

**AGNIKARMA WITH PANCHADHATU SHALAKA IN JANUSANDHIGATA VATA
(OSTEOARTHRITIS OF KNEE JOINT)**

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ABSTRACT

Pain is an unfavorable sensation, which may bring an individual a halt from his routine works. The condition is more painful when mobile joints like *Janusandhi* (knee joint) of the body are involved. The disease *Sandhigata Vata* is prone to be manifested in the knee joint. The dominance of Vata dosha is seen in the pathogenesis of *Sandhigata Vata*. The symptoms of *Sandhigata Vata* described in *Sushrut Samhita* are *Sandhi vedana* (joint pain) and *Shotha* (swelling), due to these symptoms stiffness and crepitus develop, which may be correlated with disease osteoarthritis (O.A) in modern parlance. *Agnikarma* (Cauterization) is one which gives instant relief from pain by balancing local Vata and *Kapha Dosha* without any untoward effects. **Aim:** To evaluate the efficacy of *Agnikarma* with *Panchadhatu Shalaka* in the management of *Janusandhigata Vata* (OA of knee joint). **Materials and Methods:** A total of 30 diagnosed patients of *Janusandhigata Vata* were registered and *Agnikarma* was done with *Panchadhatu Shalaka* in four sittings. Assessment in relief of signs and symptoms was done by weekly interval, and Student's *t*-test was applied for statistical analysis. **Results:** The effect of *Agnikarma* using *Panchadhatu Shalaka* in various cardinal signs and symptoms as assessed on the 1st week, 2nd week, 3rd week and 4th week reveals a clinically gradual improvement in all signs and symptoms.

Conclusion: *Agnikarma* is effective nonpharmacological, parasurgical procedure for pain management in *Janusandhigata Vata* (OA of knee joint).

Keywords: *Agnikarma, Panchadhatu Shalaka, Osteoarthritis of Knee joint*

INTRODUCTION

Pain is an unfavorable sensation, which may bring an individual a halt from his routine works. The condition is more painful when mobile joints like *Janusandhi* (knee joint) of the body are involved. The disease *Sandhigata Vata* is prone to be manifested in the knee joint. The dominance of Vata dosha is seen in the pathogenesis of *Sandhigata Vata*. The symptoms of *Sandhigata Vata* described in *Sushrut Samhita* are *Sandhi vedana* (joint pain) and *Shotha* (swelling), due to these symptoms stiffness and crepitus develop, which may be correlated with disease osteoarthritis (O.A) in modern parlance. Osteoarthritis is the commonest form of joint disease which cause pain and disability in advancing years of life. Before 60 years of age 1 out of 10 persons (10%) and after 60 years 3 out of 4 (75%) persons suffers from O.A of knee joint.¹

Osteoarthritis also known as degenerative arthritis is a clinical syndrome in which low-grade inflammation of joints, caused by abnormal wearing of cartilage that covers and acts as a cushion inside the joints. Due to the decrease in the quantity of synovial fluid, patient experiences pain upon weight bearing during walking and standing. Osteoarthritis also known as

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In *Sushrut*, the author of *Sushrut Samhita*, the *Agnikarma* has been selected as one of the therapeutic treatment for Osteoarthritis². The existing treatment of O.A are the analgesic and anti-inflammatory drugs being prescribed for its remedy which gives temporary relief and the continuance of chemist drugs give rise to APD and other complications. Hence the patient compels to search complete remedy from the O.A. In chronic O.A the knee replacement by surgical approach may not be possible and affordable for common people and also it does not make fit as be for healthy knee joint. Under the above circumstances the medical research unit finds solution in Ayurveda para surgery. *Sushrut*, the father of the surgery has advocated the *Agnikarma* “a direct cauterization procedure” para surgical work for the complete relief of O.A. *Agnikarma* can be applied for *Vataja* and *Kaphaja vyadhis*

(the disease of *Vata* and *Kapha dosha*), grossly in which O.A is one of them as per doshic consideration. *Agnikarma* helps to remove the aggravation of both *dosha* by its opposite heat producing (cauterizing) action.

Hence considering these facts, the current study has been planned to evaluate the efficacy of *Agnikarma* with *Panchadhatu Shalaka* in the management of *JanuSandhigata Vata* (OA of knee joint).

MATERIALS AND METHODS

Patients ($n = 30$) suffering from sign and symptoms of *Sandhigata Vata*, such as pain, tenderness, crepitus and swelling in knee joint, were registered from OPD and IPD of Shalya Tantra Department, Rajiv Gandhi Ayurveda Medical College, Mahe irrespective of sex, caste, religion, etc. Informed written consent was taken from all the patients.

INCLUSION CRITERIA

- Patient suffering from *Janusandhigata Vata* (O.A of knee joint)
- Patients between the age group 40-70 years of both sex

EXCLUSION CRITERIA

- Age below 40 years and above 70 years
- *Sandhi Vata* associated with Diabetes Mellitus

- Associated with other chronic diseases like Paralysis, Parkinson's disease, Anemia
- Pregnancy
- *Sandhigata Vata* other than *Janusandhigata Vata*
- R.A (Rhematoid Arthritis)
- Patients of Cancer, Tuberculosis and AIDS

INVESTIGATIONS

Routine hematological and biochemical investigations such as blood sugar (fasting and postprandial), TLC, DLC, Hb and ESR, Uric acid, RA factor, ASO Titre and Routine Urine analysis were carried out before starting treatment to rule out any other pathology. Radiological examination was carried out before and after completion of treatment.

GROUPING

Total 30 selected patients were randomly selected. (Group A)

- Group-A: Patients were treated by *Agnikarma* with *Panchadhatu Shalaka*. *Agnikarma* was done in four sittings with a weekly interval.

Requirements

- *Agnikarma Shalaka*: Specification of *panchadhatu Shalaka* was depicted in Table 01.
- *Triphala Kwatha* (decoction): It was used for the cleaning of local part before *Agnikarma*

- *Haridra Churna* (powder of *Curcuma longa* L. rhizome): It was used for dusting after *Agnikarma* (dressing purpose)
- *Ghritakumari* (*Aloe barbadensis* Miller. leaf): It was used as soothing effect after *Agnikarma* (dressing purpose)
- *Yashtimadhu Churna* – it was used as healing of wound after *Agnikarma*
- *Madhu-Sarpi* (honey and ghee): It was used after *Agnikarma* for healing of wound.

Table 01

Constituents	%
Tamra (Copper)	40
Loha (Iron)	30
Yashada (Zinc)	10
Rajata (Silver)	10
Vanga (Tin)	10

METHODOLOGY

Procedure of *Agnikarma*

The procedure performed in three stages as *Purva Karma*, *Pradhana Karma*, and *Paschat Karma* mentioned by Acharya Sushrut.*

Purva karma

Snigdha Picchila Annapana (rice and curd) was given prior to the procedure. The site of *Agnikarma* is washed with *Triphala Kwatha* and wiped with dry sterilized gauze and covered with a cut sheet. *Panchadhatu Shalaka* was heated up to red hot. *Ghritakumari* pulp, *Haridra Churna* kept ready for dressing.³

Pradhana karma

In OA of the knee joint, supine position was adopted as it is comfortable to the patient.

Irrespective of a specific site, *Agnikarma* was done at maximum tender site affected at the knee joint. The minimum space was kept between two *Agnikarma* points to avoid overlapping of *Dagdha Vrana*. After *Agnikarma*, fresh *Ghritakumari* pulp was applied on *Dagdha* to relieve burning pain.

Paschat karma

After wiping of *Ghritakumari* pulp, honey and ghee was applied on *Dagdha Vrana*, after that dusting of *Haridra Churna* was done. Patient was observed for 30 min after procedure and advised *Pathyapathya* as mentioned in *Sushrut Samhita*⁴ until the healing of *Samyak Dagdha Vrana*. Patients were strictly advised not to allow water contact at *Dagdha Vrana* site for 24 h.

ASSESSMENT CRITERIA

Subjective parameters

The assessment of relief of sign and symptoms was done before and after completion of treatment by following graded subjective parameters.

Objective parameters

The grade of Tenderness and crepitus were noted before and after treatment.

The measurement of swelling at knee joint was recorded at three sites that are midpoint of patella, 2 inches above and below patella. The goniometric reading of knee joint on flexion and extension was measured with the goniometer.

Assessment of results and response of therapy

Patients will be graded into 4 groups to assess the overall effect of therapy

1. Cured: 91% to 100% improvement in subjective & objective parameter
2. Marked Improvement: 70% to 90% improvement in subjective & objective parameter
3. Moderate Improvement : 50% to 69% improvement in subjective & Objective parameters
4. Mild Improvement : 25% to 49% improvement in subjective & objective parameters
5. Unchanged: < 25% improvement in subjective & objective parameters.

Statistical analysis

Paired *t*-test was applied for assessment of individual group

OBSERVATIONS

Out of 30 registered patients, Demographic data of the study that is age,

sex, religion, socioeconomic status, etc., are depicted in [Table 2]. Cardinal symptom of OA that is joint Pain and crepitus was observed in most of the registered patients.

Demographic observations

Table 02

<i>Hindu</i>	96.6%
Urban & Rural	50%
Middle class	60%
Dietic habit (<i>Visruddhashana</i>)	36.6%
Koshta (<i>Madhyama</i>)	50%
Addiction (Tea)	50%
Prakruti (<i>Kapha, Pta-Kapha</i>)	20%
Onset (Gradual)	90%
Gender (Male)	66.6%
Educational status (Literate)	60%
Occupation (House wife, Laborer, Business)	20%
Built	70%
Built (<i>Madhyama</i>)	70%

RESULTS

The below given results were derived statistically taking the values before and after treatment under various clinical parameters using *Panchadhatu Shalaka*.

The effect of *Agnikarma* using *Panchadhatu Shalaka* in various cardinal signs and symptoms as assessed on the 1st week, 2nd week, 3rd week and 4th week

reveals a clinically gradual improvement in all signs and symptoms. Statistically significant results on the 1st week, 2nd week, 3rd week and 4th week are seen in all the signs and symptoms.

Table 03: Effect of treatment in signs and symptoms on 4th week in Group B

<i>Signs and Symptoms</i>	<i>Mean</i>		<i>%</i>	<i>SD ± SE</i>	<i>“t” Value</i>	<i>“p” Value</i>
	<i>BT</i>	<i>AT</i>				
<i>Pain</i>	5.83	3.300	43.44	1.358 ± 0.248	10.219	<0.001
<i>Tenderness</i>	0.933	0.100	89.24	0.379± 0.0692	12.042	<0.001
<i>Crepitus</i>	0.700	0.533	23.85	0.379 ± 0.0692	2.408	=0.023
<i>Swelling - Midpoint of patella</i>	0.633	0.033	95.23	0.498±0.0910	6.595	<0.001
<i>Swelling - 2 inches above patella</i>	0.633	0.0667	89.57	0.504±0.0920	6.158	<0.001
<i>Swelling - 2 inches below patella</i>	0.633	0.000	100	0.490 ± 0.0895	7.077	<0.001
<i>Angle of Extension</i>	1.100	0.733	33.36	0.615 ± 0.112	3.266	=0.003
<i>Angle of flexion</i>	1.033	0.567	54.36	0.571± 0.104	4.709	<0.001

OVERALL EFFECT OF AGNIKARMA

- 6.66% of patient showed complete relief (100% relief) (91-100% relief).
- Marked improvement (70 – 90% relief) was noted in 6.66% of patients.
- 23.33% of patients got moderately improved (50 – 69% relief).
- Mild improvement (25 – 49% relief) was noted in 70% of patients.

DISCUSSION

In the present study, 100% of patients were reported in the age group of 40–70 years. Demographic studies revealed that osteoarthritic changes commence between the 4th and 5th decades of life.⁵ Maximum 96.66% patients were belonged to Hindu religion; this is due to the Hindu-dominant population in the study area. The 50% of the patients were belonging to both rural and urban habitat. In this study, 60% of patients were observed from the middle

class. 60% literate patients were observed might be due to awareness regarding the health and the location of the hospital in urban area.

The majority of patients 36.6% followed *Viruddhashana* in their routine diet which leads to *Agni Vaishamy* and *Vataprakopa* resulting in *Dhatukshaya* which coupled with old age leads to *Sandhigata Vata*. This type of dietary habit affects the *Agni* resulting in formation of *Aama*, leading to *Agnimandya* and *Dhatvagnimandya*, which ultimately obstructs the *Srotas*. Due to obstruction of *Srotas*, *Vata* gets vitiated and affects *Sandhi* of knee resulting into *Janu sandhigata Vata*. Maximum patients were having *Madhyama Koshtha* (50%). Maximum 70% patients had *Madhyama* built, whereas 30% patients had *Sthula* built. It is observed that *Sthaulya* (obesity) causes excess *Vridhhi* (increase) of *Dushita Medas* and deprive nutrition to later *Dhatu*s, especially *Asthi* and *Majja* which are the *Dushyas* of *Sandhigata Vata*. In *Madhyama* built patients, the cause of *Sandhigata Vata* is taking *Apathyakara Ahara* and *Vihara* as prevailing in the modern lifestyle.

Probable mode of action of *Agnikarma*

The probable mode of action can be described in the form of pharmacological actions which ultimately relief the disease. The application of the *Agnikarma* (Cauterization) produce physical heat by its red hot *Salaka* (probes) which counts with its various properties *Ushna* (hot), *Tikshna* (acute/potent), *Ashukari* (immediate effective) and *Sukshma* (minute). All these properties are transferred to first dermis followed by epidermis of the skin (*Twak dhatu*) while the cauterization continues. Then these forms of actions penetrate to deeper *dhatu* and act probable in following three forms, like

1. It removes blockage of channels (*Srothoavarodha*) which increases the circulation of plasma and blood (*Rasa* and *Rakta*) and thereby flush out/pacifies the pain.
2. It increases the metabolism of body elements (*Dhatu*s) by which it enhances the digestion by removing deranged doshas and at the same time it supplements nutrition to body tissues (*Dhatu*s) that makes healthy to the diseased area.
3. It acts on the deep tissue by neutralizing the cold property (*Sheeta guna*) and simultaneously pacifying other features of *Vata* and *Kapha dosha* which alleviates

Vata and *Kapha* diseases. Under the above mode of action, the disease and associated symptoms of disease treated by *Agnikarma* are relieved. By which the *Sira* (Vein), *Snayu* (Tendon), *Sandhi* (joints) and *Asthi* (Bone) becomes stable. *Agnikarma* when applied considering doshas involved in *Janu Sandhigata Vata* reduces the symptoms of Pain, Tenderness caused due to the involvement of *Vata* and restricted movement caused due to effect of *Kapha* dosha and brings about increased circulation and improves the health of the joints.

Conclusion:

Agnikarma is one of the effective mode of treatment for *Janu sandhigata Vata* (Osteoarthritis of Knee joint) when used with *Panchadhatu Shalaka* It catalysis the effect to bring about faster relief. *Agnikarma* is a nonpharmacological, OPD procedure required minimum equipment

so that it can be used for pain management in *Sandhigata Vata*.

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**Source of Support: NIL
Conflict of Interest : None declared**