

## A CLINICAL STUDY TO EVALUATE THE EFFECT OF MARMA CHIKITSA IN THE MANAGEMENT OF GRIDHRASI

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### ABSTRACT

*Gridhrasi* is a *shoolapradhanavatavyadhi* characterized by pain radiating to *sphik, kati, uru, janu, jangha, pada* associated with *toda, spandana* and *stambha*. *Acharya Sushruta* has mentioned *siravyadha, mardhana, bandhana* and *agnikarma* in *snayu* and *sandhighatarogas* and in *Gridhrasichikitsa* specially mentioned *Agnikarma* for *kandara* which indirectly stimulates the nerves and there by relieving the symptoms. *Marmabhighata* is one of the reason for *Gridhrasi*, stimulation of *Marma* points will helps in relieving the symptoms. In *Susrhutasamhitha* there is no mentioning of technique of *Marmachikitsa* hence adapting *Varmachikitsa* explained in *Siddha* system of medicine and applying the same in *Marma* points explained by *Acharya Sushruta*. **Objectives:** To evaluate the efficacy of *Marmachikitsa* in the management of *Gridhrasi*. **Method:** Randomized comparative clinical study. 40 patients suffering with classical signs and symptoms of *Gridhrasi* of either sex were selected from OPD, MIAMS, Manipal and divided into two groups. **Group A-** (Study Group)-Treated with *Marmachikitsa* **Group B-** (Standard group)-Without *Marmachikitsa*. But in both the groups *Trayodashangaguggulu* was given as a concomitant oral medication. Duration of study - 14 days, including follow-ups. The data during the study recorded and analyzed statistically. **Results:** The outcome of treatment after 14 days were statistically significant based in criteria taken for study. **Interpretation & Conclusion:** The study confirms *Marmachikitsa* and *Trayodashangaguggulu* are effective in the treatment of *Gridhrasi*.

**Keywords:** *Gridhrasi, Ayurveda, Siddha* system of medicine, *Marma, Varma*

### INTRODUCTION

A Physician should have clear theoretical knowledge with practical experience. Knowledge of normal anatomy and physiology of the body is important to understand the pathology of a disease and to plan the management. *Sharirasthana* present in different *samhitas* mainly describes the normal anatomy of the body<sup>1</sup>

Understanding of the body according to *Ayurveda* is different from the modern anatomy. *Ayurveda* explains many vital points of anatomical and physiological significance. These points are called *Marma*.<sup>2</sup> *Marma* is a vital point where *prana* or vital energy is located. *Prana* circulates throughout the body and these *Marma* acts as junctions where *prana*

is specially seated. Any injury to the *Marmasthana* results in disturbance in the flow of *prana* leading to the manifestation of the disease. Injury to the *Marmasthanais* of two types external (*bahya*) and internal (*abhyantara*)<sup>3</sup>. *Bahya* injury is by direct trauma over these points where as *abhyantara* is due to vitiated *doshas*. Injury to these *Marma* points is called as *Marmabhighata*, it is one of the cause for *vatavyadhi*. Injury to these *Marma* points leads to *vataprapakopa* and manifests as pain, swelling, loss of functions and sometimes even death.

First line of management of *Marmabhighata* is to protect or correct the *Marma* and bring the flow of *prana* to normalcy. This is achieved by externally manipulating the *Marmapoints*. *Acharya Sushruta* also explained *Marmachikitsa* for *Marmabhighata*, hence *Marmabhighata* is one of the reason for *Gridhrasi*<sup>4</sup>. *Acharya Sushruta* has mentioned *siravyadha*, *mardhana*, *bandhana* and *agnikarma* in *snayu* and *sandhighatarogas* and in *Gridhrasichikitsa* specially mentioned *Agnikarma* for *kandarawhich* indirectly stimulate the nerves and there by relieving the symptoms.<sup>5</sup>

*Gridhrasi* is a *shoolapradhanavatavyadhi* characterized by pain radiating to *sphik*, *kati*, *uru*, *janu*, *jangha*, *pada* associated with *toda*, *spandana* and *stambha*.<sup>6</sup>

In *Sushrutasamhithashareera (anatomy)* of *Marma* has been explained, nothing has been mentioned of technique of *Marmachikitsa* hence adapting *Varmachikitsa* explained in Siddha system of medicine and applying the same in *Marma* points explained by *Acharya Sushruta*, because there is similarity between the *Marma* points in *Ayurveda* and *Varma* points explained in Siddha system of medicine.<sup>7</sup>

## METHODOLOGY

40 clinically diagnosed patients of *Gridhrasi* were selected randomly based on inclusion criteria. They were equally divided into two groups as Group A & Group B, 20 patients in each group. Group A: Treated with *Marmachikitsa*. Group B: Without *Marmachikitsa*. But in both the groups *Trayodashanga guggulu*<sup>8</sup> is given as a concomitant oral medication.

### Inclusion criteria:

- Patients between the age group of 20 to 60 years of either sex are selected.
- Patients suffering from signs and symptoms of *Gridhrasi*.

### Exclusion criteria:

- Any congenital anomalies of spine, Fracture of spine, neoplastic condition of spine, Tuberculosis of spine, Caudaequina syndrome and Entrapment neuropathy.
- Patients of uncontrolled DM, HTN.

### Diagnostic criteria:

The patient is diagnosed based on the following clinical features pain over *sphik*, *kati*, radiating to *prushtabhaga* of *uru*, *janu*, *jangha* and *pada*. Positive SLR test, signs and symptoms of sciatica i.e. pain radiating from back to any of the lower limbs with numbness, weakness, sensory and motor deficit depending on the site of lesion and confirmation by MRI scanning.

**INTERVENTION** – Following *Marma* points located on the low back region, lower limb and which can be accessed easily are selected for *Marmachikitsa*. Manipulation techniques are designed based on the size of the *Marma*, anatomy of *Marma* points and relative references from Siddha system of medicine.<sup>9</sup>

**Table No. 1:**

| <i>Marma</i>       | <i>Varma</i>            | Manipulation  |
|--------------------|-------------------------|---|
| <i>Kshipra</i>     | <i>ViruthiKaalam</i>    | By placing the first interphalangeal joint of the thumb on the <i>Kshipramarma</i> point by using ½ <i>maathirai</i> pressure, press and releasing three times.               |
| <i>Talahridaya</i> | <i>Ullangkaalvellai</i> | By placing the pulp part of the middle finger on <i>Talahridayamarma</i> , by using ½ <i>maathirai</i> pressure press and release three times.                                |
| <i>Kurcha</i>      | <i>Padangkaal</i>       | By placing the middle part of the middle three fingers on the <i>Kurchamarma</i> using ½ <i>maathirai</i> pressure, apply three clockwise and three anti clockwise rotations. |

|                     |                          |  |
|---------------------|--------------------------|--|
| <i>Kurchasira</i>   | <i>Kanpugaichal</i>      | By placing the pulp part of the middle three fingers two finger measurement above the outer ankle joint by using $\frac{1}{4}$ <i>maathirai</i> pressure, starting at two finger measurement above the outer ankle joint, drag along <i>Kurcha</i> till <i>Kurchasira</i> , repeat the same three times. On the third action apply 3 clockwise rotations and three anticlockwise rotations on <i>Kurchamarma</i> |
| <i>Gulpha</i>       | <i>Uppukkutri</i>        | By placing the pulp part of the thumb and middle finger on both the <i>Gulphamarma</i> point by using $\frac{1}{2}$ <i>mathirai</i> pressure three times traction by holding the tendocalcaneum downwards towards the heel.  |
| <i>Indrabasti</i>   | <i>Kuthikaal</i>         | By placing the pulp part of the middle three fingers, in a vertical position on the <i>Indrabasthimarma</i> point. Using $\frac{1}{2}$ <i>mathiarai</i> pressure, press and release, three times.  |
| <i>Urvi</i>         | <i>AamiKaalam</i>        | By placing the hypothenar part of the palm on the <i>Urvimarmapoint</i> , using $\frac{1}{2}$ <i>maathirai</i> pressure, apply three outward rotations and three inward rotations simultaneously on both the legs  |
| <i>Kukkundara</i>   | <i>IdampuriValampuri</i> | By placing the first interphalangeal joint of the left thumb on the <i>Kukkundaramarma</i> points, by using $\frac{1}{2}$ <i>mathirai</i> pressure, apply three outward rotations and three inward rotations   |
| <i>Katikataruna</i> | <i>Nanganpottu</i>       | By placing the hypothenar part of the palm on <i>Katikatarunamarma</i> , by using $\frac{1}{2}$ <i>maathirai</i> pressure, apply three inward and outward rotations, and then drag along the sides of the body to end below the gluteus  |
| <i>Nitambha</i>     |                          | Place the hypothenar part of the hand on the <i>Nitambhamarma</i> points using $\frac{1}{2}$ <i>maathirai</i> pressure. Lift upwards and relax 3 times   |

**\*Maathiraikanakku<sup>10</sup>**-is the method of touching the *Varmam* points by the Fingers. (One pulp of finger is divided into 4 stages)

- $\frac{1}{4}$ Maathirai (*unnal*)- If the *Varmam* points is touched either with 1<sup>st</sup> bone joint of the thumb or the side tip of the thumb.

- $\frac{1}{2}$  Maathirai(*oondral*)- Stimulated with  $\frac{1}{2}$  of this portion is used.
- $\frac{3}{4}$  Maathirai(*murukkal*)- Stimulated with  $\frac{3}{4}$  portion of this region.
- 1 *maathirai*(*viduthal*)- If stimulated with the soft pulp portion of the middle finger (from the tip of the middle finger to the 1<sup>st</sup> bone joint)

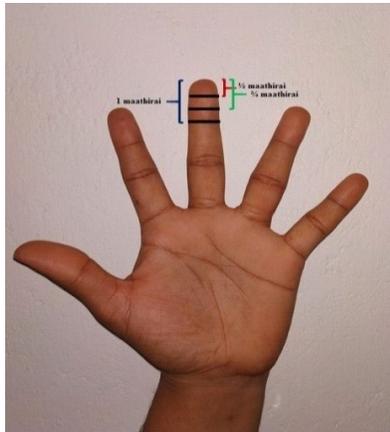


Fig No: 1

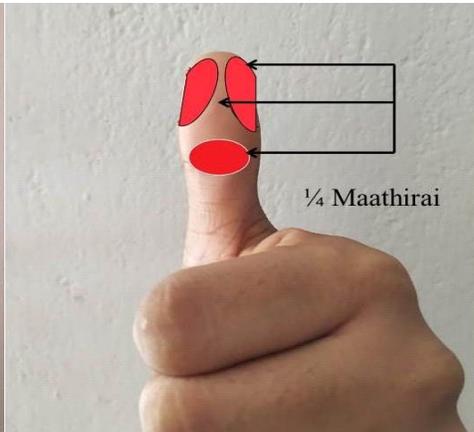


Fig No:2

**ASSESSMENT CRITERIA:**

A detailed proforma prepared for the assessment of subjective parameter and objective parameters.

**SUBJECTIVE PARAMETERS**

- *Ruja (Pain)*
- *Stambha (Stiffness)*
- *Spandana (Fasciculation)*

**OBJECTIVE PARAMETERS**

- Tenderness

- Muscle power
- S L R {straight leg raising test}
- Reflex(knee jerk)

**DURATION OF THE STUDY:** *Marmachikitsa* is done for 7days, follow-up is done on 14<sup>th</sup> day. The data during the study recorded and analyzed statistically

**STATISTICAL METHOD:**

The data collected is analyzed statistically for significance between the group and within group using Wilcoxon rank sum test and Mann-Whitney U test.

**Table No. 2:**

| Group A       | BT Mean |    |       | DIFF  | %     | Wilcoxon rank test |        |        |             |
|---------------|---------|----|-------|-------|-------|--------------------|--------|--------|-------------|
|               |         |    |       |       |       | SD                 | SEM    | P      | Significant |
| Pain          | 5.75    | AT | 2.80  | 2.950 | 51.3  | 1.191              | 0.266  | <0.001 | ES          |
|               |         | AF | 2.50  | 3.250 | 56.5  | 1.020              | 0.228  | <0.001 | ES          |
| Stiffness     | 2.100   | AT | 0.4   | 1.7   | 80.95 | 0.923              | 0.206  | <0.001 | ES          |
|               |         | AF | 0.450 | 1.650 | 78.57 | 0.988              | 0.221  | <0.001 | ES          |
| Fasciculation | 0.3     | AT | 0.15  | 0.15  | 50    | 0.365              | 0.082  | 0.083  | NS          |
|               |         | AF | 0.100 | 0.200 | 66.7  | 0.410              | 0.0918 | 0.042  | S           |
| Tenderness    | 2.1     | AT | 0.85  | 1.25  | 59.53 | 0.550              | 0.123  | <0.001 | ES          |
|               |         | AF | 0.65  | 1.45  | 69.05 | 0.510              | 0.114  | <0.001 | ES          |
| Muscle power  | 3.85    | AT | 4.5   | -0.65 | 16.9  | 0.587              | 0.131  | <0.001 | ES          |
|               |         | AF | 4.5   | -0.65 | 16.9  | 0.587              | 0.131  | <0.001 | ES          |
| Reflex        | 0.9     | AT | 0.55  | 0.35  | 38.9  | 0.489              | 0.109  | 0.016  | VS          |
|               |         | AF | 0.45  | 0.45  | 50    | 0.605              | 0.135  | 0.008  | VS          |
| SLR           | 2.55    | AT | 1.1   | 1.45  | 56.9  | 1.099              | 0.246  | <0.001 | ES          |
|               |         | AF | 0.40  | 2.15  | 84.4  | 0.933              | 0.209  | <0.001 | ES          |

**Table No. 3:**

| Group B       | BT Mean |    |       | DIFF   | %     | Wilcoxon rank test |        |        |             |
|---------------|---------|----|-------|--------|-------|--------------------|--------|--------|-------------|
|               |         |    |       |        |       | SD                 | SEM    | P      | Significant |
| Pain          | 5.2     | AT | 3.3   | 1.9    | 36.53 | 0.718              | 0.161  | <0.001 | ES          |
|               |         | AF | 2.80  | 2.4    | 46.16 | 1.046              | 0.234  | <0.001 | ES          |
| Stiffness     | 1.900   | AT | 0.750 | 1.150  | 60.52 | 0.587              | 0.131  | <0.001 | ES          |
|               |         | AF | 0.600 | 1.3    | 68.42 | 0.865              | 0.193  | <0.001 | ES          |
| Fasciculation | 0.55    | AT | 0.200 | 0.35   | 63.64 | 0.489              | 0.109  | 0.005  | VS          |
|               |         | AF | 0.200 | 0.35   | 63.64 | 0.489              | 0.109  | 0.005  | VS          |
| Tenderness    | 1.55    | AT | 0.400 | 1.15   | 74.2  | 0.366              | 0.0819 | <0.001 | ES          |
|               |         | AF | 0.500 | 1.05   | 67.75 | 0.510              | 0.114  | <0.001 | ES          |
| Muscle power  | 4.400   | AT | 4.6   | -0.200 | 4.6   | 0.523              | 0.117  | 0.104  | NS          |
|               |         | AF | 4.700 | -0.300 | 6.9   | 0.470              | 0.105  | 0.010  | S           |
| Reflex        | 0.9     | AT | 0.4   | 0.5    | 55.6  | 0.607              | 0.135  | 0.002  | VS          |
|               |         | AF | 0.5   | 0.4    | 44.5  | 0.598              | 0.133  | 0.008  | VS          |
| SLR           | 2.75    | AT | 1.9   | 0.85   | 30.9  | 0.671              | 0.150  | <0.001 | ES          |
|               |         | AF | 1.4   | 1.35   | 49.1  | 0.988              | 0.221  | <0.001 | ES          |

## COMPARISION

Table No. 4:

| PARAMETER     | MEAN    |         | Mean diff | SD      |         | SE      |        | P value | Result |
|---------------|---------|---------|-----------|---------|---------|---------|--------|---------|--------|
|               | Group A | Group B |           | Group A | Group B | Group A | GroupB |         |        |
| Pain          | 2.800   | 3.3     | -0.5      | 1.24    | 1.031   | 0.277   | 0.231  | 0.1736  | NS     |
|               | 2.5     | 2.8     | -0.3      | 0.946   | 0.951   | 0.212   | 0.213  | 0.3235  | NS     |
| Stiffness     | 0.4     | 0.75    | -0.35     | 0.598   | 0.786   | 0.134   | 0.135  | 0.1213  | NS     |
|               | 0.450   | 0.6     | -0.15     | 0.605   | 0.821   | 0.176   | 0.184  | 0.514   | NS     |
| Fasciculation | 0.150   | 0.20    | -0.0696   | 0.366   | 0.410   | 0.081   | 0.0916 | 0.6864  | NS     |
|               | 0.100   | 0.200   | -0.1000   | 0.308   | 0.410   | 0.0688  | 0.0916 | 0.3886  | NS     |
| Tenderness    | 0.850   | 0.400   | 0.450     | 0.875   | 0.503   | 0.196   | 0.112  | 0.0534  | NS     |
|               | 0.650   | 0.500   | 0.150     | 0.671   | 0.513   | 0.150   | 0.115  | 0.432   | NS     |
| Muscle power  | 4.5     | 4.6     | -0.100    | 0.607   | 0.681   | 0.136   | 0.152  | 0.6268  | NS     |
|               | 4.5     | 4.7     | -0.200    | 0.513   | 0.470   | 0.115   | 0.105  | 0.0754  | NS     |
| Reflex        | 0.45    | 0.4     | 0.05      | 0.605   | 0.598   | 0.135   | 0.133  | 0.7941  | NS     |
|               | 0.45    | 0.5     | 0.05      | 0.605   | 0.598   | 0.135   | 0.133  | 0.7941  | NS     |
| SLR           | 1.1     | 1.9     | -0.8      | 0.641   | 0.718   | 0.143   | 0.160  | <0.001  | ES     |
|               | 0.4     | 1.4     | -1.0      | 0.598   | 0.598   | 0.134   | 0.134  | <0.001  | ES     |

\*BT-Before treatment,\*AT-After treatment,\*AF-After follow up\* DIFF-Difference,\*SD-Standard deviation,\*SEM-Standard error of mean,\*ES-Extremely significant,\*VS-Very significant,\*S-Significant,\*NS-Nothing significant.

## DISCUSSION

There is a similarity between the anatomical location and functioning of *Marma* and *Varma* points<sup>11</sup>. These are the vital points of the body where *prana* or the vital energy is situated. In *Ayurveda Susrutha* has explained *Marma* points to understand *abhigathalaxanas*, but in Siddha system of medicine these points are used for diagnosis and therapeutic purpose.

Any injury to the *Marmasthana* results in disturbance in the flow of *prana* leading to the manifestation of the disease. Injury to these *Marma* points is called as *Marmabhighata*; it is one of the causes for *vatavyadhi*. *Gridhrasi* is manifested because of similar pathology. *Ruk, Stambha, Toda, Spandana* are the features of it.

MECHANISM OF ACTION OF *MARMA* CHIKITSA<sup>12</sup>

*Marma* points serve as channels or windows connecting the physical body to the inner conscious and mind. By stimulation of *Marma* positive changes can be generated. It enriches the aura or energy field of body and keeps the person energetic and healthy. Blockage of nourishing channels is removed by

stimulating *Marma*. It also helps to control the *vatadosha* which is responsible for proper harmony of other two doshas of body, and regulates the nervous system and therefore is immensely potent in alleviating pain and increasing body threshold of pain.

## DISCUSSION ON EFFECT OF THERAPY

**Pain**-The whole study was done centered to pain which is the main feature of disease. According to pain gait theory, by *Marmachikitsa*, acute pain is stimulated which blocks the transfer of chronic pain, thus increasing the threshold of pain by stimulating the particular *Marma*.

**Stiffness**-By *Marmachikitsa*, nerves get stimulated which improves the blood flow to the area, relaxingspasm of the muscle thus relieving stiffness.

**Tenderness**-*Marmachikitsa* relieves obstruction to the flow of *prana*, thus reducing the tenderness, also stimulates the nerves which relaxes the muscle spasm, by doing massaging over particular area of tenderness active inflammation sets in. Thus improves circulation, this helps to clear chronic inflammation. By all these means tenderness over the area reduces.

**Fasciculation**-Obstruction of *vata* is relieved after stimulating *Marma* which gave relief to the patient.

**Muscle power**-Stimulation of *Marma* will improve the circulation to the particular area by which proper nourishment of the muscles is attained thus improving its strength and power.

**Reflex**-Due to proper flow of *prana/ vata* the patient regains normal reflexes.

**SLR**-Muscles gets relaxed by stimulating the nerves which passes along the *Marma* points thus improvement in SLR is seen.

## CONCLUSION

The following conclusions were drawn on the basis of the clinical study with *Marmachikitsa*. *Marma* and *Varma* are similar; technique of stimulation of *Varma* points explained in Siddha System of Medicine can be adopted over *Marma* points of *Ayurveda* system of medicine. Stimulating the *Marma* points told in *Ayurveda* which are involved in the disease *Gridhrasi*, is effective in the control of pain. *Marma* therapy over *Ayurveda* *Marma* points can be effectively implemented for the management of pain.

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