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A Comparative Clinical Study to Evaluate the Efficacy of Krshara Upanaha and Rasna Taila Janubasti in the Management of Janusandhigata Vata Vis-À-Vis Osteoarthritis of Knee Joint'

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Abstract: ***The prevalence of osteoarthritis among elderly as per the recent study is 56.6%, making it a leading cause of disability. Janusandhigatavata is defined as swelling which on palpation feels like bag filled with air and pain experienced during extension and flexion of joint. The disease Janusandhigatavata described in Ayurveda and Osteoarthritis described in contemporary medical text books have similarity in their manifestation. Considering all these, the present study was undertaken to evaluate and compare the efficacy of KrusharaUpanaha and RasnatailaJanubasti in management Janusandhigatavata. It is A comparative clinical study consisting of two groups with pre and post- test design, With 33 subject in group A and 32 subjects in group B. The diagnosis was based on the signs and symptoms of janusandhigatavata vis-à-vis Osteoarthritis of knee joints and assessment was based on the WOMAC INDEX SCALE which includes janusandhi shola ,janusandhishotha,janusandhistabdhata and janusandhiatopaas its parameter. In group A subjects were administred with KrusharaUpanaha over the knee joints along with Balapanchangaksheerapaka internally was administered for 15 consecutive days.And in Group BRasnatailajanubasti along with Balapanchangaksheerapaka internally was administered for 15 consecutive days. On comparing both groups GroupA was statistically highly significant in reduction of Janusandhshula, Janusandhishotha and WOMAC score with high P value 0.000.The above result suggests that KrusharaUpanha has a significant role in the management of Janusandhigatavata Vis –Vis Osteoarthritis of knee joint.***

Keywords: Janusandhigatavata ,Osteoarthritis- Knee joint, KrusharaUpanaha, Janubasti, Rasnataila, Balapanchanaga Ksheerapaka

1. Introduction

Janusandhigatavata is one among Shula and Shothapradhanavatavyadhi, which is mentioned in the context of Gatavata in almost all the Ayurvedic classical texts. The Lakshana are swelling which on palpation feels like bag filled with air and pain experienced during extension and flexion of joints.[1]As Sandhigatavata is a shula and shotha predominant vatavyadhi, where in the dushya involved areasthi,sira, snayu and kandara.2

Osteoarthritis (OA) has similarities with the signs and symptoms of Sandhigatavata. Hence in this study Janusandhigatavata is taken as special reference with Osteoarthritis of Knee joint. The prevalence of Osteoarthritis among elderly as per the recent study is 56.6%, making it a leading cause of disability. 3 Management of OA in Western medicine includes NSAIDs, Opioid analgesics and injection gluco-corticoids. Full recovery can be expected only in 85% of adults. Role of surgery remains controversial because of poor out come and also it causes economic burden to the patients. Since disorders of movement cripple the individual with regard to both personal and professional life, it is imperative that these disorders are necessary to treat with effective and economic management.[4]

In Ayurvedic classical texts, the management of Sandhigatavata is mentioned as snehana, upanaha, agnikarma, bandhana, mardana, and many other shamanoushadhi.[5]The intervention has to be selected with the view that it should act as shothahara, shulahara, balya, asthidhatuposhaka, and rasayana. KrusharaUpanaha is mentioned in SushrutaSamhitachikitsasthana 34th chapter under the context of sveda adhyaya.[6]The Rasnataila is mentioned in CharakaSamhithachikisthasthana 30th chapter under the vatavyadhichikitsaadhyaya.Balapanchangais mentioned in BhaisajyaRatnavali in the context of vatavyadhi chikitsa.[8] With this perspective the current study was undertaken to compare the efficacy of Krushara Upanaha and Rasnataila Janubasti and Balapanchangaksheerapaka as Shamanoushadi were selected in Janusandhigatavata.

2. Objective of the Study

To evaluate the combined effect of KrusharaUpanaha and RasnatailaJanubasti in the management of Janusandhigatavata

3. Materials and Methods

Source of data

Subjects were selected from the OPD and IPD of Government Ayurveda Medical College & Hospital Mysuru.

Study design:
It was a Comparative clinical trial with pre and post-test design. Total 65 subjects were registered, there were 5droupouts.The study was completed in 60 subjects.

Inclusion Criteria
1) Subjects of all gender between the age group of 40 to 60 years with the signs and symptoms of Janusandhigatavatavis-à-vis Osteoarthritis of knee joint were selected for study.
2) Freshly detected cases and treated cases (with flush out period periods of 7days) of Janusandhigatavata (osteoarthritis) were taken for study included.

Exclusion Criteria
1) Subjects suffering from other systemic disorders which interfere with the intervention were excluded.
2) Complications or co-morbidities of Osteoarthritis like Pseudo Gout, etc
3) Subjects with knee joint deformity, with history of recent trauma and fracture were also excluded.
4) Pregnant and Lactating women were excluded.

Diagnostic Criteria
Diagnosis was made based on the signs and symptoms of Janusandhigatavata as follows;
1) Janusandhishoola
2) Janusandhishotha
3) Janusandhistabdhata
4) Janusandhiatopa

Assessment Criteria
Assessment parameters include the clinical grading of signs and symptoms of Janusandhigatavata and WOMAC index score for Osteoarthritis.

Assessment was done based on following parameter:

Sandhishoola/knee joint pain
No pain: P0
Mild pain: P1
Moderate pain: P2
Severe pain: P3

Sandhishotha/ Swelling in knee joint
No swelling: S0
Mild swelling: S1
Moderate swelling : S2
Severe swelling: S3

Sandhistabdhata/ Stiffness in knee joint
No stiffness: ST0
Mild stiffness : ST1
Moderate stiffness : ST2
Severe stiffness : ST3

Sandhiatopa/Crepitus in knee joint
No crepitus : A0
Mild crepitus: A1
Moderate crepitus: A2
Severe crepitus: A3

Statistical Methods
The result were analysed statistically by descriptive statistics and Chi- square test using Service product statistical solution (SPSS) for windows software.

Intervention
In group A-Upanaha with Krushara over janusandhi was carried out for 15 consecutive days. Along with it, 100ml of Balapanchangaksheerapaka was administered internally in two equally divided doses after food. In group B-Janubasti with Rasnataila was carried out for 15 consecutive days .Along with it, 100ml of Balapanchangaksheerapaka was administered internally in two equally divided doses after food.

The assessment was done on the following schedules
- Pre-test assessment: Before the commencement of intervention.
- Post-test assessment: After the completion of intervention.

4. Observation and Results

The data was collected from the subjects based on diagnostic criteria and WOMAC SCALE INDEX.

Result on Janu Sandhi Shoola
In group A among 30 subjects, 14(46.7%) individuals had moderate pain and 16(53.3%) clients had severe pain before intervention .After intervention there was no pain in 8(26.7%) subjects and 22(73.3%) volunteers had mild pain. In group B before intervention, 22 (73.3%) subjects had moderate pain and 8(26.7%) had severe pain .After intervention 18(60.0%) had no pain, 6(20.0%) had mild pain 5(16.7%) had moderate pain and 1(3.33%) individual had severe pain.

Table 1: Showing the result of shula

Groups				No pain	Mild	Moderate	Severe	Total
Group A	Session	0	count	0	0	17	16	30
		15	count	8	22	0	0	30
	Total		count	8	22	14	16	60
Group B	Session	0	count	0	0	22	8	30
		15	count	18	6	5	1	30
	Total		count	18	6	27	9	60

Result on Janu Sandhi Shotha
In group A among 30 subjects, 7(23.3%) individuals had no swelling, 13(43.3%) clients had mild swelling and 10 individuals had moderate swelling before intervention. After intervention there was no swelling in 26(26.7%) subjects and 4(13.3%) volunteers had mild swelling. In group B before intervention, 17 (56.7.3%) subjects had no swelling, 8(26.7%) had moderate swelling and 5(16.7%) had severe swelling. After intervention 20(66.7%) had no swelling, 8(26.7%) had mild swelling, 2(16.7%) had moderate swelling.

Table 2: Showing the result on Janusandhishotha

Groups				No Swelling	Mild	Moderate	Total
Group A	Session	0	count	7	13	10	30
		15	count	26	4	0	30
	Total		count	33	17	10	60
Group B	Session	0	count	20	8	2	30
		15	count	17	8	5	30
	Total		count	37	16	7	60

Result on Janustabdhata

In group A before intervention, 16(53.3) individuals had no stiffness, 9(30.0%) had mild, 4(13.3%) had moderate and 1(3.33%) had severe stiffness. After intervention 25(83.3%) individuals had no stiffness and 5(16.7%) had mild stiffness. In group B, before intervention, 20 (66.7%) subjects had no stiffness, 9(30%) had mild and 1(3.33%) had moderate stiffness. After intervention, 19 (63.3%) volunteers had no stiffness, 3(10%) had mild and 8 (26.7%) had moderate stiffness.

Table 3: Showing the result on Janusandhistabdhata

Groups				No Stiffness	Mild Stiffness	Moderate Stiffness	Severe Stiffness	Total
Group A	Session	0	count	16	9	4	1	30
		15	count	25	5	0	0	30
	Total		count	41	14	4	1	60
Group B	Session	0	count	20	9	1	0	30
		15	count	19	3	8	0	30
	Total		count	39	12	9	0	60

Result on ATOPA

In this study among 30 subjects in group A before intervention, 3 (10%) clients had mild crepitus ,13(43.3%) had moderate and 14 (46.7%)had severe crepitus. After the intervention, 6 (20.0%) volunteers had mild crepitus 19(63.3%) had moderate and 5 (16.7%)had severe crepitus . In group B before intervention, 3(10%) had mild crepitus 18(60%) had moderate crepitus and 9 (30%) had severe crepitus. After the intervention 9(30.0%) subjects had mild crepitus, 19(63.3) had moderate crepitus, 2(6.7%) had severe crepitus.

Table 4: Showing the result on JanusandhiAtopa

Groups				Mild	Moderate	Audible	Total
Group A	Session	0	Count within session	3 (10%)	13 (43.3%)	14 (46.7%)	30 (100%)
		15	Count within session	6 (20%)	19 (63.3%)	5 (16.7%)	30 (100%)
	Total		Count within session	9 (15%)	32 (53.3%)	19 (31.7%)	60 (100%)
Group B	Session	0	Count within session	3 (10%)	18 (60%)	9 (30%)	30 (100%)
		15	Count within session	9 (30%)	19 (63.3)	2 (6.7%)	30 (100%)
	Total		Count within session	12 (20%)	37 (61.7%)	11 (18.3)	60 (100%)

Result on WOMAC Score Grading

In group A, before the intervention 3(10%) individuals had score of grade I and 27(90%) had score of grade II .After the intervention all the 30(100%) subjects had score of grade I. In group B, before the intervention 8 (26.66%)volunteers had score of grade I, 21(70%) had score of grade II and 1(3.33) had score of grade III. After the intervention 28(93.33%) subjects had score of grade I and 2 (6.67%)had score of grade II, After the completion of study, out of 60 subjects, 58(96.66%) individuals had score of grade I and 2(6.7%) subjects had score of grade II.

Table 5: Showing the WOMAC score Grading in Janusandhigatavata

Groups				Grade I	Grade II	Grade II	Total
Group A	Within Session	0	Count within session	3 (10%)	27 (90%)	0	30 (100%)
		15	Count within session	30 (100%)	0	0	30 (100%)
Group B	Within Session	0	Count within session	826.66% ()	21 (70%)	1 (3.33%)	30 (100%)
		15	Count within session	28 (93.33%)	2 (6.67%)	0	30 (100%)

Overall Assessment

In group A, among 30 subjects 6(20.0%) subjects had maximum improvement, 13 (43.33%) individuals had moderate improvement and 11(20%) individual had mild improvement in signs and symptoms. In group B, among 30 individuals 5(16.7%) had maximum improvement 18 (60%) had moderate and 7(23.3%) had mild improvement. Thus result obtained by the study is non significant with P value .409

Table 23: Showing on overall assessment

		Group A	Group B	Total
Overall assessment	Marked Improvement	6(20%)	5(16.7%)	11(18.3%)
	Moderate improvement	13(43.3%)	18(60%)	31(51.7%)
	Mild improvement	11(36.7%)	7(23.3%)	18(30%)
	Total	30(100%)	30(100%)	60(100%)

5. Discussion

Janusandhigatavata is shola pradhanavatavydhi,caused by excessive intake of vatapradhanaahara and vihara. In the present stydyjanusandhigatavata is considered with special reference to Osteoarthritis. The general vatavyadhichikitsa applicable to janusandhigatavata based on the lakshana and the sthana of the disease and the treatment methods which are directly mentioned as the chikitsa sutra of janusandhigatavata. Among all the treatment modalities mentioned, among janubasthi, krusharaupanha and balapanchangaksheerapakawas adopted as intervention in this study as it helps in dhatuposhana and bringsvata to normalcy. Upanaha is snigdhasweda which provides strength to joints and act as bhrumahana. It can be considered as a useful modality of management in dhatukshayajanyajanusandhigatavatavyadhi where brumhana effect is specifically intended. Its specific effect on janusandhigatavatawas evaluated in this clinical

trial.krusharaupanaha highlights its usefulness in the management of Janusandhigatavata vis-à-vis osteoarthritis of knee joint.

6. Conclusion

The vitiated Vata when gets located at one or more than one joints produces the features like sandhishula (pain in the joints), sandhishotha (swelling), atopa (crepitus), sandhistabdhata (stiffness in the joint). When these set of clinical manifestations appear in Janusandhi, it is termed as Janusandhigatavata. Janusandhigatavata as a clinical condition is similar to Osteoarthritis-knee joint described in contemporary medical science.

A comparative clinical study, conducted on 60 subjects who were divided into two groups. Group A with 30 subjects were treated with KrusharaUpanaha along with Balapanchangaksheerapaka internally for 15 consecutive days, where as group B with Rasnatailajanubasti along with Balapanchangaksheerapaka internally for 15 consecutiveGroup A showed clinically significant result in reduction of all the symptoms except Atopa when compare with group B . In group A ,among 30 subjects 6(20.0%) subjects had maximum improvement ,13 (43.33%)individuals had moderate improvement and 11(20%) individual had mild improvement in signs and symptoms .In group B ,among 30 individuals 5(16.7%)had maximum improvement 18 (60%)had moderate and 7(23.3%)had mild improvement. Hence, it can be concluded that Krusharaupanaha has more significant role than Rasnatailajanubasti in the management of Janusandhigatavata / Osteoarthritis-knee joint.
No adverse or untoward effects were observed during the study period.

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