CLINICAL STUDY OF SANDHIGAT VATA W.S.R TO OSTEOARTHRITIS AND ITS MANAGEMENT BY AMRUTADI KWATHA

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ABSTRACT

The Sandhigata vata is a disease mentioned in almost all ayurvedic classics and is correlated with Osteoarthritis of modern science. Sandhigata vata is the communal form of the articular disorder. Its existence as a ‘vatavyadhi’ located in ‘Mamsa-Asthi-Sandhi’ and its incidence in old age makes its kashtasadhya. Allopathic treatment has its own limitation in managing this disease. It can provide either conservative or surgical treatment. Many treatment modalities mentioned for Sandhigata vata in Ayurvedic classics and it can be better treatable by these management and procedures. The proposed study focuses on the management of Sandhigata vata using Amrutadi Kwatha. In this study total 34 subjects having complaints of sandhigata vata were randomly selected and treated with Amrutadi Kwatha. The data was collected using WOMAC scale and other criteria and Collected data was tabulated, classified and presented in the form of tables and graphs and finally analysed statistically. The data shows that Amrutadi Kwatha shows significant effect on Sandhigata vata symptoms.

KEYWORDS:- Sandhigata vata, Amrutadi Kwatha, Osteoarthritis.

INTRODUCTION

There are several such disorders which curtail individual from leading a happy, healthy and active life. Sandhigata vata is one such disorder. It is one of the most common disorder in Vatvyadhi.
Almost all persons over the age 45 have some bodily transformation in weight bearing joints. It limits everyday activities such as walking, dressing, bathing etc,\(^1\) thus making individual handicapped and it makes person feel disabled.

The quest of man to live happily lies is being healthy. So, health is the elemental factor for happiness. The task of medicine is to preserve and to restore the health by relieving the suffering. Understanding medicine is essential to achieve both those goals, because pain is universally understood as a sign of disease. It is a most common symptom that brings a patient to a physician attention.

‘SANDHIGATA VATA’ the word itself describes about the disease i.e. it affects the Sandhis. It is Shool and Shotha Pradhavan Vataja Nanatmaja Vyadhi affecting loco motor system and leaving the person disable and make him unable to do his daily routine activity also. Sandhis are one of the types of the Marma and form a part of Madhyamaroga marga. Thus, involvement Madhymaroga Marga, Marma, Vatadosha and Dhatukshaya make the disease Kashtasadhya or Krucchrasadhya.

It is mostly occurring in Vriddhavastha due to Dhatukshaya also it may occur due to margavarodha,\(^2\) thus leading to Vataprakopa and making individual prone to many diseases. Among them Sandhigata vata stands top in the list. Its occurrence in old age makes it Kashta sadhya. Vata Dosha plays main role in the disease. Shool is the cardinal feature of the disease associated with Vata Purna Druti Sparsha, Shotha, Aakunchan prasaran vedana.\(^3\)

Sandhigat vata it seems to have similar signs and symptoms feature as that of osteoarthritis in modern science.\(^4\) Osteo means bones, “Arth” means joint and “itis” means inflammation. Osteoarthritis is the common type of the arthritis. Its high prevalence especially in elderly and high rate of disability related to the disease make it a leading cause of disability in elderly. Because of ageing of western population and obesity, major risk factors are increasing in prevalence. Since knee joint is a weight bearing joint it is more susceptible to wear and tear. Other common risk factors are heavy journey, agriculture, sedentary life style etc.

Globally osteoarthritis ranks eighth in all diseases and covers around 15% proportions among all musculoskeletal problems.\(^5\) Clinical symptoms and radio-diagnosis are the basis of diagnosis used for osteoarthritis characterization. India has higher proliferative rate of osteoarthritis among world and expected to be at top rank in chronic diseases till 2025.\(^5\)
The proposed study focuses on the management of *Sandhigata vata* using *Amrutadi kwatha*.

**AIM**
To evaluate the efficacy of *Amrutadi kwatha in sandhigat vata*.

**OBJECTIVES**
1. Study of etiopathogenesis of *Sandhigata vata*.
2. To study of joint abnormality (*Vikruti*) in relation to *Sandhigata vata*.

**MATERIAL AND METHOD**
Subject was selected according to inclusive and diagnostic criteria of *Sandhigat Vata*.

**Eligibility criteria**
**Inclusive criteria**
1) Classical sign and symptoms of *Sandhigata Vata* are *Shula, Shotha, Sandhi Atop, Akunchan prasarana vedana* at the joint.
2) Patient between the age group of 30 to 70 years.
3) Patients irrespective of caste, religion, gender, economic status will be selected

**Exclusive criteria**
1) Patient suffering from fracture, dislocation or ligament tears.
2) Patients suffering from disease like carcinoma, S.L.E., Polymyalagia, Rheumatic arthritis, Gout, Psoriatic arthritis.
3) Pregnant and lactating woman.

**Drug review:**
*“Amrutadi kwatha”*

Reference:
अमृता नागर धाती वाजिगन्धा त्रिकण्ठक्म।
प्रधिवेद्यात्समार्थः सशुली मूत्रकृच्च्यात॥
मैषज्यरत्नावली ३४/२५[६]
Table 1:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Content</th>
<th>Latin name</th>
<th>Useful part</th>
<th>Quantity</th>
<th>In form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Amruta</td>
<td>Tinospora cordifolia</td>
<td>Stem</td>
<td>2gm</td>
<td>Bharad</td>
</tr>
<tr>
<td>2)</td>
<td>Sunthi</td>
<td>Zingiber officinale</td>
<td>Tubers</td>
<td>2gm</td>
<td>Bharad</td>
</tr>
<tr>
<td>3)</td>
<td>Aamlaki</td>
<td>Embelia officinale</td>
<td>Fruit</td>
<td>2gm</td>
<td>Bharad</td>
</tr>
<tr>
<td>4)</td>
<td>Ashwagandha</td>
<td>Withania somnifera</td>
<td>Roots</td>
<td>2gm</td>
<td>Bharad</td>
</tr>
<tr>
<td>5)</td>
<td>Gokshur</td>
<td>Tribulus terrestris</td>
<td>Panchang</td>
<td>2gm</td>
<td>Bharad</td>
</tr>
</tbody>
</table>

Method of preparation

The drugs were taken in equal amount. Phyto-chemical analysis of *Rasnapanchak kwatha* and *Amrutadi kwatha* done before its use. The raw materials were collected from GMP certified company. *Kwatha Nirman* was done as per procedure described in *Sharangdhar Samhita*. *Kwatha* was prepared freshly and given to the patient.

The method of preparation of the *Kwatha*, water was taken 16 times than that of course herbal powder and boiled it till 1/8th quantity of total remain is used. 5 ingredients present in both *Kwatha*, were taken in equal quantity (2gm each) i.e. 10 gm then 160ml of water is added and mixture is to be boiled in open vessels to reduce it 1/8th of its volume i.e. 20ml.

Drug administration details

Treatment of Subjects tabulated as below:

Table 2

<table>
<thead>
<tr>
<th>Dose</th>
<th>20 ml twice a day[8]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anupan</td>
<td>Koshna jal (Warm water)</td>
</tr>
<tr>
<td>Aushadhi sevan kala</td>
<td>Vyan-udan kala (morning and evening after food)</td>
</tr>
<tr>
<td>Route of administration</td>
<td>Oral</td>
</tr>
<tr>
<td>Type of treatment</td>
<td>IPD/OPD basis</td>
</tr>
<tr>
<td>Follow up</td>
<td>Every 10th day</td>
</tr>
<tr>
<td>Duration</td>
<td>1 month</td>
</tr>
</tbody>
</table>

4) Criteria of assessment

1) Womac Scale[9]
a) Pain when…  
b) Difficulty when…  
c) Stiffness…  
2) Crepitus  
3) Swelling

**OBSERVATIONS**

In present study, total 44 subject were selected suffering from *Sandhigata vata* vyadhi in kayachikitsa department of our hospital were registered out of which 10 were dropped out and 34 subjects enrolled in the study.

In this study, maximum 48% (i.e. 16 subject) were between 50-70 years of age group, 82.35% (i.e. 28 subject) were female, 11.76% (i.e. 4 subject) were tobacco addicted, 88.23% (i.e. 30 subject) were Hindu, 61.75% (i.e. 21 subject) took mix diet, 41.17 (i.e. 14 subject) were Vata-pitta predominance prakruti, 88.23% (i.e. 30 subject) were from middle class family, 67.64% (i.e. 23 subject) were housewife, 55.88% (19 subject) were dhatukshayajanya type Sandhigata vata, 64.75 (i.e. 22 subject) were madhyam koshtha.

Mostly i.e. 82.35% (i.e. 28 subject) subject were having involvement of janu sandhi. Involvement of other joints i.e. ankle, shoulder, elbow minimally found.

**Observation & Result of clinical criteria**

As per WOMAC scale percentage change observed in pain when criteria were 85.05%, stiffness criteria were 73.5% and Difficulty when criteria were 81.5%. while in crepitus 14.71% and swelling criteria were 65.75% from day 0 to 30th day.
Diagram 1: Summary of percentage change from baseline for Pain when (WOMAC scale).

Diagram 2: Summary of percentage change from baseline for stiffness (WOMAC scale).

Diagram 3: Summary of percentage change from baseline for Difficulty when (WOMAC scale).
RESULT

Effect of *amrutadi kwatha* on *sandhigat vata* (Wilcoxon signed ranks test)

Table 3: Effect of *amrutadi kwatha* on *sandhigat vata* (Wilcoxon signed ranks test).

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Before treatment</th>
<th>After treatment</th>
<th>Test statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Min</td>
<td>Max</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td></td>
<td></td>
<td>SD</td>
</tr>
<tr>
<td>Pain when…</td>
<td>12.18</td>
<td>8</td>
<td>16</td>
<td>1.91</td>
</tr>
<tr>
<td></td>
<td>1.19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stiffness</td>
<td>1.03</td>
<td>0</td>
<td>2</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td>0.71</td>
<td></td>
<td></td>
<td>0.23</td>
</tr>
<tr>
<td>Difficulty when…</td>
<td>34.44</td>
<td>21</td>
<td>42</td>
<td>6.53</td>
</tr>
<tr>
<td></td>
<td>4.30</td>
<td></td>
<td></td>
<td>4.93</td>
</tr>
<tr>
<td>Crepitus</td>
<td>1.44</td>
<td>0</td>
<td>3</td>
<td>1.15</td>
</tr>
<tr>
<td></td>
<td>0.78</td>
<td></td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>Swelling</td>
<td>1.26</td>
<td>0</td>
<td>3</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td>0.26</td>
<td></td>
<td></td>
<td>0.44</td>
</tr>
</tbody>
</table>
Total effect of treatment

**Table 4: Total effect of treatment.**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Result</th>
<th>No. Of patient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 40%</td>
<td>Poor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>41-60%</td>
<td>Average</td>
<td>2</td>
<td>5.88%</td>
</tr>
<tr>
<td>61-80%</td>
<td>Good</td>
<td>14</td>
<td>41.14%</td>
</tr>
<tr>
<td>81-90%</td>
<td>Very good</td>
<td>10</td>
<td>29.41%</td>
</tr>
<tr>
<td>91-100%</td>
<td>Excellent</td>
<td>8</td>
<td>23.52%</td>
</tr>
</tbody>
</table>

**Diagram 6: Total effect of treatment.**

**DISCUSSION**

The data are discussed as follows

**Age:** In this study 48% subjects were found in 50-70 years age group. Sandhigata vata starts at the age of 40 which is declining stage of Madhya vaya.

**Sex:** Maximum subjects were females. It indicates that Sandhigat Vata is more common in female. Reasons behind this may be more daily physical work, stressful activity, *Paryushit anna Sevan*, unconscious about healthy diet. The lack of female hormone (oestrogen) in the premenopausal period also plays an important role.

**Prakruti:** Prakruti wise distribution shows Vata dominant patients suffer more from Sandhigat Vata and prognosis may be poor in them as Prakruti and Dosha involvement is same. In subjects who having *Kapha Pittaj Prakruti* prognosis may be good as *Prakruti and Dosha* involved are not same.
**Occupation:** According to data incidence of *Sandhigat Vata* is more in housewife may be due to increased responsibility towards house work and day to day family stress may induce *Agnimandya, Vata Prakopa*, weight gain and leads *Sandhigat Vata*.

**Agni:** maximum subjects of *Vishamagni* observed. From this data we may conclude that subject having *Vishamagni Agni* suffer more from *Vata Vyadhi* like *Sandhigat Vata*.

**Type of sandhigata vata:** according to data there was similar number of *Dhatukshajanya* and *Upasthambhita Sandhigat Vata* subject observed. So, from this study nothing can be exactly said about which type of Sandhigat Vata more occurred.

**Discussion on probable mode of action**

*Amrutadi kwatha* is used in *Vata Vyadhi. Sandhigat Vata* is described under the *Vata Vyadhi* so the drug is selected as a trial to observe the efficacy on *Sandhigat Vata*. Main site of *Vyadhi* is sandhi and as *Kashaya Kalpna* itself has indication in *Mansa, Asthi, Majja and Sarvang Vata*.

The drug *Amrutadi kwatha* contains *Guduchi, Sunthi, Amalaka, Ashwagandha, Gokshur*. Which have the qualities like *Tikta ras, Ushna Virya, Madhur Vipaka, Snigdha Guna* and does *Agnideepan, Vedhanasthapan, Shothahar, Bruhana, Rasayan* etc.

Highly substantial result was observed in the symptom pain which may be because of the its *Ushna virya pradhanya, Madhur vipak, Snigdha guna* and *Vedanahar, Vatashamak* properties. *Shotha* is a result of *Strotomargavarodha*, with the help of *Ushna virya, Tikta ras* it helps to relive *Margavarodha* as a result subsides the *Shotha*.

Along with this, *Rasayna guna* is effective to slow down the process of degeneration and helps in rejuvenation of Dhatu.

*Amrutadi kwatha* also acts on patient’s psychology with its antistress drug ashwagandha. Stress is one of factor which aggravates pain. It helps to get proper sleep again which avoids *Vatavruddhi* due to Jagaran.

*Kshudha vrudhi, Samyak Nidra*, bowel regulation, increased alertness was seen in almost all patients. The drug had overall major effect.
CONCLUSION

Clinical study was conducted on the 34 subjects of Sandhigat Vata to study the efficacy of Amrutadi kwatha. On the basis of observations made in the clinical study following conclusion were drawn.

- Clinical study shows that Amrutadi kwatha have highly significant Vedana shamak effect.
- Amrutadi kwatha showed as statistically significant result in pain when…, in difficulty when… (WOMAC scale) and in swelling.
- In crepitus slight significant change found before and after treatment of both groups.
- Amrutadi Kwatha showed significant result in reducing the pain and Swelling. Thus, helped the patients to improve their quality of life. And it is safe, reliable drug of choice in Sandhigat Vata.

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