

COMPARATIVE STUDY OF THERAPEUTIC EFFICACY OF SAMSHODHANA AND SAMSHAMANA CHIKITSA IN SANDHIGATAVATA VIS-A-VIS OSTEO ARTHRITIS

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The present work aim to undertake a critical literary and conceptual study, detailed demographic and clinical study, and a study to evaluate the efficacy of different therapeutic regimen for the treatment of Sandhivata.

The response of each therapy prescribed, is statistically analysed and found encouraging. On comparison combined therapy (where classical yoga vasti was administered prior to drug therapy) was found to be more efficacious than drug therapy alone.

Introduction

The disease *Sandhivata* is briefly described in ayurvedic texts. Charaka described the disease first in the name *Sandhigatanila* and defined this as a disease with the symptoms of *Sotha*, which on palpation revealed as air filled bag (*Vata Purna Driti Sparsha*) and *Shoola* on

Prasarana And Akunchana (on flexion and extension). Sushruta has described the disease as *Sandhigatavata* and mentioned *Shoola* and *Shopha* in it leading to the *Hanti* (diminution of the movements or impaired joint functions).

It is pertinent to point out that the *Sandhivata* as described in Ayurveda is strikingly similar to osteoarthritis disease, which is characterized by focal and progressive degeneration of hyaline articular cartilage with evidence of accompanying periarticular bone response.

Detail description about *Samprapti* (aetio-pathogenesis) of *Sandhivata* is not available in ayurvedic texts. But study of various texts conclude that early pathology of *Sandhivata* starts with vitiated *Vata* (due to *Dhatu Kshaya* or *Avarana* or directly by the practice of *Vata Vardhak Ahar* and *Vihar*) accumulating in *Sandhi Sthana* and causing diminution of *Sleshak Kapha* and

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destructive changes in the *Asthies*, further leading to manifestation of symptoms of disease.

As the disease is degenerative in nature and mainly occurring in old age, *DhatuKshaya* may be consider as principal factor in the genesis of disease by vitiating *Vata*. While vitiation of *Vata* due to wrong practice or *Ahar* and *Vihar* and due to *Avarana* may be due to various *Sharirik* or *Mansik* pathological conditions. specially responsible for vitiation of *Vata*.

Materials and Methods

Object: In the present study the effect of an indigenous compound drug and *Vasti* therapy, alone as well as with trial compound was evaluated in cases of *Sandhivata* vis-a-vis osteoarthritis and comparative study is made. Along with this a critical literary, conceptual and detailed demographic study has also been done.

Selection of drug: Considering *Dhatukshaya* as a morbid factor in aetiopathogenesis of *Sandhivata* and vitiated *Vata* chiefly responsible for *Shoola* and *Shotha* of *Sandhi*, a formulation having *Rasayana* and *Vata Shamak* properties has been selected for present study containing *Ras Sindur*, *Rasna Pancanga*, *Shudhkupilu*, *Eranda Mool*, *Sunthi* and *Godanti*.

Each dose of the compound was having dry powder of :

<i>Rasna Pancanga-</i>	2gm	>6.2 gms in total
<i>Eranda Mool-</i>	2gm	
<i>Sunthi-</i>	1 gm	
<i>Ras Sindura-</i>	125 mg	
<i>Shudhkupilu-</i>	75 mg	
<i>Godanti Bhasma-</i>	1 gm	

The mixture was given twice a day with *Madhu*.

Apart from this, *Vasti Chikitsa* (*Yoga Vasti* as per classical reference) has been given independently as well as, in combination with drug therapy in different study groups.

Selection of patients: Randomly from Kaya Chikitsa OPD and IPD of S.S. Hospital, B.H.U.

Exclusion criteria:

- * History of active presence of other inflammatory or rheumatic diseases
- * History of Traumatic Arthritis
- * Patients aged more than 80 years
- * Patients of OA without knee joint involvement
- * Substantial abnormalities in haematological, hepatic, renal or metabolic functions

Inclusion criteria

- * Patients fulfilling the diagnostic criteria of osteoarthritis

COMPARATIVE STUDY OF THERAPEUTIC EFFICACY.....

Diagnostic criteria

Traditional format	Classification tree format
1. Knee pain	Knee pain
2. Osteophytes	Osteophytes
Plus	Or
3. One of three	Knee pain and age 40 years
- Age > 50 years	Morning stiffness - 30 minutes in duration
- Stiffness < 30 minutes	Crepitus on motion
Crepitus	

(Altman et al. 1986, Arthritis Rheum 29:1039-1049)

- * Cases not violating exclusion criteria.
- * Patients aged over 40 yrs. with involvement of knee joints.
- * Cases of primary osteoarthritis.

Method of study:

Present study has been divided into three groups based on the type of therapy to which patients were subjected:

Therapy wise details of the groups -

Gp.	No. of patients	No. of complete follow ups	Treatment	Dose & duration
A	50	35	Trial drug	6.2 gm BD for 3 Months
B.	43	35	Trial drug + <i>Vasti</i>	<i>Vasti</i> for 8 days + 6.2 gm BD of trial drug for 3 Months
C.	11	5	<i>Yoga Vasti</i>	<i>Vasti</i> for 8 days, a month for 3 months

Clinical criteria for assessment the severity of knee OA: Along Functional Lequesne Index (Knee) is adopted for the assessment of the severity of while subjective assessment of for severity of individual symptoms was made by giving score 0, 1 ,2, and 3 respectively for the absent, mild, moderate and severe, severity of the symptoms.

Observations and Results:

Literary observations: By the literary observations, the thought which is coming into light is that the recent understanding about aetiopathogenesis of osteoarthritis is going in favour of what has been told, thousands of years before in ancient Ayurveda.

For a long time, even after affecting millions of people, osteoarthritis was neglected and considered simply as a degenerative disease in modern science. But recent epidemiologic, clinical and treatment studies have revealed its complexity. Now its aetiology is said to be intricate which bridges biomechanics and biochemistry. Evidences are also growing for the role of many systemic factors too, ruling out its simple and focal aetiopathogenesis. Screening of various ayurvedic texts leads to conclusion that aetiopathogenesis of *Sandhivata* starts with vitiation of *Vata*, mostly due to *Dhatukshaya* or by the effect of *Vaya*, both are more or less interrelated. Vitiation of

Vata due to *Aavarana* or mal practice of *Ahara* and *Vihara* may have role in manifesting or aggravating the symptoms or may be the cause of secondary osteoarthritis, what is said in modern science. Vitiated *Vata* after being accumulating in *Sandhi* causes qualitative and quantitative depletion of *Sleshak Kapha* and destructive changes in *Sandhi* and *Asthi*, further leading to the manifestation of symptoms of the disease.

Therapeutic assessment

Response of trial compound: The trial compound exhibited mild to moderate degree of clinical improvement in terms of relieving individual symptoms as well as in reducing the severity of disease.

Response of combined therapy: Combined therapy exhibited moderate to high degree of clinical improvement in terms of relieving individual symptoms as well as in reducing the severity of disease.

Response of Samshodhana therapy (*Vasti*): In group C where *Vasti Chikitsa* alone has been given for 8 days of month for 3 months the response in reducing symptoms like pain, swelling, tenderness, restriction of movement of stiffness is very much satisfactory but results can't be compared with group A or B and also can't be generalized because of very small sample of cases.

COMPARATIVE STUDY OF THERAPEUTIC EFFICACY.....

Table 1
Distribution and comparative analysis of severity of pain in group A

Severity	BT	AT	Z	P
Absent	0 (0%)	4 (11.4%)	2.122	≤ 0.05
Mild	6 (17.1%)	23 (65.7%)	4.745	≤ 0.001
Moderate	17 (48.6%)	6 (17.1%)	2.978	$\leq .01$
Severe	12 (34.3%)	2 (5.7%)	3.202	≤ 0.01

BT - Before treatment, AT - After treatment

Table 1 reveals the shifting of cases towards reducing severity of pain. After treatment maximum shifting is in to mild group ($z=4.745$ and $P \leq 0.001$) and in to absent severity groups ($z=2.122$ and $p \leq 0.05$) from moderate group ($z=2.978$ and $P \leq 0.01$) and from severe group

($z=3.202$ and $P \leq 0.01$). Table 2 shows shifting of large no. of cases into mild group ($Z=5.909$ and $P \leq 0.001$) and into absent severity group ($Z=2.416$ and $P \leq 0.01$) from severe group ($Z=4.607$ and $P \leq 0.001$) and from moderate group ($Z=3.081$ and $P \leq 0.01$).

Table 2
Distribution and comparative analysis of severity of pain in group B

Severity	BT	AT	Z	P
Absent	0 (0%)	5 (14.3%)	2.416	≤ 0.01
Mild	5 (14.3%)	25 (71.4%)	5.909	≤ 0.001
Moderate	13 (37.1%)	3 (8.6%)	3.081	≤ 0.01
Severe	17 (48.6%)	2 (5.7%)	4.607	≤ 0.001

BT - Before treatment, AT - After treatment

Table 3**Distribution and comparative analysis of severity of swelling in group A**

Severity	B.T.	A.T.	Z	P
Absent	10 (28.6%)	20 (57.1%)	2.393	≤ 0.05
Mild	16 (45.7%)	7 (20.0%)	2.379	≤ 0.05
Moderate	5 (14.3%)	4 (11.4%)	0.362	NS
Severe	4 (11.4%)	4 (11.4%)	0	N.S.

NS = Not significant, BT - Before treatment, AT - After treatment

Maximum shifting was seen into the group with no swelling ($z=2.393$ and $P \leq 0.05$) from mild group ($z=2.379$ and $P \leq 0.05$), and from moderate group ($z=0.362$ and P-NS in table 3).

Table 4 reveals significant shifting of cases from mild group ($z=2.525$ and $P \leq 0.01$) into absent severity group ($z=2.781$ and $P \leq 0.01$).

Table 4**Distribution and comparative analysis of severity in group B**

Severity	BT	AT	Z	P
Absent	11 (31.4%)	22 (62.8%)	2.781	≤ 0.01
Mild	14 (40.0%)	5 (14.3%)	2.525	≤ 0.01
Moderate	7 (20.0%)	5 (14.3%)	0.634	NS
Severe	3 (8.6%)	3 (8.6%)	0	NS

Not significant, BT - Before treatment, AT - After treatment

COMPARATIVE STUDY OF THERAPEUTIC EFFICACY.....

Table 5
Distribution and comparative analysis of severity of stiffness in group A

Severity	BT	AT	Z	P
Absent	0 (0%)	2 (5.7%)	1.454	NS
Mild	20 (57.1%)	22 (62.9%)	0.496	NS
Moderate	7 (20.0%)	10 (28.6%)	0.843	NS
Severe	8 (22.9%)	1 (2.9%)	2.614	≤ 0.01

NS = Not significant, BT - Before treatment, AT - After treatment,

Table 5 reveals the significant shifting of cases from severe group ($z=2.615$ and $P \leq 0.01$) to less severe group. In only 7.5% cases stiffness was cured. Table 6 is showing significant

shifting of cases into mild group ($z=3.994$ and $P \leq 0.001$) and into absent severity group ($z=2.122$ and $P \leq 0.05$) from moderate group ($z=3.168$ and $P \leq 0.01$) and from severe severity groups ($z=2.615$ and $P \leq 0.01$).

Table 6
Distribution and comparative analysis of severity of stiffness in group B

Severity	BT	AT	Z	P
Absent	0 (0%)	3 (8.6%)	2.122	≤ 0.05
Mild	12 (34.2%)	27 (77.1 %)	3.994	≤ 0.001
Moderate	15 (42.9%)	4 (11.4%)	3.168	≤ 0.01
Severe	8 (22.9%)	1 (2.9%)	2.615	≤ 0.01

BT - Before treatment, AT - After treatment

Table 7
Distribution and comparative analysis of severity of disease in patients of group A

Severity	BT	AT	Z	P
Extremely severe	5 (14.3%)	2 (5.7%)	1.211	NS
Very severe	7 (20%)	2 (5.7%)	1.829	NS
Severe	18 (51.4%)	14 (40%)	0.963	NS
Moderate	5 (14.3%)	12 (34.3%)	2.006	≤ 0.05
Mild	0 0	5 (14.3%)	2.146	≤ 0.05

MS = Non Significant, BT - Before treatment, AT - After treatment

Table 7 reveals the significant shifting of cases into mild group ($z=2.416$ and $P \leq 0.05$) and into moderate group ($z=2.006$ and $P \leq 0.05$) from severe, very severe and extremely severe groups. Table 8 shows the shifting of a large

number of cases into moderate ($z=2.689$, $P \leq 0.01$) and into mild group ($z=2.261$, $P \leq 0.05$) from extremely severe group ($z=2.120$, $P \leq 0.05$), very severe group ($z=1.948$, $P \leq 0.05$) and from severe group.

Table 8
Distribution and comparative analysis of severity of disease in patients of group B

Severity	BT	AT	Z	P
Extremely severe	8 (22.9%)	2 (5.7%)	2.120	≤ 0.05
Very severe	9 (25.7%)	3 (8.6%)	1.948	≤ 0.05
Severe	13 (37.1%)	11 (31.4%)	0.503	NS
Moderate	5 (14.3%)	13 (37.1%)	2.261	≤ 0.05
Mild	0 (0%)	6 (17.2%)	2.689	≤ 0.01

Not significant, BT - Before treatment, AT - After treatment

Table 9**Distribution of severity of disease in group C**

Severity	BT		AT	
	No.	%	No.	%
Extremely Severe	2	40	0	0
Very Severe	2	40	1	20
Severe	1	20	1	20
Moderate	0	0	3	60
Mild	0	0	0	0

BT - Before treatment, AT - After treatment

Table 9 reveals satisfactory response of therapy in shifting the cases towards reducing severity of disease.

Comparative study of therapeutic efficacy of trial compound vis combined therapy: The difference in therapeutic efficacy of two therapies given is found statistically significant only in reducing stiffness, where combined therapy is proved more efficacious. While in reducing other symptoms (pain, swelling, stiffness, tenderness) the difference between the two therapies was present but not statistically significant. On individual analysis of symptoms it is observed that the pairs showing statistically significant shifting towards reducing severity are more in terms of number, as well as in degree of significance, in group B, where *Vasti* was administered prior to drug therapy. From the above observations one can conclude that the trial compound when given after

Samshodhana Chikitsa i.e. *Vasti Karma* is found to be more efficacious.

Analysis of intensity of pain and feeling of well being on visual analogue scale (VAS): Reduction in pain was also analysed on VAS in both the groups. Study reveals gradual reduction of mean of VAS score with respect of follow ups in both groups. But decline was found to be more prominent in group B. The increase in feeling of well being was statistically significant in both the groups but comparatively more in group B.

Discussion

Chronicity of the disease process, complex and undermined aetiopathogenesis and relative failure of modern medicine have altogether prescribed osteoarthritis as a challenge to the medical world. Its understanding in Ayurveda by the concept of *Dhatukshaya* with corresponding vitiation of *Vata* and accordingly therapeutic interventions mentioned, can present a hope in coping this challenge of the time. Keeping

in view the understanding of *Sandhi Vata* as per ayurvedic texts the specific target of therapeutic intervention is to check or slow the process of *Dhatukshaya*, and to pacify *Vata* through various methods utilizing the range of interventions planned through *Ahara, Vihara, Aushadhi* and *Samshodhan Karma*.

Considering *Dhatukshya* as a morbid factor in aetiopathogenesis of *Sandhivata* and vitiated *Vata* chiefly responsible for *Shool* (specially on *Prasarana* and *Akunchana*) *Shoth* (*Vata Purna Driti Sparsham*) a compound, having *Rasayana* and *Vata Shamak* drugs in it, has been selected for a present study. Apart from this *Vasti Chikitsa* has been given along with drug therapy.

Percentage distribution and comparison of severity of each symptom (pain, swelling, tenderness, stiffness, restriction of movement and crepitus) has been analysed separately. Over all assessment of severity of disease is also made. The number of cases in group A and B having 35 patients each. So comparative analysis of group C is 5 which is very less as compared to number of cases in group A and B having 35 patients each. So comparative analysis of group A and C or B and C will not give the realistic and significant results. Therefore, while analyzing the data comparison is made only in group A and B.

After over all analysis of the data we can document that all the therapies, prescribed are giving significant results but on comparison combined therapy has been

proved to be more efficacious over drug therapy alone. The effect of drug as well as combined therapy was much better in case with relatively recent onset of disease. Weight reduction, however not analyzed was found to be very effective in reducing the severity of symptoms.

In the present study the demographic data reveals more occurrence of disease in females (58.7%) occupationally in the house wives (37.6%), in 5th decade of life (87.5%), in urban population (67.3%). Majority of cases were belonging to *Dwidoshaja* type of *Prakriti* with relatively more incidence, in *Vatakaphaja Prakriti* (45.19%).

In this paper data evaluating the effect of each therapy in reducing the severity of disease is presented. While among all symptoms studied, data showing reduction in pain swelling and stiffness has been presented.

Conclusion

In *Sandhivata* where basic pathology revolves around *Dhatukshaya* and vitiated *Vata* and the patient has to be rejuvenated in general, by use of *Rasayana* drugs, prior to which *Samshodhana Chikitsa* is depicted as a rule in the texts. And as *Sandhivata* is a *Vatik* disorder the role of *Samshodhana* i.e. *Vasti* (after *Snehana* and *Swedana*) is beyond doubt. So it can be concluded that, administration of *Vasti* prior to drug therapy, may be a better approach of management in *Sandhivata* vis-a-vis osteoarthritis.

COMPARATIVE STUDY OF THERAPEUTIC EFFICACY

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सारांश

सन्धिवात रोग में संशमन एवं संशोधन चिकित्सा के प्रभावों का तुलनात्मक अध्ययन

परमेश्वर कुमार अरोड़ा एवं एस. के. तिवारी

प्रस्तुत अध्ययन में, सन्धिवात रोगियों को तीन पृथक—पृथक समूहों (ए. बी. एवं सी.) में पंजीकृत कर, चिकित्सार्थ क्रमशः औषधि योग (रससिन्दूर, शुद्ध कुपीलु, गोदन्ति भरम, रासना पंचाग चूर्ण, एरण्ड मूल चूर्ण तथा शुण्ठी चूर्ण से निर्मित योग), योग वस्ति उपरान्त औषधि योग तथा केवल योग वस्ति (8 दिन प्रतिमाह तीन माह तक) दिया गया।

चिकित्सा उपरान्त सभी समूहों में रोग के लक्षणों यथा सन्धि शूल, सन्धि शोफ, स्पर्थसहय तथा रिटफैनैस आदि पर पड़े चिकित्सीय प्रभाव का विश्लेषन करने पर उनकी तीव्रता में आशातीत कमी पायी गयी। समूह ए तथा बी का तुलनात्मक अध्ययन करने पर, समूह बी. (जिसमें कि औषधि योग से पूर्व वस्ति चिकित्सा दी गयी) में समूह ए. की अपेक्षा अधिक चिकित्सीय लाभ पाया गया।