

## A CLINICAL STUDY ON THE THERAPEUTIC EFFECT OF SHOTHAGHNA LEPA IN JANUSANDHIGATA VATA W.S.R. OSTEOARTHRITIS

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### ABSTRACT

*Sandhi Gata Vata (SGV)* is explained in Ayurveda under *vatavyadhi*, the concept of *Gata vata* is explained among *Tridosha*, *Vata* is responsible for all *Cheshta* and all diseases. In old age, all *Dhatu* beings undergo *Kshaya*, which leads to *Vata Prakopa* and makes the individual prone to many diseases. Aging and Obesity are the major factors for increased occurrence of osteoarthritis. The *Shamana* procedures like *Snehana*, *Swedana*, *Lepa*, *Bandhana*, *Agni Karma* and *Raktamokshana* are emphasized in *Ayurveda* to provide relief from pain & swelling and restore mobility. *Shothagna Lepa*<sup>[1]</sup> is explained by Sharangadhara as *Shamana* therapy to relieve *shotha* and *shoola*. Hence it is planned to evaluate the efficacy of *Shothagna Lepa* in *Janu*

*Sandhigata Vata*.

**KEYWORDS:** Janu Sandhigata Vata, Shothaghna Lepa.

### INTRODUCTION

*Sandhigata Vata*<sup>[2]</sup> or Osteo-arthritis is a type of *Vatavyadhi* which mainly occurs in *Vridhavastha* due to *Dhatukshaya* and is the commonest form of articular disorder. It limits everyday activities such as walking, dressing, bathing etc. thus making patient disabled/handicapped. *Vatavyadhi*, affecting *Marmasthisandhi*<sup>[3]</sup> and its occurrence in old age makes it *Kastasadhya* for the patient. Till date no medicine is available which prevents or reverses or blocks the growth of this disease.

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The etiology of pain is multi-factorial, including inflammatory and non-inflammatory causes. The disease is managed by NSAIDs, analgesic drugs, physiotherapy and corticosteroids etc. Above drugs are very costly and have unwarranted side-effects. Even the surgical treatment does not provide complete relief.<sup>[4]</sup>

Treatment modalities in contemporary science are pharmaco-therapies with Non-Steroidal Anti Inflammatory Drugs, Intra articular injections and Surgery. There has been little response to the therapy with increased side effects.

Here, an effort has been made in search of its treatment. According to *Ayurveda*, the treatment is “*Samprapti Vighatana*”. So in case of *Sandhigata Vata*, treatment should be such that it makes *Agni Shamana*, *Vata Shamana*, *Kapha Vriddhi* (increase *Snigdha*guna) and correct *Khavaigunya*. Here *Shothagna Lepa* are selected for the present study which can serve above needs to treat the disease *Janu Sandhigata Vata* (Osteoarthritis).

### OBJECTIVES OF STUDY

To evaluate the efficacy of *Shothagna Lepa* in *Janu Sandhigatavata*.

### MATERIAL AND METHODS

**Source of data:** 30 patients, irrespective of gender, caste and social status will be selected for the study from IPD & OPD of SDM *Ayurveda* Hospital, Udupi. These patients will be applied *Shothagna Lepa* in *Janu Sandhigatavata*.

**Drugs:** *Shothagna Lepa* preparation is done from SDM pharmacy, Udupi, Karnataka.

**Method of Data Collection:** A special proforma will be prepared for recording the historical details, physical signs and symptoms of the patients. Lab investigations will be carried out as mentioned in allied sciences.

**Study design:** It will be a single blind comparative clinical study with pre and post- test design wherein a minimum 30 patients suffering from *Janu Sandhi Gata Vata* will be selected irrespective of their gender, caste and social status. Investigations and the parameters of signs and symptoms will be scored on the basis of standard method and will be analyzed statistically.

**Intervention:** Thirty patients are selected *Shothagna Lepa* of sufficient quantity will be applied externally **once a day** for **14 days**. **Follow Up:** All the patients will be followed for 14 days after treatment with weekly interval.

#### **Inclusion criteria**

- Patients with *prathyatmalakshana* of *Janu Sandhigata Vata*,
- Patient with signs & symptoms of Osteoarthritis,
- Patients ageing 30 years to 70 years.

#### **Exclusion criteria**

- Patients below 30 years and above 70 years,
- Patient with Tuberculosis, Rheumatoid Arthritis, Systemic Lupus Erythematosus, Psoriatic Arthritis, Gouty Arthritis.

**Assessment criteria-** Signs and symptoms of *Janu Sandhigata Vata*, Osteoarthritis are evaluated.

- Pain-Visual Analogue Scale (VAS)
  - Morning Stiffness of knee joint.
  - Swelling-girth of joint is measured with tape.
  - Tenderness asses by severity grade.
  - Movement of joints-measurement is done with Goniometer.
  - WOMCA- Index for Osteoarthritis.
  - Functional ability
1. Walking - time required to cover 30 metres in seconds.
  2. 10 sit -ups time required in minutes.
  3. 10 steps climb time required in seconds.

#### **Investigations**

##### ❖ *Haematological investigations*

- Haemoglobin %, Total leucocytes count, Differential count,
- Erythrocyte Sedimentation Rate, Random blood sugar.

##### ❖ *Urological investigations*

- Sugar, Albumin & Microscopic.

### ❖ Radiological investigations

- X-ray: AP& Lateral view of knee

### OBSERVATIONS

It was observed that age, gender, habits/ addictions, *prakruti*, occupation and nature of work have certain degree of correlation with this disease. However, religion, level of education, marital status, socio- economic status, and diet could not be found to have a correlation with this disease.

### Effects of Treatment

The assessment of results was made by adopting the standard methods of scoring questionnaires and the signs and symptoms of *Janusandhigatavata*. It included the assessment of pain, swelling, tenderness and functional disability.

### RESULTS

The results of each parameter, in each of the group in the study are analyzed statistically with the paired T test. The details are as follows:

#### 1. PAIN

Table No: 1. Pain in patients.

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | Paired t test |       |
|-----------------------|-----------------------|----------------------------|---------------|-------|
|                       |                       |                            | F             | P     |
| 40.62                 | 8.916                 | 2.834                      | 0.2058        | 0.815 |

#### 2. MORNING STIFFNESS

Table No: 2. Morning Stiffness in patient.

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 0.750                 | 0.424                 | 0.134                      | 0.3706             | 0.6938 |

#### 3. SWELLING-GIRTH OF KNEE JOINT

Table No: 3. Swelling-girth of knee joint.

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 37.07                 | 2.258                 | 0.714                      | 2.046              | 0.1489 |

**4. TENDERNESS****Table No: 4. Tenderness of knee joint.**

| Difference<br>In mean | Standard<br>Deviation | Standard Error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 0.750                 | 0.754                 | 0.238                      | 1.035              | 0.3688 |

**5. MOVEMENT OF KNEE JOINTS****Table No: 5. Movement of knee joints in patient.**

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 124.5                 | 8.724                 | 2.759                      | 0.9343             | 0.4052 |

**6. WOMAC- Index****Table No: 6. WOMAC- Index in patient.**

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 53.80                 | 17.09                 | 5.405                      | 0.7211             | 0.4953 |

**7. Functional ability**

- **WALKING - TIME REQUIRED TO COVER 30 METERS IN SECONDS -**

**Table No: 7. walking time in patients.**

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |         |
|-----------------------|-----------------------|----------------------------|--------------------|---------|
|                       |                       |                            | F                  | P       |
| 1.500                 | 0.527                 | 0.166                      | 0.000              | >0.0999 |

- **10 SIT -UPS TIME REQUIRED IN MINUTES**

**TABLE NO: 8. 10 sit -ups time in patients.**

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 1.200                 | 0.788                 | 0.249                      | 0.05056            | 0.9508 |

- **10 STEPS CLIMB TIME REQUIRED IN SECONDS-**

**Table No: 9. 10 steps climb time in patient.**

| DIFFERENCE<br>IN MEAN | STANDARD<br>DEVIATION | STANDARD ERROR<br>OF MEANS | One way ANOVA test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 1.600                 | 0.516                 | 0.163                      | 0.9101             | 0.6520 |

## 8. KELLGREN– LAWRENCE RADIOGRAPHIC GRADING SCALE OF OSTEOARTHRITIS

**Table No: 10. Kellgren– Lawrence Radiographic Scale in patients.**

| Difference<br>In mean | Standard<br>Deviation | Standard error<br>Of means | One way anova test |        |
|-----------------------|-----------------------|----------------------------|--------------------|--------|
|                       |                       |                            | F                  | P      |
| 1.900                 | 0.567                 | 0.179                      | 0.4345             | 0.6520 |

### DISCUSSION

Selectivity and affinity are the principle parameters which characterize the interaction between drug and receptor. *Samprapti Vighatana* is said to be the treatment for *Janu Sandhi Gata Vata*. Therefore, the drug is supposed to dismantle the *Samprapti Ghatakas* of the disease and establish a relationship between the same and penta fold principles of *Rasa, Guna, Virya, Vipaka* and *Prabhava* of the drug.

*Shothagna Lepa*: *Shothagna Lepa* was selected as a form of external application in *Janu Sandhi Gata Vata*. *Bahirparimarganachikitsa* plays a vital role amongst the disorders pertaining to *madhyamarogamarga* such as *Janu Sandhi Gata Vata*.<sup>[5]</sup>

*Shothagna Lepa* applied in the form of *pradeha* in *Janu Sandhi Gata Vata* has got the properties to the *Ushna Veerya* and *Vatakaphahara*, which are resulting in *Shoolaghna, Shothaghna* and *Stambhahara* actions in this disease.<sup>[6]</sup>

### CONCLUSION

#### The Total Effect Of The Therapy

- Maximum Improvement : 60%
- Moderate Improvement : 20%
- Mild Improvement : 20%
- No Improvement : 0%

*Shaman therapy using Shothagna Lepa* is very effective in curing the signs and symptoms of *Janu Sandhigatavata*.

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