



ISSN 2456-3110

Vol 5 · Issue 4

July-Aug 2020

Journal of
**Ayurveda and Integrated
Medical Sciences**

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



Charaka
Publications

Indexed

Combined effectiveness of *Maharasnadi Kashaya* with *Shunti Churna* and *Matra Basti* with *Ksheerabala Taila* in *Janu Sandhigata Vata* (Osteoarthritis Knee) : An open label, single arm clinical study

Kiran K¹, Vasantha B², Muttappa Totad³

¹Post Graduate Scholar, ^{2,3}Associate Professor, Department of Kayachikitsa, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, INDIA.

ABSTRACT

Sandhi Gata Vata is a clinical condition that comes under the heading of *Vata Vyadhi* where *Prakupita Vata* affects *Sandhi* and causes specific signs and symptoms. *Lakshanas* of *Sandhi Gata Vata* of *Janu Sandhi* resembles the signs and symptoms of osteoarthritis of knee. Osteoarthritis of the knee is more commonly found in women than men, and the prevalence increases dramatically with age. The major risk factors associated with osteoarthritis knee joint are old age, obesity, excessive usage of knee joint (occupational), which makes it an important cause of disability. A clinical study was conducted on 31 subjects by administering combination of *Maharasnadi Kashaya* with *Shunti Churna* and *Matra Basti* with *Ksheerabala Taila* and the results obtained were statistically analysed. Statistically significant reduction in *Lakshanas* of *Janu Sandhi Gata Vata* and WOMAC scores were noted.

Key words: *Janu Sandhi Gata Vata*, *Osteoarthritis Of Knee*, *Maharasnadi Kashaya*, *Shunti Churna*, *Ksheerabala Taila*, *Matra Basti*.

INTRODUCTION

In normalcy *Vata Dosh* governs various body functions,^[1] but in morbid state (*Prakupita Vata*) can produce pathological conditions like *Vata Vyadhi*. The presentation of *Vata Vyadhi* depends upon factors like *Sthana* or structures involved.^[2,3] *Gatavata* is one such presentation of *Vata Vyadhi* where structures like *Sira*, *Snayu*, *Sandhi* etc. can be involved. *Sandhigata Vata* is a type of *Vata Vyadhi* where the pathology involves *Sandhi* and exhibit *Vata Poorna*

Druti Sparsha Shotha (localized swelling similar to air filled bag), *Vedana* during *Prasarana* (flexion) and *Akunchana* (extension) of *Sandhi*,^[6] *Sandhi Stabdhat* and *Sandhi Atopa*.^[7]

Knee joint is one of the important weight bearing joints in the body and osteoarthritis of the knee is one of the common joint disorders. Osteoarthritis of knee has a prevalence of 22% to 39% in India.^[5] This condition is usually observed in the elderly people and the people who do excessive physical deeds.^[4] Knee pain especially with movement, pain after overuse of knee or after long period of inactivity, knee joint swelling and knee stiffness are the clinical features of osteoarthritis of knee, which resembles the clinical presentation of *Sandhi Gata Vata* of *Janu*.

Sandhigata Vata Chikitsa has to be planned, primarily aiming at the correction of morbid *Vata Dosh*, also considering involvement of morbid *Kapha Dosh*. *Sandhigata Vata* likely develops with an involvement of *Dhatu Kshaya (Asthi)* and the correction of *Dhatu Kshaya* is also a point of concern for the treatment.

Address for correspondence:

Dr. Kiran K

Post Graduate Scholar, Department of Kayachikitsa, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, Karnataka, INDIA.

E-mail: kkiran0909@gmail.com

Submission Date: 16/07/2020 Accepted Date: 21/08/2020

Access this article online

Quick Response Code



Website: www.jaims.in

DOI: 10.21760/jaims.5.4.11

Maharasnadi Kashaya is a *Shamana Yoga* mentioned by *Acharya Sharangadhara*,^[8] in *Vatavyadhis* like *Gridhrasi*, *Pakshaghata*, *Janu Gata Vata* ^[9] etc. *Maharasnadi Kashaya* is a combination of twenty six different herbal drugs and *Rasna* is the *Pradhana Dravya* used in this *Yoga*. *Shunti Churna* is one of the *Anupanas* mentioned for *Maharasnadi Kashaya*, which is known to have *Shoolahara* and analgesic actions. Both *Maharasnadi Kashaya* and *Shunti* have *Vata-Kaphashamaka*^[10] property and the combination can be used in a *Vatakaphaja* and *Shoolapradhana Vata Vyadhi*, like *Sandhi Gata Vata*. *Matra Basti* is a procedure which exerts *Snehana* and *Vatashamana* actions in the *Shareera*^[11] and *Ksheerabala Taila* is a *Vatashamaka*^[12] *Yoga* which exerts *Snehana* and *Brimhana* in the body.

OBJECTIVE

To evaluate the combined effectiveness of *Maharasnadi Kashaya* with *Shunti Choorna* and *Matra Basti* with *Ksheerabala Taila* in the management of *Janu Sandhi Gata Vata* (osteoarthritis of knee joint)

MATERIALS AND METHODS

Source of Data

31 subjects of *Janu Sandhi Gata Vata* were recruited from In-patient department (IPD) of Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Hassan.

Method of collection of data

Data was collected using specially prepared case proforma by incorporating the signs and symptoms of *Janu Sandhi Gata Vata*.

Diagnostic criteria

Diagnosis was made on the basis of signs and symptoms mentioned for *Janu Sandhi Gata Vata*^[13] and 'American College of Rheumatology revised criteria for early diagnosis of Knee O.A.'^[14]

Inclusion criteria

Subjects of age group 40 – 70 years,^[15] Male or female subjects, Osteo arthritis of unilateral or bilateral knee joints with chronicity less than 10 years, Radiologic changes in x-ray (Kellgren's Lawrence index ≥ 2),

Subjects fit for *matra Basti*, and who are willing to participate and sign the informed consent form were included for the study.

Exclusion criteria

Subjects with Knee pain caused by congenital dysplasia, rheumatoid arthritis, autoimmune diseases, external trauma to knee joint and knee surgeries and who had been on chondroprotective drugs, intra articular injections into the knee joint or systemic corticosteroid medication during 3 months preceding enrollment, Subjects who require surgical intervention to the knee joint, Subjects with Genu varum or Genu valgum, Subjects who are known case of HIV, HbSAg, Pregnant and breastfeeding subjects and Subjects with uncontrolled diabetes mellitus and essential hypertension were not included for the study.

Investigations: X-ray - Knee joint (AP view)

Study design:

- Type of study :** Open label, single arm, prospective, clinical study.
- Sampling method :** Convenience sampling
- Test :** Pre test and Post test
- Sample size :** 31 subjects.
- Study duration :** 24 days

Medicines

Maharasnadi Kashaya, *Shunti Choorna*, *Ksheerabala Taila* was prepared in teaching pharmacy of SDM College of Ayurveda, Hassan.

Source and authentication of medicine

Raw materials for *Maharasnadi Kashaya*, *Shunthi Churna* and *Ksheerabala Taila* was purchased and authenticated from CKKM Pharmacy, Trippunithara, Kochi.

Treatment plan

- Maharasnadi Kashaya* - 45 ml/day was given in divided doses (15 ml thrice a day) along with *Shunti Choorna* - 1 *Karsha* (12g) in divided doses (4g thrice a day) – After food orally for 24 days.

2. *Matra Basti* was administered with *Ksheerabala Taila* - 70ml/day for initial 8 days.

Duration: *Matra Basti* - Initial 8 days, *Maharasnadi Kashaya* and *Shunti Choorna* - 24 days.

Assessment of Subject - was done on 1st Day (B.T), 8th Day and 24th Day (A.T).

Assessment criteria

Primary outcome measure : The effect of therapy was assessed on the basis of following subjective criteria - The signs and symptoms of *Janu Sandhi Gata Vata*, namely *Sandhi Shotha*, *Sandhi Vedana*, *Sandhi Atopa* and *Stabdhatta*.

Secondary outcome measures: WOMAC osteoarthritis index (modified).

OBSERVATIONS AND RESULTS

The study was completed by including 31 subjects for the study. Statistical analysis was done using SPSS Ver.

20. Cochran Q and McNemar tests were used to analyse the significance of change in nominal data. Friedman's and Wilcoxon sign rank tests were used to analyse the significance of change in ordinal data. Repeated Measure Anova test was used to analyse the significance of scale data.

Statistically significant reduction in *Lakshanas*, viz., *Shotha*, *Vedana* and *Atopa* was noted at both 8th day and 24th day intervals where P value is less than 0.05 in 62 number of knee joints (of 31 patients) (Table 1)

Statistically significant reduction in stiffness noted in stiffness of knee at both 8th day and 24th day intervals where P value is less than 0.05 in 62 number of knee joints (of 31 patients) (Table 2)

Statistically significant reduction in WOMAC scores noted in all the 3 pairs of instances under P value less than 0.05 in 62 number of knee joints (of 31 patients). (Table 3)

Table 1: Results of Wilcoxon Signed rank test for *Shotha*, *Vedana* and *Atopa*

Shotha	Negative ranks			Positive ranks			Ties	Total	Z	P	Remarks
	N	MR	SR	N	MR	SR					
Knee swelling on 8 th day-BT	15	8.0	120.0	0	0.0	0.0	47	62	-3.873	.001	S
Knee swelling on 24 th day-BT	28	14.50	406.0	0	0.0	0.0	34	62	-5.292	.001	S
Knee pain on 8 th day-BT	27	14	378.0	0	0.0	0.0	35	62	-5.11	.001	S
Knee pain on 24 th day-BT	39	20.0	781.0	1	39.0	39.0	22	62	-5.54	.001	S
Knee crepitus on 8 th day-BT	20	10.5	210.0	0	0.0	0.0	42	62	-4.47	.001	S
Knee crepitus on 24 th day-BT	28	14.5	406.0	0	0.0	0.0	34	62	-5.01	.001	S

Table 2: Mc Nemar test on stiffness of knee

Stiffness in knee BT	Stiffness of knee 8 th day		Stiffness of knee 24 th day	
	Absent	Present	Absent	Present
Absent	16	0	16	0
Present	10	36	23	23

Table 3: Results of Repeated Measure Anova test on Womac scale- Pair wise comparison

Womac score (I)	Womac score (J)	Mean difference (I-J)	Std Error	Sig.	95% Confidence Interval		Remarks
					Lower Bound	Upper Bound	
BT	8 th day	5.377	0.890	0.000	3.186	7.568	S
8 th day	24 th day	6.098	0.719	0.000	4.327	7.87	S
24 th day	BT	-11.475	0.859	0.000	-13.592	-9.359	S

DISCUSSION

Discussion on subjective and objective parameters

Discussion on Shotha: Vata Poorna Driti Sparsha Shotha is due to localised Vata Prakopa or Gatatwa of Vata in the Sandhi. This can be compared with knee effusion which happens due to chronic degenerative changes in joint structures. Drugs which have Shothahara or anti-inflammatory properties, help to reduce the Sandhi Shotha / effusion. Statistically significant improvement was noticed in Sandhi Shotha (90.32%) after treatment.

Discussion on Vedana: Sandhi Vedana during Prasarana Akunchana of Janu Sandhi is due to localised Vata Prakopa. This can be compared with knee pain caused by friction in the knee, due to cartilaginous degeneration. Drugs which have Shoolahara / analgesic properties help to alleviate knee pain. Drugs which exert Snehana action can help to reduce friction and improve joint mobility. Statistically significant improvement was noticed in Sandhi Vedana (61%) after treatment.

Discussion on Atopa: Vata localised in Janu Sandhi causes Stanika Shleshaka Kapha Kshaya which causes

Rookshata in Sandhi. Rukshata in Sandhi affects Samshleshana Karma and causes Atopa in Sandhi. This can be compared with Crepitus / grating sensation in joint is produced by friction, due to reduction in synovial fluid and cartilaginous loss. Drugs which exert Snehana action can help to reduce Atopa in Sandhi. Statistically significant improvement was noticed in Atopa (75.67%) after treatment.

Discussion on Stambha: Stambha or Stabdhatata in Janu manifests as a result of Sthanika Sheeta, Ruksha and Khara Guna Vriddhi and association of morbid Kapha causing restricted movement in knee joint. Snigdhatata and Shlakshnata are very essential for free movement of knee joint. Joint stiffness is due to reduction in synovial fluid and cartilaginous loss. Drugs which exert Vata-kapha Shamana and Snehana action can help to reduce joint stiffness. Statistically significant improvement was noticed in Stambha (79.6%), after treatment.

Discussion on Womac Scale: WOMAC score consists of 3 assessment criterias. They are pain, stiffness and difficulty in movement. Improvement in these 3 criterias results in reduction of the total score. Shoolahara, Shothahara, Snigdha and Vatakaphahara

properties of medicines administered help to alleviate pain, stiffness and difficulty in movement of knee joints. Statistically significant improvement was noticed in WOMAC scores after treatment.

Discussion on mode of action of *Maharasnadi Kashaya* and *Shunti Churna*

Majority of the drugs in *Maharasnadi Kashaya* have *Snigdha Guna*, *Ushna Veerya* and *Vata-Kapha Shamaka* properties. *Snigdha Guna* of drugs counteract *Ruksha Guna Pradhanyata* in case of *Stabdhatata* and *Atopa* of *Janu Sandhi* and probably reduced the symptoms. *Ushna Veerya* drugs counteracts *Sheeta Guna* of *Vata*, and are also *Shoolahara*, which might have helped in reducing *Stambha* and *Shoola* in *Janu Sandhi*. *Vata-Kapha Shamana* property of drugs helps to alleviate *Stambha* of knee joint. *Rasna* has Quercetin and Isohamnetin as active chemical constituents. According to scientific studies, Quercetin is a potent anti-inflammatory agent. By targeting inflammatory response of macrophages, it helps to reduce knee swelling. Quercetin improves protein concentration, molecular size of hyaluronic acid and chondroitin 6 phosphate concentration in synovial fluid and reduces joint stiffness, grating sensation of knee. Isohamnetin has anti-inflammatory and chondroprotective actions, helps to protect joint tissue from degeneration. *Ashwagandha* also has chondroprotective action by inhibition of gelatinase activity of collagenase type 2 enzyme. *Shunti* is *Ushna Veerya* and *Vata-Kaphahara*. This property helps to mitigate *Prakupita Vata* and *Kapha Dosha* in *Sandhi* and helps to reduce *Stambha*. *Shunti* is *Shoolahara* in nature, which helps to reduce *Sandhi Vedana*. *Shunti* is a known anti-inflammatory drug and the active components of *Shunti* are known to inhibit lipoxygenase resulting in suppression of synthesis of inflammatory leucotrienes, TNF-alpha in synoviocytes and reduces swelling in the joint. This can be a probable cause for reduction of *Shotha* in *Janu Sandhi*.

Discussion on mode of action of *Matra Basti* with *Ksheerabala Taila*

Matra Basti is given for the purpose of *Snehana* and *Vatashamana*. *Taila / Ghruta* given as *Basti Dravya*

helps to achieve *Snehana* in the body. It is mentioned that *Matra Basti* given for 8 days, can reach to all the *Dhatus* and causes *Snehana*.

Ksheerabala Taila given as *Matra Basti* does *Snehana* and *Brimhana* in the body including *Sandhis*. *Ksheerabala Taila* does nourishment of *Kapha* by the action of *Snehana*, which helps to counteract *Ruksha*, *Khara Gunas* of morbid *Vata Dosha*, does *Sandhi Samshleshana* and gives *Sthirata* for *Sandhi*. By the *Brimhana* action it counteracts the *Asthi Dhātu Kshaya* taking place in *Janu Sandhi Gata Vata*. *Bala* is proved to be having analgesic and anti-inflammatory activities which helps to alleviate *Janu Shoola* and *Shotha*.

Matra Basti is given through rectal route. Rectal route of administration has been given importance by considering drug assimilation, and bioavailability like the intravenous mode of administration. When the drugs are lipid soluble like *Matra Basti Dravya*, their active ingredients can get absorbed readily from the intestinal mucosa. Comparatively larger quantity of drug can be administered through *Basti* and the formulation of *Basti Dravya* is of minute size, which enables the drug to get absorbed readily and get assimilated freely in the body.

CONCLUSION

There was marked improvement in signs and symptoms of *Janu Sandhi Gata Vata* especially in *Sandhi Shotha* (90.32%) and *Stambha* (79.6%) after treatment. There was significant reduction in objective parameters like WOMAC scores after the treatment due to marked reduction in pain, stiffness and difficulty in movement. *Maharasnadi Kashaya* (15ml) with *Shunti Churna* orally thrice a day after food for a duration of 24 days and *Matra Basti* with *Ksheerabala Taila* (70ml) for a duration of 8 days is effective in *Janu Sandhi Gata Vata* (osteo-arthritis of knee).

REFERENCES

1. Agnivesha, Charaka, Chakrapani, Dridhabala. Sutra Sthana, Vatakalakaleeya adhyaya verse 11,17-18. In: Kushwaha HS (editor), Charaka Samhita of Charaka.

- Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.97.
2. Agnivesha, Charaka, Chakrapani, Dridhabala. chikitsa Sthana, verse 28,36-38. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.734.
 3. Agnivesha, Charaka, Chakrapani, Dridhabala. chikitsa Sthana, verse 28,50-55. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.736.
 4. Pal CP, Singh P, Chaturvedi S, Pruthi KK, Vij A. Epidemiology of knee osteo arthritis in India and related factors. IJO.2016. 50(4); 518-22.
 5. Pal CP, Singh P, Chaturvedi S, Pruthi KK, Vij A. Epidemiology of knee osteo arthritis in India and related factors. IJO.2016. 50(4); 518-22.
 6. Agnivesha, Charaka, Chakrapani, Dridhabala. chikitsa Sthana, verse 28,32-36. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.732.
 7. Yadu nandan upadhyaya,2008 ed, madhava nidanam of madhava kara, part1; Vata Vyadhi nidanam:22,21. Varanasi: Chaukhamba Prakashan, 2008;463
 8. Sharangadhara, madhyamakhand; kwathaadi kalpana:6,88-94.In: Sharangadara samhita of sharangadhara. Reprint 2016. varanasi: Chaukhamba Publications, 2015;97
 9. Sharangadhara, madhyamakhand; kwathaadi kalpana:6,88-94.In: Sharangadara samhita of sharangadhara. Reprint 2016. varanasi: Chaukhamba Publications, 2015;97
 10. Agnivesha, Charaka, Chakrapani, Dridhabala. Sutra Sthana, verse 4,17. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.367.
 11. Agnivesha, Charaka, Chakrapani, Dridhabala. Sutra Sthana, verse 4,17. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba Publications. 2017. p.367.
 12. Vagbhata, pandit hari sadashiva shastri paradar, reprint2015, ashtanga hrudaya of vagbhata; chikitsa Sthana; vatarakta chikitsa adhyaya:22,45,46 varanasi: Chaukhamba Publications;2011
 13. Agnivesha, Charaka, Chakrapani, Dridhabala. chikitsa Sthana, verse 28,36-38. In: Kushwaha HS (editor), Charaka Samhita of Charaka. Reprint edition 2016. New Delhi: Chaukhamba publications. 2017. p.734.
 14. Hochberg MC, Altman RD, April KT, Benkhalti M, Guyatt G, Mc Gowan J et al. American college of rheumatology (2012) recommendations for the use of nonpharmacologic and pharmacologic therapies in osteoarthritis of the hand, hip and knee. Arthritis Care Res (Hoboken) 2012 64(4):465-74.
 15. Yuqing zhang et al, Epidemiology of Osteoarthritis. Clin Geriatr Med.2010 Aug;26(3):355-369

How to cite this article: Kiran K, Vasantha B, Muttappa Totad. Combined effectiveness of Maharasnadi Kashaya with Shunti Churna and Matra Basti with Ksheerabala Taila in Janu Sandhigata Vata (Osteoarthritis Knee) : An open label, single arm clinical study. J Ayurveda Integr Med Sci 2020;4:62-67. <http://dx.doi.org/10.21760/jaims.5.4.11>

Source of Support: Nil, **Conflict of Interest:** None declared.

Copyright © 2020 The Author(s); Published by Maharshi Charaka Ayurveda Organization, Vijayapur (Regd). This is an open-access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.