; determine Dosha predominance; identify Shatkriyakala stage; assess neurological severity;

identify intestinal or other contributing pathology.<sup>[1,2,3,31]</sup>

#### 4.1 Ashtasthana Pariksha in Gridhrasi

| Parameter | Vataja Gridhrasi                                                      | Vatakaphaja Gridhrasi                                               |
|-----------|-----------------------------------------------------------------------|---------------------------------------------------------------------|
| Nadi      | Irregular, rapid, thread-like (Vata Nadi)                             | Irregular with heaviness; Vatakaphaja Nadi                          |
| Mala      | Constipated, dry, hard stools (Vibandha)                              | Sticky, pale, mucous-coated stools; delayed bowel transit           |
| Jihwa     | Dry, rough tongue; thin brown-black coating                           | Thick white-grey coating; possible geographic tongue                |
| Sparsa    | Dry, rough, cool skin; reduced subcutaneous tissue over affected limb | Moist, cool, oily skin; possible edema of affected limb             |
| Akriti    | Thin, emaciated, anxious; obvious antalgic gait (Gridhravat Gati)     | Normal/overweight build; slow, heavy gait with persistent stiffness |

#### 4.2 Marma Pariksha (Vital Point Diagnostic Examination)

Marma Pariksha is systematic palpatory examination of Marma Sthanas along the sciatic nerve pathway. It

confirms Gridhrasi, localizes the dominant pathological level, and identifies Dosha predominance at each anatomical station.<sup>[10,13]</sup>

| Marma          | Anatomical Station                                             | Diagnostic Method                                                            | Positive Sign                                         | Clinical Correlation                                    |
|----------------|----------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|
| Kukundara      | PSIS / posterior SIJ / L4-S1 root zone                         | Palpate sacral dimples; bilateral sustained pressure 30 sec                  | Tenderness + radiating leg pain; SIJ stiffness        | Proximal root compression; Apana Vayu vitiation         |
| Nitamba        | Deep gluteal / piriformis / greater sciatic notch              | Prone; deep thumb pressure over gluteal prominence; anterosuperior direction | Severe tenderness + sciatic radiation + positive FAIR | Piriformis syndrome — hallmark of Vatakaphaja Gridhrasi |
| Katikatarunam  | Iliac crest-trochanteric junction / ITB / piriformis insertion | Pressure along iliac crest; resisted abduction                               | Lateral hip tenderness; pain on abduction/ER          | L5 radiculopathy; trochanteric bursitis                 |
| Lohitaksha     | Femoral triangle / inguinal region / iliopsoas                 | Supine; pressure at femoral triangle; resisted hip flexion                   | Anterior hip pain; hip flexor weakness                | L3-L4 involvement; anterior hip dysfunction             |
| Urvi           | Mid-posterior thigh / sciatic nerve trunk                      | Palpation of posterior thigh on passive SLR                                  | Mid-thigh tenderness on SLR                           | Mid-course sciatic irritation; hamstring tension        |
| Janu           | Popliteal fossa / knee joint / sciatic bifurcation             | Popliteal fossa pressure; knee flexion/extension                             | Popliteal tenderness; reflex changes                  | Sciatic bifurcation; L3-L4 reflex assessment            |
| Indrabasti     | Mid-calf / gastrocnemius / S1-S2 zone                          | Calf palpation; resisted plantarflexion                                      | Calf tenderness; absent ankle jerk                    | S1 root involvement — key confirmatory sign             |
| Kshipra (foot) | 1st-2nd metatarsal dorsum / deep peroneal nerve                | Deep interdigital thumb pressure at 1st webspace dorsum                      | Dorsal foot tenderness; L5 foot drop                  | L5 distribution; peroneal nerve terminus                |
| Talhridaya     | Plantar centre / tibial nerve terminal                         | Knuckle plantar pressure in circular motion                                  | Plantar tenderness; reduced plantar sensation         | S1-S2 neuropathic plantar pain                          |

#### 4.3 Neurological Examination by Root Level

| Root  | Motor Deficit                                         | Sensory Deficit                            | Reflex Change                    | Functional Test                  |
|-------|-------------------------------------------------------|--------------------------------------------|----------------------------------|----------------------------------|
| L3-L4 | Quadriceps weakness; hip adductor weakness            | Anterior/medial thigh; medial leg to ankle | Reduced knee jerk                | Inability to squat               |
| L4-L5 | Extensor hallucis longus weakness (big toe extension) | Dorsal foot; lateral shin; big toe         | Usually intact                   | Heel walking — foot drop pattern |
| L5-S1 | Gastrocnemius weakness; plantarflexion deficit        | Sole; posterior calf; lateral foot         | Reduced/absent ankle jerk        | Tiptoeing; calf raising test     |
| S2-S4 | Pelvic floor / bladder dysfunction                    | Saddle area — perineum, perianal           | Cremasteric, anal reflex changes | URGENT Cauda Equina referral     |

#### 4.4 Provocative Tests

| Test                 | Method                                         | Positive Finding                 | Implication                 |
|----------------------|------------------------------------------------|----------------------------------|-----------------------------|
| <b>SLR — Lasegue</b> | Supine; passive hip flexion with knee extended | Sciatic pain <60 deg hip flexion | Nerve root irritation L4-S1 |

| Test                            | Method                                                                    | Positive Finding                                 | Implication                                     |
|---------------------------------|---------------------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------|
| <b>Cross SLR</b>                | SLR on contralateral leg reproduces ipsilateral sciatic pain              | Ipsilateral pain on contralateral SLR            | Large central disc herniation                   |
| <b>FAIR Test (Piriformis)</b>   | Supine; hip flexion 60 deg, adduction, internal rotation sustained 30 sec | Reproduction of sciatic / gluteal pain           | Piriformis syndrome — Nitamba Marma pathology   |
| <b>Pace Test (Piriformis)</b>   | Seated; resisted hip abduction and external rotation                      | Pain and/or weakness on resisted abduction/ER    | Piriformis syndrome                             |
| <b>Beatty Test (Piriformis)</b> | Lateral decubitus; active hip abduction                                   | Gluteal/sciatic pain on hip abduction            | Piriformis syndrome                             |
| <b>Femoral Stretch Test</b>     | Prone; passive knee flexion — stretches femoral nerve/L3-L4               | Anterior thigh pain on knee flexion              | L3-L4 root involvement                          |
| <b>Slump Test</b>               | Seated; full spinal flexion + knee extension + ankle dorsiflexion         | Sciatic pain reproduced                          | Neural tension throughout entire sciatic course |
| <b>Freiberg Test</b>            | Supine; passive forced internal rotation of extended thigh                | Gluteal/sciatic pain on forced internal rotation | Piriformis irritation/inflammation              |
| <b>Patrick / FABER Test</b>     | Supine; hip Flexion-ABduction-External Rotation (figure-4 position)       | Groin/hip pain (anterior); SIJ pain (posterior)  | Hip joint or SIJ pathology                      |
| <b>Valsalva Manoeuvre</b>       | Patient strains or coughs; assess exacerbation of radicular pain          | Increase in radiating leg pain                   | Disc prolapse / intrathecal pathology           |

#### 4.5 Integrated Disease Staging

| Stage                      | Shatkriyakala           | Clinical Features                                                             | Neurological Status                                      | Management Priority                                                            |
|----------------------------|-------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|
| <b>Stage I (Mild)</b>      | Sanchaya-Prakopa        | Intermittent LBP; no radiation; VAS 1-3                                       | Neurologically intact; SLR >70 deg                       | Pathya, Abhyanga, Sweda, oral meds; outpatient                                 |
| <b>Stage II (Moderate)</b> | Prasara                 | LBP with radiation to thigh; VAS 4-6; SLR 45-70 deg                           | Reduced sensation; reflexes may be diminished            | Marma Chikitsa + Basti + oral medication; regular review                       |
| <b>Stage III (Severe)</b>  | Sthana Samshraya-Vyakti | Constant radiation to foot; VAS 7-9; SLR <45 deg; paresthesia; motor weakness | Motor deficit; reduced/absent ankle jerk; NCV abnormal   | Intensive Panchakarma; Agni Karma; Kati Basti; consider neurosurgical referral |
| <b>Stage IV (Critical)</b> | Bheda Avastha           | Bilateral sciatica; saddle anaesthesia; bladder/bowel dysfunction; VAS 9-10   | Cauda equina features; dense motor loss; EMG denervation | URGENT surgical referral; Ayurveda as adjuvant only                            |

#### 4.6 Investigations

| Investigation                          | Purpose                                           | Relevance to Gridhrasi                               |
|----------------------------------------|---------------------------------------------------|------------------------------------------------------|
| MRI Lumbosacral Spine (gold standard)  | Disc herniation, stenosis, piriformis hypertrophy | Stage III-IV; failed conservative therapy at 6 weeks |
| X-Ray Lumbosacral Spine (AP + Lateral) | Spondylosis, spondylolisthesis, SIJ narrowing     | Initial investigation; cost-effective screening      |
| NCV / EMG Study                        | Nerve conduction velocity;                        | Stage III-IV; motor deficit; disc vs.                |

|                                 |                                                             |                                                           |
|---------------------------------|-------------------------------------------------------------|-----------------------------------------------------------|
|                                 | denervation; root level                                     | piriformis differentiation                                |
| Ultrasound — Piriformis Muscle  | Piriformis thickness, asymmetry, haematoma                  | Piriformis syndrome confirmation and monitoring           |
| CT Pelvis / Abdomen             | Psoas abscess, pelvic malignancy, retroperitoneal pathology | When IBD, malignancy, or prior abdominal surgery present  |
| Haematology (CBC, ESR, CRP)     | Infection, inflammation, anaemia, systemic disease          | Red flag symptoms; suspected IBD or malignancy            |
| Stool Examination + Colonoscopy | IBD, colorectal malignancy, parasitic infestation           | Bowel symptoms prominent; blood in stool; age >50         |
| Serum B12, Vitamin D, Calcium   | Nutritional neuropathy, osteomalacia                        | Chronic bilateral sciatica; elderly patients; vegetarians |

## CHAPTER 5: ANATOMICAL BASIS — SCIATIC NERVE, PIRIFORMIS, AND MARMA RELEVANCE

The sciatic nerve is formed by ventral rami of L4, L5, S1, S2, S3 within the pelvis.<sup>[15]</sup> It exits the greater sciatic foramen, passes inferior to the piriformis in ~83-90% of individuals (10-17% pass through or above the piriformis — Prakriti-related Snayu Vaishamya predisposing to Vatakaphaja Gridhrasi).<sup>[16,17]</sup> The piriformis muscle originates from the anterior sacral surface (S2 -S4), inserts into the greater trochanter, and occupies the subpiriform canal through which the sciatic nerve, inferior gluteal nerve, and posterior cutaneous nerve of the thigh all pass.<sup>[16]</sup> The iliopsoas-pelvic fascia forms a continuous sheet with the piriformis fascia — enabling pelvic inflammatory/adhesive processes to track along these planes to produce piriformis irritation and secondary sciatic compression. This is the precise anatomical substrate for the Pakwashaya-Gridhrasi connection described by Charaka.<sup>[1,32]</sup>

## CHAPTER 6: MARMA STHANAS RELEVANT TO GRIDHRASI — PROFILES

Sushruta classifies the 107 Marma points into five

types: Mamsa (muscular), Sira (vascular), Snayu (ligamentous/neural), Asthi (osseous), and Sandhi (articular) Marmas.<sup>[2]</sup> Nine Marma Sthanas from the lumbosacral junction to the plantar foot constitute the Gridhrasi Marma Protocol.

**Nitamba Marma:** Lad and Durve provide the most direct textual validation: 'Stimulation of Nitamba Marma releases the piriformis muscle, which when in spasm, compresses the sciatic nerve producing the classic symptoms of sciatica.'<sup>[10]</sup> Ranade describes thumb ischemic compression technique at Nitamba as the valid Ayurvedic clinical intervention for piriformis syndrome.<sup>[11]</sup> Bhatt's cadaveric documentation confirms overlying structures as the inferior border of piriformis, superior gemellus, and sciatic nerve trunk at the subpiriform canal.<sup>[12]</sup>

**Kukundara Marma:** Lad and Durve: 'Kukundara is the seat of Apana Vayu, and its stimulation directly influences the downward flow of Prana through the lower body, pelvis, and lower extremities.'<sup>[10]</sup> Stimulation simultaneously normalizes bowel function (Pakwashaya) and sciatic nerve territory.

| Marma          | Type   | Anatomical Station                                 | Vata Regulated  | Role in Gridhrasi                                    | TCM Equiv.     |
|----------------|--------|----------------------------------------------------|-----------------|------------------------------------------------------|----------------|
| Kukundara      | Snayu  | PSIS / posterior SIJ / L4-S1 root zone             | Apana Vayu      | Nerve root & bowel regulation                        | BL-27/28, GV-4 |
| Nitamba        | Sandhi | Deep gluteal / piriformis / greater sciatic notch  | Apana Vayu      | Piriformis release; sciatic decompression            | BL-54          |
| Katikatarunam  | Snayu  | Iliac crest-trochanteric junction / ITB            | Vyana Vayu      | Hip joint dysfunction; L5 radiculopathy              | GB-30          |
| Lohitaksha     | Sira   | Femoral triangle / inguinal region                 | Vyana / Apana   | Anterior hip flexor tone; iliopsoas tension          | ST-31          |
| Urvi           | Mamsa  | Mid-posterior thigh / sciatic nerve trunk          | Vyana Vayu      | Posterior thigh nerve conduction; hamstring release  | BL-37          |
| Janu           | Sandhi | Popliteal fossa / knee joint / sciatic bifurcation | Shleshaka Kapha | Sciatic bifurcation zone; knee joint Vata            | BL-40          |
| Indrabasti     | Mamsa  | Mid-calf / gastrocnemius / S1-S2 zone              | Vyana Vayu      | Calf pain; gastrocnemius spasm; S1 assessment        | BL-57          |
| Kshipra (foot) | Snayu  | 1st-2nd metatarsal dorsum / deep peroneal nerve    | Prana Vayu      | L5 foot symptoms; peroneal nerve terminus; foot drop | LR-3           |
| Talhridaya     | Mamsa  | Plantar centre / tibial nerve terminals            | Prana / Apana   | Plantar pain; S1-S2 neuropathy; Prana grounding      | KI-1           |

## CHAPTER 7: MARMA CHIKITSA — TECHNICAL PROCEDURES AND COMPLETE PROTOCOL

### 7.1 Poorvakarma (Pre-procedural Preparation)

Prior to Marma Chikitsa: (1) **Snehana** — Abhyanga with Mahanaryana Taila/Ksheerabala Taila/Dhanwantaram Taila over lumbar, gluteal, and lower limb regions (20-30 minutes).<sup>[7]</sup> (2)

**Swedana** — Nadi Sweda or Patrapinda Sweda to the lumbogluteal region (15-20 minutes).<sup>[3]</sup> (3) Pre-procedure baseline: SLR test, FAIR test, pain VAS score, neurological examination.<sup>[22]</sup>

### 7.2 Therapeutic Modalities

**Sparsha Chikitsa:** Gentle feather-light contact at Marma points activates superficial Prana flow and stimulates endogenous opioid release. Gentle Sparsha at Nitamba and Kukundara precedes all deeper work.<sup>[10]</sup>

**Mardana (Deep Pressure):** Apply digital pressure perpendicular to tissue plane, gradually increase to 3-5 kg/cm<sup>2</sup> — tolerable aching sensation (Vedana) without sharp pain. Hold 30-60 seconds; release; repeat 3-5 cycles per point. At Nitamba — anterosuperiorly toward piriformis origin on sacrum; at Kukundara — medially and caudally toward posterior SIJ.<sup>[10]</sup>

**Marma Abhyanga:** Point-specific deep circular massage at Kukundara, Nitamba, Katikatarunam — 3-5 minutes each, followed by effleurage strokes from Kukundara to Talhridaya (Srotoanulomana — restoring Anuloma Vata flow through all nine stations).<sup>[7]</sup> Duration: 30-45 minutes.

**Agni Karma (Thermal Therapy):** Sushruta describes Agni Karma in Sutrasthana Chapter 12 as the most potent (Apunarbhava) modality for Snayu and Asthi diseases.<sup>[2]</sup> Donga et al. (2017) demonstrated Bindu Agni Karma at Kukundara and Nitamba in 40 Gridhrasi patients produced 76% pain relief on VAS (7.8 to 1.9), outperforming Diclofenac-Thiocolchicoside control (60% relief) with superior durability at 3-month follow-up.<sup>[23]</sup>

### 7.4 Treatment Duration and Frequency

| Phase                  | Duration   | Frequency                         | Primary Intervention                                                  |
|------------------------|------------|-----------------------------------|-----------------------------------------------------------------------|
| Acute (<4 weeks)       | 14-21 days | Daily                             | Marma Mardana + Abhyanga + Sweda + oral medication                    |
| Sub-acute (4-12 weeks) | 21-30 days | Daily x14, then alternate days    | Marma Mardana + Kati Basti + Basti Chikitsa                           |
| Chronic (>3 months)    | 42-60 days | Alternate days, then twice weekly | Agni Karma + Marma Mardana + Full Panchakarma                         |
| Maintenance            | Monthly    | Weekly self-practice              | Self-Abhyanga + Talhridaya/Kshipra self-stimulation; Pathya adherence |

### 7.3 Complete Step-by-Step Protocol for Gridhrasi

**Step 1 — Assessment and Staging:** Full Nadi Pariksha, Ashtasthana Pariksha, neurological examination (motor, sensory, reflex by root level), SLR, FAIR, Pace, Beatty, and Valsalva tests. Score pain on VAS. Map tender Marma stations. Assess bowel function for Pakwashaya involvement. Assign disease stage (I-IV).<sup>[1,22]</sup>

**Step 2 — Poorvakarma (Days 1-3):** Abhyanga with Mahanaryana Taila 20-30 min; Nadi Sweda 15-20 min; oral Rasnasaptaka Kashaya + Yogaraja Guggulu twice daily. If constipation: Eranda Taila 10 - 15 ml with warm milk at bedtime.<sup>[7,8]</sup>

**Step 3 — Primary Marma Chikitsa (Days 4-14):** Warm oil (Ksheerabala Taila, 45-50°C). Sequence:

(a) Kukundara bilateral Mardana 45 sec × 3 cycles; (b) Nitamba deep circular thumb pressure anterosuperiorly 60 sec × 3-5 cycles (most important step); (c) Katikatarunam 45 sec × 3 cycles; (d) Effleurage Nitamba to Urvi; (e-h) Mardana at Urvi, Janu, Indrabasti, Kshipra, Talhridaya; (i) Retrograde effleurage foot to gluteal region for venous/lymphatic drainage.<sup>[10,22]</sup>

**Step 4 — Paschat Karma:** Patient rests prone 15-20 minutes post-procedure. Light Patrapinda Sweda to lumbogluteal region if pain severe. Oral medication: Vatavidhwamsana Rasa / Rasnadi Kashaya / Brihat Vata Chintamani Rasa for Stage III-IV. Detailed Pathya advice.<sup>[3]</sup>

**Step 5 — Basti Integration (from Day 7):** Yoga Basti (Dashamula Kwatha-based, 15-day course) for intestinal involvement — simultaneously addresses Pakwashaya Vata via the colonic route and Snayu Vata via absorbed medicated oils.<sup>[28,29]</sup> Agni Karma at Nitamba and Kukundara for chronic refractory cases after 14 days without adequate response.<sup>[23]</sup>

## CHAPTER 8: MECHANISMS OF ACTION OF MARMA CHIKITSA

**Vata Anulomana:** Marma therapy at Kukundara and Nitamba re-establishes Anuloma Gati in the lumbogluteal Srotas. Apana Vayu normalization through Marma therapy simultaneously regulates Pakwashaya function — explaining why Marma Chikitsa and Basti Chikitsa are synergistic.<sup>[1,29]</sup>

**MTrP Deactivation:** Deep sustained pressure at Nitamba Marma deactivates myofascial trigger points in the piriformis by producing local ischemia/reactive hyperemia, mechanically disrupting sarcomere contraction knots, and stimulating endorphin/enkephalin release.<sup>[24]</sup>

**Gate Control and DNIC:** Marma Mardana activates mechanoreceptors that inhibit nociceptive C-fiber signals from the compressed sciatic nerve through the Gate Control Mechanism (Melzack and Wall, 1965)<sup>[24]</sup>

and Diffuse Noxious Inhibitory Control (DNIC) supraspinal analgesia.<sup>[25]</sup>

**Transdermal Pharmacology:** Marma Abhyanga delivers bioactive phytochemicals transdermally — sesamin and withanolides reduce TNF-alpha, IL-6, IL-1beta; withanolides promote nerve growth factor synthesis; camphor and borneol produce piriformis muscle relaxation via TRPV1 channel modulation.<sup>[21]</sup>

**Vasa Nervorum Improvement:** Mardana stimulates the perineural vascular plexus, restoring the blood-nerve barrier and reducing endoneurial edema. Nitamba Marma therapy modulates sacral parasympathetic tone, reducing viscerosomatic reflex sensitization from intestinal pathology to the lumbosacral plexus.<sup>[26,32]</sup>

| Marma Chikitsa Mechanism                           | Biomedical Equivalent                                       | Evidence Level                       |
|----------------------------------------------------|-------------------------------------------------------------|--------------------------------------|
| Vata Anulomana at Nitamba / Kukundara              | MTrP deactivation; piriformis muscle relaxation             | Level B (multiple clinical studies)  |
| Apana Vayu normalization via Marma + Basti synergy | Viscero-somatic reflex reduction via bowel regulation       | Level B (Ayurvedic clinical studies) |
| Srotoshodhana along sciatic pathway                | Vasa nervorum improvement; perineural circulation           | Level C (anatomical/physiological)   |
| Prana Purana at Kshipra / Talhridaya               | Distal nerve stimulation; DNIC activation                   | Level B (acupuncture RCT data)       |
| Agni Karma at Marma                                | Thermal nociceptor desensitization; TRPV1 downregulation    | Level C (pre-clinical)               |
| Taila-mediated Marma Abhyanga                      | Transdermal anti-inflammatory pharmacology                  | Level B (pharmacological studies)    |
| Mardana → GTO autogenic inhibition                 | Golgi tendon organ activation → piriformis spasm inhibition | Level A (physiotherapy studies)      |

## CHAPTER 9: MARMA CHIKITSA — TCM COMPARISON

Lad and Durve comment: "The Bladder meridian in TCM follows almost exactly the course of the sciatic nerve and corresponds precisely to the chain of Marma points described by Sushruta for lower limb

Vatavyadhi.<sup>[10]</sup> Zhang et al. (2020) meta-analysis (n=1,842, 22 RCTs) showed acupuncture produced significant sciatica pain reduction (SMD -0.91, 95% CI -1.12 to -0.70) with strongest evidence for BL-40 (Janu), BL-54 (Nitamba), and GB-30 (Katikatarunam).<sup>[20]</sup>

| Marma Point      | TCM Acupoint      | Location                          | Indication in Sciatica                               | Meridian                  |
|------------------|-------------------|-----------------------------------|------------------------------------------------------|---------------------------|
| Kukundara        | BL-27/28, GV-4    | Sacrum / lumbar spine             | Lumbar disc disease; SIJ pain; Apana Vayu regulation | Bladder / Governor Vessel |
| Nitamba          | BL-54 (Zhibian)   | Deep gluteal / piriformis         | Piriformis syndrome; deep gluteal sciatica           | Bladder meridian          |
| Katikatarunam    | GB-30 (Huantiao)  | Greater trochanter area           | Hip pain; lateral sciatica (L5 distribution)         | Gallbladder meridian      |
| Lohitaksha       | ST-31 (Biguan)    | Femoral triangle / anterior thigh | Anterior thigh pain; femoral nerve territory         | Stomach meridian          |
| Urvi             | BL-37 (Yinmen)    | Mid-posterior thigh               | Posterior thigh sciatica; hamstring tension          | Bladder meridian          |
| Janu             | BL-40 (Weizhong)  | Popliteal fossa                   | Sciatica; knee pain; lumbar pain                     | Bladder meridian          |
| Indrabasti (leg) | BL-57 (Chengshan) | Mid-calf / gastrocnemius          | Calf cramps; S1 root sciatica                        | Bladder meridian          |

|                   |                 |                           |                                             |                 |
|-------------------|-----------------|---------------------------|---------------------------------------------|-----------------|
| Kshipra (foot)    | LR-3 (Taichong) | 1st-2nd metatarsal dorsum | Foot drop; L4-L5 sciatica; dorsal foot pain | Liver meridian  |
| Talhridaya (foot) | KI-1 (Yongquan) | Plantar centre            | Plantar pain; S1-S2 sciatica; neuropathy    | Kidney meridian |

## CHAPTER 10: CLINICAL EVIDENCE — MARMA CHIKITSA IN GRIDHRASI MANAGEMENT

### 10.1 Ayurvedic Clinical Studies

| Study / Institution                              | Intervention                                                                        | n       | Key Outcome                                                                    | Sig.    |
|--------------------------------------------------|-------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------|---------|
| Sharma et al., NIA Jaipur (2018)                 | Nitamba + Kukundara Mardana (Ksheerabala Taila) vs. oral Rasnasaptaka Kashaya alone | 30 each | Marma group: 68% VAS reduction vs. 42% oral-only                               | p<0.01  |
| Patil, Kempwad, Emmi et al., DGMAMC Gadag (2021) | Marma Abhyanga (Mahanaryana Taila) + Agni Karma at Nitamba, chronic Gridhrasi       | 40      | SLR: 28→65 deg; VAS: 8.2→2.4 after 21 days                                     | p<0.001 |
| Joshi et al., Gujarat Ayurved Univ. (2019)       | Kati Basti + Marma Mardana vs. Kati Basti alone                                     | 60      | Combination therapy: superior NCV improvement; 40% better ODI outcome          | p<0.05  |
| Nagarkar et al., IPGT&RA (2020)                  | Basti Chikitsa + Marma Therapy for Vatakapahaja Gridhrasi                           | 35      | 73% relief in Stabdha and Sthaimitya; muscle wasting arrested in 80%           | p<0.001 |
| Donga et al., IPGT&RA (2017)                     | Bindu Agni Karma with Shalaka at Kukundara and Nitamba                              | 40      | VAS: 7.8→1.9 (76% relief); superior to Diclofenac-Thiocolchicoside at 3 months | p<0.001 |

### 10.2 Safety and Contraindications

| Condition                                       | Contraindicated Procedure                    | Reason                                                    |
|-------------------------------------------------|----------------------------------------------|-----------------------------------------------------------|
| Acute disc herniation with neurological deficit | Deep Mardana at Kukundara / Nitamba          | Risk of nerve root irritation and symptom exacerbation    |
| Piriformis abscess or infection                 | Any local Marma therapy                      | Risk of spreading infection into subpiriform canal        |
| Cauda equina syndrome                           | All Marma therapy — REFER URGENTLY           | Surgical emergency; no delay in intervention              |
| Pregnancy (1st and 3rd trimester)               | Kukundara and Nitamba Mardana                | Risk of uterine stimulation through Apana Vayu activation |
| Pitta Prakriti in acute inflammatory phase      | Agni Karma                                   | Risk of burns and Pitta aggravation                       |
| Colorectal / pelvic malignancy                  | All Marma therapy without oncology clearance | May mask progressive neurological deficit                 |

## CHAPTER 11: GRIDHRASI AND MARMA CHIKITSA IN CLASSICAL TEXTS

### 11.1 Madhava Nidana (Chapter 22)

Madhavacharya (9th century CE) provides the most clinically detailed description, clearly distinguishing Vataja from Vatakapahaja varieties.<sup>[5]</sup> The Madhukosha commentary by Vijayarakshita and Shrikanthadatta adds anatomical detail noting Katipradesha Snayu involvement:

स्फिगूरुजानुजङ्घायाः स्तब्धक्षेपोऽथ वेदना। कफानुबन्धे गुरुता स्तैमित्यमपि जायते॥

*Sphig-ūru-jānu-jamghāyāḥ stabdhākṣepo'tha vedanā | Kaphānubandhe gurutā staimityam api jāyate || — Stiffness, spasms, and pain in gluteal, thigh, knee, and calf; when Kapha is additionally involved: heaviness and persistent rigidity. (Madhava Nidana 22.11)<sup>[5]</sup>*

### 11.2 Other Classical Texts

**Bhavaprakasha** (Madhyama Khanda, Ch.24) discusses Gridhrasi within Vatavyadhi chapter, adding

Eranda (*Ricinus communis*) as a universal Vata pacifier, specific Basti formulations, Agni Karma, and Siravedha (therapeutic bloodletting) for refractory cases.<sup>[6]</sup>

**Yoga Ratnakara** designates Taila Mardana (oil massage with pressure) at the Katipradesha as the primary initial treatment for Gridhrasi before internal medication.<sup>[9]</sup>

**Chakradatta** mentions Abhyanga Marma Sthanesu (massage at Marma sites) as preparation before oral medication in Vatavyadhi; the Rasnasaptaka Kashaya and Dashamula Taila Abhyanga are intended for use with external Marma therapies.<sup>[8]</sup>

**Sharangadhara Samhita** provides the classical pharmacopoeial basis for Marma Chikitsa oils: Ksheerabala Taila, Mahanaryana Taila, Sahacharadi Taila, and Bala Taila — specifically formulated for Vatavyadhi and Snayu conditions.<sup>[7]</sup>

**Ranade** provides the first systematic description of the Gridhrasi Marma Protocol.<sup>[11]</sup> **Mishra** provides cadaveric identification of Kukundara (posterior SIJ capsule and iliolumbar ligament) and Nitamba (inferior piriformis border and sciatic nerve at subpiriform canal).<sup>[13]</sup> **Bhatt (CCRAS)** validates locations cadaverically, with a case series showing 72% VAS reduction over 21 days.<sup>[12]</sup>

## CHAPTER 12: DISCUSSION, RESEARCH GAPS, AND FUTURE DIRECTIONS

**Gridhrasi-Piriformis Nexus:** Vatakaphaja Gridhrasi — with Sthaimitya, Gaurava, and Gridhravat Gati — maps precisely to Piriformis Syndrome where piriformis fibrosis compresses the sciatic nerve in the subpiriform canal.

**Intestinal-Neural Axis:** The classical Pakwashaya-Gridhrasi concept has robust biomedical correlates in viscerosomatic reflex pathways. Basti Chikitsa simultaneously addresses both intestinal and neural Vata — a uniquely integrative treatment paradigm.

**TCM Convergence:** Near-complete topographical correspondence between the Gridhrasi Marma protocol and the TCM Bladder meridian validates the classical protocol through convergent empirical discovery.

### 12.1 Identified Research Gaps

(1) No high-quality RCT specifically evaluates Marma Chikitsa as a standalone intervention for Gridhrasi — most studies have n<40 and short follow-up. (2) No study has specifically targeted piriformis syndrome with Marma Chikitsa. (3) No Ayurvedic trial has included intestinal pathology as a measurable co-variable. (4) No fMRI/PET neuroimaging study has examined central neural correlates of Marma Chikitsa at gluteal Marma points. (5) Optimal pressure, direction, and depth at Nitamba and Kukundara remain incompletely characterized cadaverically.

### 12.2 Proposed Research Framework

**Proposed RCT:** Efficacy of Nitamba-Kukundara Marma Protocol with Integrated Basti Chikitsa in Piriformis Syndrome. Design: parallel-group RCT, allocation concealment, assessor-blinded, 3-month follow-up. Intervention: Marma Chikitsa (Nitamba + Kukundara + Katikatarunam Mardana with Ksheerabala Taila, 14 days) + Yoga Basti (Dashamula Kwatha-based, 15-day course). Primary Outcome: pain VAS at 14 days and 3 months. Secondary Outcomes: SLR angle, FAIR test score, piriformis cross-sectional area on ultrasound, ODI, bowel function score (Rome III criteria), WHOQOL-BREF. Biomarkers: Serum TNF-alpha, IL-6, cortisol at baseline, Day 14, and Month 3.

## CHAPTER 13: CONCLUSION

This literature review demonstrates that Marma

Chikitsa constitutes a clinically sophisticated, anatomically grounded, and scientifically plausible therapeutic system for Gridhrasi (Sciatica) management. The classical descriptions — from Sushruta's foundational taxonomy<sup>[2]</sup> to Vagbhata's symptom refinements<sup>[3]</sup> and Madhavacharya's clinical nuances<sup>[5]</sup> — delineate a multidimensional understanding of neuromusculoskeletal sciatic nerve distribution pathology. The Pakwashaya-origin concept of Charaka<sup>[1]</sup> anticipates modern viscerosomatic reflex science: intestinal pathology — constipation,<sup>[32,33]</sup> IBS,<sup>[34]</sup> IBD,<sup>[35]</sup> pelvic adhesions<sup>[36]</sup> — can directly produce or perpetuate sciatica through fascial continuity and lumbosacral plexus sensitization.

The nine Gridhrasi Marma Sthanas — Kukundara, Nitamba, Katikatarunam, Lohitaksha, Urvi, Janu, Indrabasti, Kshipra, and Talhridaya<sup>[10,13]</sup> — constitute an anatomically coherent therapeutic sequence addressing: nerve root compression (Kukundara),<sup>[2]</sup> piriformis spasm (Nitamba),<sup>[10]</sup> hip joint dysfunction (Katikatarunam), posterior thigh/popliteal involvement (Urvi, Janu),<sup>[2]</sup> calf/foot neurology (Indrabasti, Kshipra, Talhridaya),<sup>[13]</sup> and intestinal Vata dysregulation through synergistic Basti Chikitsa.<sup>[29]</sup> Rigorous RCTs with bowel function assessment as a co-variable and NCISM-aligned institutional protocols are urgently needed.

वातः प्राणो बलं तेजो धातूनां च प्रवर्तकः। मर्मस्व स्थित एव च सर्वं धारयते तनुम्॥

*Vātaḥ prāṇo balaṃ tejo dhātūnāṃ ca pravartakah | Marmasv eva ca sthita evaṃ sarvaṃ dhārayate tanum || — Vata is Prana, strength, and vitality — the activator of all Dhatus. Residing in the Marmas, it sustains the entire body. (Charaka Samhita, Sutrasthana 12.8)<sup>[1]</sup>*

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