

## Clinical evaluation of Kati basti and Shaman chikitsa in the Management of Lumbo-sciatic syndrome (Gridhrasi)

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**Abstract-** Gridhrasi or Lumbo-sciatic syndrome (LSS) is well described in Ayurveda as Vata Nanatmaja disorder. Presently it is a very common problem comes for treatment in a routine clinic of a physician or Orthopedic surgeon. Young persons especially prone because of fast riding vehicles, uneven roads, long and faulty sitting as well as due to wrong weight lifting activities during gym exercises. The most common cause is inter-vertebral disc bulge, prolapse or herniation in order of severity, usually at L4-L5 and L5-S1 level and nerve compression. The patient of Gridhrasi has typically presented with pain radiating from low back to hip, to back of thigh, leg and ankle with tingling and numbness. Patient is unable to move for a long distance and his drive typically resembles to gait of a vulture. Contemporary medical treatments provide only a limited relief to the patients and many patients are either bed bound or lives with pain and discomfort in everyday life. Acharya Sushruta describes its treatment in Bhagha chapter and advises for use of Acchana (Traction-counter traction) and Sneha Basti (Oil pooling/ enema) to treat these disorders along with (Shamana chikitsa) subsidizing drugs. This clinical trial brings an objective assessment of the clinical improvement in LSS with Panchakarma therapy (Kati basti) and oral medication.

**Key words** – Kati basti, Gridhrasi, Lumbo sciatic syndrome, Sanjeevani vati, Balarista

### Introduction-

Ayurveda is an ancient wisdom from the sages and its recommendations are still applicable in various clinical conditions where modern medical treatments are not very helpful. Ayurveda has described concepts of disease creation and management in a very concise way, and advises the physicians to use his intellect wisely to treat the ailment completely. Acharya Charak also supports this view and has suggested that there is no limitation of drugs and treatment methodology; He found nothing in his surroundings which could not be used as a drug.

Lumbo-sciatic syndrome (LSS) is a disease of low back area and primarily has pain, usually on one side, is felt in the lumbar spine, thighs and buttocks and may radiate to the ankles or toes. The majority of studies report a lifetime incidence of sciatica between 10% to 40%, with peak incidence occurring in the fourth decade. Sciatica is a sharp, shooting or burning pain in the thigh, calf, or foot that could go numb, or could feel weakness or tingling in those areas. The pain can intensify by sneezing or by a sudden body movement such as reaching for something. Anything that causes narrowing of the spinal canal (known as spinal stenosis) has the potential to compress nerve roots and cause sciatica, along with the associated lumbago. The most common causes of sciatica is a bulging or herniated disc (usually at the L4-5 region), Bone spurs, Spondylolisthesis, Spinal tumors and Lumbar or

pelvic muscle spasm. Treatment includes Rest for the lumbar spine by modulated plastic jacket or well fitted brace, Continuous or intermittent traction on the legs or pelvis, Intradiscal injection of Chymopapain, Judicious use of NSAID's and Operative treatment.

According to Ayurveda, Sandhis (joints) are of two types one is Chal (mobile-diarthrosis) and another is Achal (immobile-synarthrosis); sandhi situated in the extremities, jaw and low back are mobile while rest others are immobile in nature. There are 210 Sandhis (articulations) found in the human body; of which 3 sandhis are found in Kapala or flat bones of Kati (waist hence pelvis); 24 in the vertebral column, and 8 in the Griva (neck). The joints between the Kati kapalas (waist) are tunnasevani (suture type); while joints between the Prishtha (vertebral column) are pratar (gliding) in nature. Gridhrasi is a disease of Low back area primarily Vata predominant and having characteristic radiating pain in lower limb along with difficulty in movement typically look like vulture movement. Vata either alone or associated with Kapha produces Grdhrasi, characterized by stiffness and severe pain starting in the lumbar region moving downwards through thighs, knees, calves and feet. Rigidity and throbbing are also experienced intermittently if due only to Vata and if due to association with Kapha, stupor, heaviness in body and anorexia are experienced. By some scholars there are pricking pain, irregular shape of the body parts, throbbing, and severe stiffness of knee and waist are profound if Vata is affected alone in Grdhrasi but if with Kapha, there will be poor digestive ability, stupor, salivation and aversion to food are profound. Management begins with Nidan parivarjan, shodhan and shaman chikitsa; which includes manipulation of the joint along with Basti chikitsa. Acharya Susruta clearly indicates the use of Traction and counter traction to fix the joint displacement and application of Basti measures (anorectal Basti and/or external basti).

Contemporary medical system also advises the use of mechanical traction in the cases of Lumbo-sciatic syndrome but Ayurveda in addition have applied the unique concept of Basti therapy/ Kati basti to obtain better results. So, a clinical trial on Kati basti with Sahacharadi oil and Shaman chikitsa (Sanjeevani vati and Balarishta) as oral medication was applied on 30 patients of LSS patients to evaluate the improvement.

### Material and methods-

The study was performed in the Department of Panchakarma, Sir Sundarlal hospital, IMS, BHU, Varanasi. Thirty patients of Lumbo-sciatic syndrome between the age group of 30 to 60 years were selected from the OPD and IPD of Panchakarma department; Rheumatoid Arthritis, traumatic arthritis and Ankylosing spondylitis were excluded from the study. Any major illness and severely ill patients were also excluded. **Inclusion criteria-**

- Male/ Female patients, Age between 30 to 60 years
- The patients having pain with radiation to one or both legs and stiffness as main features with or without radiological changes were registered.
- Restricted movement of low back

### Exclusion criteria-

- Age less than 30 and more than 60 years

- History of severe trauma/ Road traffic accidents
- Patients of Rheumatoid arthritis/ Gouty arthritis/ Ankylosing spondylitis were excluded
- Severe comorbid illness like DM-II, Paralysis were excluded

Diagnostic and assessment criteria were mainly clinical. Pain, stiffness, radiation of pain in legs, restriction of movements, visual analogue score for pain and a positive SLR were the clinical points assessed. The gradation of symptoms was as following

#### Gradation of pain score-

- |   |   |                                                                       |
|---|---|-----------------------------------------------------------------------|
| 0 | - | Nil, no pain in the joints                                            |
| 1 | - | Mild pain, pain complained but tolerable                              |
| 2 | - | Moderate pain, pain complained and disturbs the routine work schedule |
| 3 | - | Severe pain, pain completely interrupting the routine activities      |

#### Stiffness in back and leg/ legs-

- |   |   |                                                  |
|---|---|--------------------------------------------------|
| 0 | - | Nil                                              |
| 1 | - | Mild, stiffness mildly disturbs activity         |
| 2 | - | Moderate, stiffness moderately disturbs activity |
| 3 | - | Severe, stiffness severely disturbs activity     |

#### Restriction of movement-

- |   |   |                                 |
|---|---|---------------------------------|
| 0 | - | Absence of movement restriction |
| 1 | - | 10% restriction of movement     |
| 2 | - | 25% restriction of movement.    |
| 3 | - | > 50% restrictions of movement. |

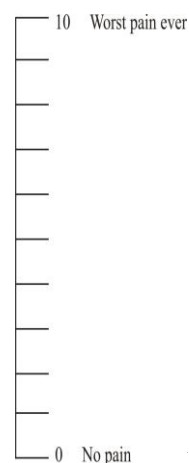
#### Straight leg raising test of affected leg/ legs (separate for right and left)–

- |   |   |                                                      |
|---|---|------------------------------------------------------|
| 0 | - | No pain and hip flexed without discomforts up to 90° |
| 1 | - | Slight pain and discomfort between 30 to 70°         |
| 2 | - | Moderate pain and discomfort between 30 to 70°       |
| 3 | - | Severe pain and discomfort between 30 to 70°         |

#### Visual analogue scale (VAS)-

It is the easiest way to measure the intensity of pain and can be analyzed quickly. It provides simple efficient and minimally intrusive measures of pain intensity.

The most common VAS consists of a 10 cm horizontal (Huskisson 1983) or vertical (Sriwatanakul et.al., 1983) line with the two end points labeled "no pain and worst pain ever". The patient is required to place a



mark on the 10 cm line at a point which corresponds to the level of pain intensity he or she presently feels. The distance in centimeters from the lower end of the VAS to the patient's mark is used as a numerical index of the severity of the pain. In the present study vertical plane of VAS was used.

### **Straight Leg Raising test (SLR)-**

The SLR test has been carried out in following manner

- The patient lies on their back (supine) with their legs extended
- The examiner slowly raises the patients leg keeping the knee straight
- The patient reports when they feel pain or discomfort and the angle of hip flexion is noted with the help of Goniometer
- A positive test occurs when the patient experiences pain radiating down the leg, typically between 30 and 70 degrees of hip flexion, suggesting nerve root irritation

### **Standard Operative Procedure of Kati Basti (SOP)-**

The trial Ayurvedic drugs given to all the selected patients for 14 days with one follow up at 07 days and Kati basti was given only for first seven days. The Kati basti was given with warm Sahacharadi oil, made as per Ashtanga Hridaya and procured from local ayurveda pharmacy. The patient was allowed to wear loose dress and ask to lay down in prone position on the floor of the Droni (therapy table), felt the area of maximum illness and cleaned it then made a pool with the help of steel brace and freshly prepared dough of Masha (Green gram). After proper fitting of brace the pit was filled with lukewarm Sahacharadi oil of 42-50°C with a continuous swinging and gentle stream up to two pores of therapist's finger. Gradually as the filled oil gets cool half of it was removed by spatula and refilled by fresh lukewarm oil. This process is constantly performed for 30 to 45 minutes. On completion of the procedure the brace and dough were removed and the patient was advised to take Trayodashang guggulu 2-tab TDS (500 mg three times a day) after crushing before meal and Balarishta 3TSF BD (15 ml two times a day) mix with water after meal.

**TABLE NO -1, SHOWING THE DRUGS USED DURING THE TRIAL WITH DOSES, ANUPANA, DURATION AND FOLLOW UP**

| S No | Drug name        | Dose/ day                                  | Method                    | Duration | Follow up |
|------|------------------|--------------------------------------------|---------------------------|----------|-----------|
| 1    | Sahacharadi tail | 150 ml – 200 ml to be filled in Kati basti | Kati basti                | 07 days  | 07 days   |
| 2    | Sanjeevani vati  | 250 mg BD                                  | Before meal               | 14 days  | 07 days   |
| 3    | Balarishta       | 15 ml BD                                   | Mix with water after meal | 14 days  | 07 days   |

### **Observation-**

Total 30 patients were registered for the above clinical study but 4 patients have not turned up for complete follow up. Out of 30 patients 16 were male and 10 were female. The following table shows the statistical analysis of the symptoms concerned and their improvement after first follow up and after the completion of the treatment. The three major

complaints were Pain with radiation, stiffness and decreased range of motion. Most of the patients had already received NSAID (Non-steroidal anti-inflammatory drugs) in due course of time but got temporarily relief. (Table no.-2 & 3)

**TABLE NO -2, SHOWING STATISTICAL ANALYSIS OF SYMPTOMS, SLR AND VAS SCORE FOR PAIN**

| S. No. | Symptom                 | Score mean $\pm$ S.D.<br>(N= 26) |                 |                 | comparison<br>(paired 't' test)             |                                             |
|--------|-------------------------|----------------------------------|-----------------|-----------------|---------------------------------------------|---------------------------------------------|
|        |                         | BT                               | FU1             | AT              | BT-FU1                                      | BT-AT                                       |
| 1      | Pain                    | 2.38 $\pm$ 0.72                  | 1.74 $\pm$ 0.87 | 1.28 $\pm$ 0.72 | 0.54 $\pm$ 0.51<br>t = 5.58<br>p < 0.001    | 1.00 $\pm$ 0.61<br>t = 8.69<br>p < 0.001    |
| 2      | Stiffness               | 1.90 $\pm$ 0.72                  | 1.33 $\pm$ 0.70 | 0.96 $\pm$ 0.64 | 0.57 $\pm$ 0.50<br>t = 6.00<br>p < 0.001    | 0.94 $\pm$ 0.51<br>t = 10.05<br>p < 0.001   |
| 3      | Restriction of movement | 2.00 $\pm$ 0.68                  | 1.26 $\pm$ 0.59 | 1.11 $\pm$ 0.97 | 0.64 $\pm$ 0.50<br>t = 4.50<br>p < 0.001    | 0.89 $\pm$ 0.69<br>t = 8.55<br>p < 0.001    |
| 4      | SLR (R)                 | 1.82 $\pm$ 0.72                  | 1.68 $\pm$ 0.72 | 1.39 $\pm$ 0.63 | 0.14 $\pm$ 0.36<br>t = 2.12<br>p < 0.05     | 0.43 $\pm$ 0.50<br>t = 4.50<br>p < 0.001    |
| 5      | SLR (L)                 | 2.50 $\pm$ 0.32                  | 1.33 $\pm$ 0.70 | 1.10 $\pm$ 0.64 | 1.17 $\pm$ 0.50<br>t = 6.00<br>p < 0.001    | 1.40 $\pm$ 0.51<br>t = 10.05<br>p < 0.001   |
| 6      | VAS score for pain      | 6.82 $\pm$ 2.00                  | 4.16 $\pm$ 2.63 | 2.93 $\pm$ 2.18 | 2.643 $\pm$ 1.339<br>t = 10.45<br>p < 0.001 | 3.890 $\pm$ 1.343<br>t = 15.38<br>p < 0.001 |

BT =Before treatment; AT = After treatment; FU=Follow-up; S.D.= Standard deviation; N= number of patients; SLR = Straight leg raising test; VAS = Visual analogue scale

### Discussion-

The Asthi-Sandhi disorders are raising day by day due to faulty diet, life style and abnormal postures, which leads to pain and disability. The trial therapy and drugs assessed were used for the healing of affected low back joints, especially for the soothing effect on tissues involved in the formation of inter vertebral and lumbo sacral joints and affected nerves.

In Ayurveda the bone and joints both can be fractured and dislocated named as Bhagna, where primarily the bone gets fractured (Bhagna) and joints predominantly dislocated (Sandhi mukta). The Bhagna (Fracture) cases may be grouped under the two main subdivisions such as Sandhi mukta (dislocation of joints) and Kanda bhagna (fracture of a bone). Further the Sandhi mukta (dislocation) may be divided in to six different types; Utpishta (Fracture dislocation), Vishlishta (subluxation), Vivartita (lateral displacement), Avakshipta (downward displacement), Atikshipta (complicated dislocation) and Tiryakkshipta (complete dislocation). General features of a dislocation are incapability of extension and flexion movement, circumduction and rotation of the dislocated limb, which becomes extremely painful and cannot bear the least touch. During the description of

treatment methods Acharya Sushruta said that all joints, movable or immovable, in the body should be set to their normal position by these setting procedures like Achchan (Traction and counter traction), Pidana (Pressure), Sankshepa (Compression) and Bandhana (Bandaging). Moreover, the dislocation of the Kati sandhi should be treated by Achchan (traction) from above and below, along with Sneha Basti (Oily enema or Oil pooling of low back).

Total 30 patients were registered for the above clinical study but 4 patients have not turned up for complete follow up. Out of 30 patients 16 were male and 10 were female. Number of male patients are high probably due to hectic life style and bike riding on uneven roads in comparison to females. Mean change in each symptom has been analyzed separately and VAS for pain and SLR of each leg has been also performed. Pain ( $2.38 \pm 0.72$ ), stiffness ( $1.90 \pm 0.72$ ) and restriction of movements ( $2.00 \pm 0.68$ ) were the three major complaints, Visual analogue scale (VAS) for pain was also on the higher side ( $6.82 \pm 2.00$ ) at the start of the treatment. The SLR test on left leg ( $2.50 \pm 0.32$ ) was slightly higher than the right leg ( $1.82 \pm 0.72$ ). The pain was settled to  $1.74 \pm 0.87$  after first follow up and was  $1.28 \pm 0.72$  at the end of the trial. Similarly, restricted movement was  $2.00 \pm 0.68$  and reduced to  $1.26 \pm 0.59$  at FU1 and  $1.11 \pm 0.97$  at the end of trial. Stiffness was  $1.90 \pm 0.72$  at the beginning but was reduced to  $1.33 \pm 0.70$  and  $0.96 \pm 0.64$  respectively after the trial. The VAS score initially was  $6.82 \pm 2.00$  and reduced to  $4.16 \pm 2.63$  at FU1 and to  $2.93 \pm 2.18$  at the end. The SLR tests also reduced significantly at the end of trial. It is evident from the statistical data that almost 50 to 75% improvement is observed at the end of the trial. The 't' and 'P' value were also highly significant at the end of the trial. The combined therapy (Kati basti and Sanjeevani vati with Balarishta) exhibited moderate to high degree of clinical improvement in reduction of pain with radiation, stiffness, restriction of movement, VAS and SLR. So, the effect of combined therapy was evaluated moderate to high in reducing severity of disease and VAS pain score.

The probable mode of action of the Kati basti with Sahacharadi oil is that it may lubricates the exiting nerve roots give them nutrition, removes roughness over the joints and softens the bony spurs, repair the damaged cartilage, relaxes the muscles, ligaments and tendons and makes the movement easy and pain free. The disease subsidizing role has been also given by Sanjeevani vati and Blarishta, like Sanjeevani vati has Shuddha Vatsanabha and Shuddha Bhallataka as main ingredient having srotoshodhak effect, removes toxins from the body with the help of diuresis and sweat excretion, subside the pain and inflammation due to the effect of Guduchi, Sunthi, and Vacha. Triphala is having Rasayana property so it is a good repairing agent for damaged cartilage and relieves the spasm in muscles and ligaments of low back area. Balarishta is having the key medicine as Bala which is known for nervine tonic and having sroto shodhak effect.

### **Conclusion-**

Lumbo-sciatic syndrome (LSS) is a common problem of present cyber era, due to sedentary life style and riding over fast-moving vehicles with poor shockers and uneven roads, in Ayurveda we correlated it with Gridhrasi. Usually, the patient does not take it seriously until he became bed bound due to pain and restriction of movement. It is evident from the above discussion that Ayurveda advises the use of traction along with the application of oily Basti in these cases. The warm oily sudation releases the compression by

lubricating the nerve exit point and enriches the nervous tissue itself. The warm oils have anti inflammatory property in addition. The oral medicines Sanjeevani vati and Balarishta has soothing effect on the muscles of low back area and relaxes the ligaments and tendons. After evaluating the above exercise, it is concluded that the aforesaid disease entity is well described in Ayurveda and by using the classical treatment method the patient gets more benefited.

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