



Management of unexplained infertility in females through Yoga

Dr.Dattatray G. Parde¹, Dr. Sandip S. Deore², Dr. Sandip Bausaheb Suse³

1. Assistnt Professor at the Government Ayurved College, Jalgaon, Maharashtra
2. Associate Professor, Department of Panchakarma, G.S. Gune Ayurved College, Ahmednagar, Maharashtra.
3. Associate Professor, Department of Kayachikitsa, Government Ayurved college, Jalgaon, Maharashtra.



Abstract- In 21st century with continuous changing life style environment and dietary habits have made man the victim of many diseases. Osteoarthritis is one of them. It hampers the day-to-day activities of life due to increase in pain and stiffness in the joint. As age progresses the degenerative changes increases with simultaneously aggravate the disease. In chronic condition the pain is unbearable and degenerative changes are irreversible. Keeping in view, this burning problem of present era and its devastating effect it was decided to conduct study on osteoarthritis with Ayurvedic principle of *Abhyantar tailpaan*(Internal application as *Snehabana*) is effective in *Sandhivata*, *Sneha Dravya* possesses *Drava*, *Sukshma*, *Sara*, *Snigdha*, *Manda*, *Mrudu*, *Guru* properties which are just opposite to those of *Vata* so it alleviates *Vata*. In its balanced state, *Vayu* helps maintain harmony between the *Doshas* and *Dhatus*. It is stated that by the regular use of *snehabana*, degenerative changes of old age could be prevented and cured. This anti-ageing effect of *snehabana* is very important as far as *Sandhivata* is concerned. It restores depleted *Dhatus* and enhances *Prana* (vital energy) while also strengthening *Agni*.

Introduction:

In elderly age *Vata prakopa* occurs due to which all *dhatus* suffers from 'Kshaya' making the individuals prone to many diseases. Amongst them *Sandhivata* stands top in the list. The degeneration of *sandhis* by *prakupita vata* is the chief phenomenon in *samprapti* of *sandhivata*. This age-related degenerative disease in *ayurveda* is described as *Kala* (old age). *Kala* is one of the important causative factors for *sandhivata*. *Acharya Charak* described this phenomenon as a *Swabhav Paramvad*¹.

The symptoms of *SandhiVata* described in *Samhita* are *Vedana* (joint pain during flexion and extension), *Sotha* (swelling), due to these two symptoms stiffness and crepitus may develops.

Osteoarthritis is a globally increasing problem. OA is a joint disease characterized by degeneration of joint cartilage and adjacent bone. Weight bearing joints are more effected by this disease. As the degeneration worsen, joints become less movable and eventually pain and stiffness increases. It impairs the daily routine of diseased person. Previously it affects the age above 55years and above, but now a days prevalence occurs at the age of 35 and above². The symptoms of OA are joint pain, tenderness, morning stiffness over 30 min. as the disease progresses locking, crepitation, effusion are also occur .Evidence of OA is increasing day by day because of is growing for the role of genetic ,altered dietary intake ,estrogen use, low bone density ,muscle weakness ,obesity ,joint laxity .The pathology of OA involves the whole joint in the diseased process that include focal and progressive hyaline cartilage loss .With the changes in the bone underneath cartilage ,that include development of marginal outgrowth i.e., Osteophytes . soft tissue structures in and around the joints are also affected. The bony sclerosis occurs due to increase in thickness of bony envelop.

Thus, due to similarities of *sandhivata* and osteoarthritis can be taken as similar disease condition. Osteoarthritis is major cause of impaired mobility.Osteoarthritis (OA) is ranked as the eighth most common non-fatal condition, contributing to about 2.8% of the total years lived with disabilityOsteoarthritis is the second most common joint disease in India. In 2013 the prevalence of Osteoarthritis was 22% to 35% in India.³ In Male prevalence of knee osteoarthritis was 28.7% in India. In female prevalence is 31.6%.

Knee Osteoarthritis is likely to become the fourth most important global cause of disability in women and eighth most important in men. Keeping in view, this burning problem of present era and its devastating effect it was decided to conduct study on osteoarthritis with *Ayurvedic* principle of *Abhyantar tailpaan* (Internal application as *Snehabana*) is effective in *Sandhivata*.

Aims – Study the effect of *Abhantar tailpaan* in the management of *Sandhivata* w. s. r. to Osteoarthritis of knee joint.

Objectives – To evaluate the etiopathogenesis of *Sandhivata* (Osteoarthritis of knee joint).

To analyze the effect of *abhartar tailpaan* to improving the condition of *santhivata* (Osteoarthritis).

Material & Methods

Materials: Pure extra virgin Olive Oil.

Study design: Prospective clinically study.

Duration of study: 30 days

Methods Subject recruitment:

Subjects of **Sandhivata** were selected on the basis of inclusion criteria given by American College of Rheumatology for osteoarthritis.

Selection criteria: Inclusion criteria:

Subjects with sign and symptoms of sandhivata and osteoarthritis who fulfill the criteria of osteoarthritis given by American college of rheumatology, irrespective of sex caste and religion.

Subjects of age group between 40 years to 65 years.

Criteria for osteoarthritis by American college of Rheumatology: Knee pain

Out of six, three should be present:

- a. Age 50 years and above
- b. Crepitations
- c. Bony tenderness
- d. No warmth to touch
- e. Bony enlargement
- f. Stiffness lasting less than 30 minutes

Exclusion criteria:

- Subjects suffering from infective and inflammatory bone diseases.
- Rheumatoid arthritis.
- Gouty arthritis.
- Psoriatic arthritis.
- Uncontrolled diabetes mellitus.

- Hypertension.
- Chronic renal failure. Cancer patients.
- SLE and other auto immune diseases

Investigations:

- Serum calcium level

Investigation for exclusion of other disease.

- RA factor (If necessary)
- Uric acid (If necessary)

Total number of subjects: 20 Subjects

Number of groups: 1

20 subjects were given abhyantar tail paan (Pure Extra virgin olive oil) 10ML twice a day with luke warm water as anupaan.

Assessment criteria: Subjective

Sr. No.	Assessment Criteria	Grades	Interpretation
1	Sandhishula	0	No pain
		1	Occasional mild pain on excessive work or movement, relieved after rest
		2	Occasional unbearable pain on routine work or movement relieved after medicament
		3	Persisting, unbearable pain on excessive routine work or movement, relieved After medication
2	Shotha	0	No swelling
		1	Less than 10% increased circumference of the affected joint.
		2	More than 10% increased circumference of the affected joint
		3	More than 20% increased circumference of affected joint
3	Akunchana Prasaranas	0	No pain
		1	Pain without / with wincing of face

	Vedana	2	Patient shouts or prevents complete flexion
		3	Patient does not allow passive movements
4	Sashabdfa Gati	0	No crepitation
		1	Crepitation on single side of knee joint
		2	Crepitation on both side of knee joint
		3	Easily Audible crepitations
5	Sthambha	0	No stiffness
		1	Some times for 10 minutes daily
		2	for 30 minutes daily
		3	for more than 60 minutes
6	Sparsasahyata	0	No tenderness
		1	The patient winces on touch
		2	Patient winces and withdraws the affected part
		3	Patient does not allow the joint to be touched.
7	Vatapurna druti sparsha	0	Absent
		1	Mild
		2	Moderate
		3	Severe

b) Objective assessment criteria:

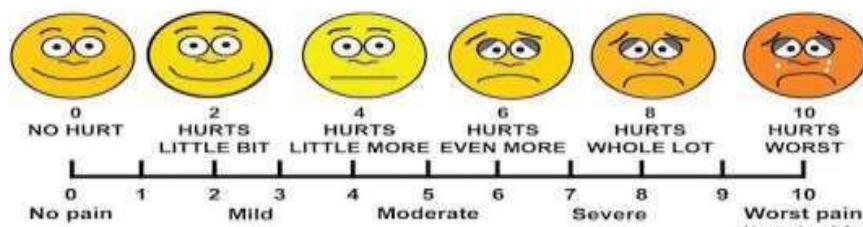
Serum Calcium Level:

Parameter for assessment:

a) Visual analogue pain scale:

The Visual Analogue Scale (VAS) is a psychometric measurement tool commonly used in questionnaires to assess the intensity of pain.. It is a tool used to assess personal perceptions or attitudes that cannot be measured directly. In a VAS, individuals show how strongly they agree or disagree with a statement by marking a point on a continuous line that stretches between two opposite end-points.. The assessment of pain was done with the help of visual analog scale.

PAIN MEASUREMENT SCALE



b) WOMAC Index:

The WOMAC (Western Ontario & McMaster Universities Osteoarthritis Index) consists of 24 items out of which factor related to knee joint was taken into considerations in this study. These factor access with the help of Visual analogous pain scale⁵. These factors are as follows,

- 1) Getting up in the morning:
- 2) Walking
- 3) Resting
- 4) Standing up or getting out of chair
- 5) Going up and downstairs.
- 6) Exercise

Result Chief complaints of 20 Subjects:

SN	Symptoms	Group	Percentage
1	Sandhisula	20	100%
2	Shotha	13	65%
3	Akuncana Prasarana Vedana	14	70%
4	Sashabdhha Gati	17	85%
5	Sthambha	08	40%
6	Sparsasahyata	12	60%
7	Vatapurna druti sparsha	10	50%

Showing Effect of therapy on symptoms:

SN	Symptoms	BT	AT	Difference	Percentage of relief
1	Sandhisula	51	27	24	47.05%
2	Shotha	51	45	06	11.76%
3	Akuncana Prasarana Vedana	42	31	11	26.19%
4	Sashabdh Gati	45	32	13	28.88%
5	Sthambha	27	19	08	29.6%
6	Sparsasahyata	41	33	08	19.51%
7	Vatapurna druti sparsha	33	27	06	14.78%

Results:

Effect of therapy on subjective criteria (Chief complaint)

By applying “Paired T-test” following results were observed.

Significant – $P < 0.01$ More significant – $P < 0.001$ Highly significant – $P < 0.0001$

SN	Symptoms		Mean	Median	SD	SE	Sum	P
1	Sandhisula	BT	2.55	3	0.5104	0.1141	51	<0.0001
		AT	1.35	1	0.5871	0.1313	27	
2	Shotha	BT	2.55	3	0.5104	0.1141	51	<0.01
		AT	2.25	2	0.443	0.0993	45	
3	Akuncana Prasarana Vedana	BT	2.1	2	0.7881	0.1762	42	<0.001
		AT	1.55	2	0.5104	0.1141	31	
4	Sashabdh Gati	BT	2.25	2	0.7164	0.1602	45	<0.0001
		AT	1.6	2	0.5026	0.1124	32	
5	Sthambha	BT	1.35	1	0.6708	0.15	27	<0.001
		AT	0.95	1	0.6863	0.1535	19	
6	Sparsasahyata	BT	2.05	2	0.8256	0.1846	41	<0.01
		AT	1.65	2	0.5871	0.1313	33	
7	Vatapurna druti sparsha	BT	1.9	2	0.6401	0.1433	38	<0.001
		AT	1.35	1	0.8127	0.1817	27	

Effect of therapy on subjective criteria (WOMAC Index) By applying “Paired T-test” following results were observed.

SN	Criteria		Mean	Median	SD	SE	Sum	P
1	Getting up in morning	BT	4.1	4	1.334	0.2982	82	<0.0001
		AT	3.2	3	1.105	0.2471	64	
2	Walking	BT	5.1	5	1.021	0.2283	102	<0.0001
		AT	4.1	4	1.119	0.2503	82	
3	Resting	BT	4.1	4	1.165	0.2606	82	<0.0001
		AT	3.1	3	1.119	0.2503	62	
4	Standing up or getting out of chair	BT	5.0	5	1.257	0.281	90	<0.0001
		AT	4.0	4	0.9177	0.2052	80	
5	Going up or down stairs	BT	5.7	6	1.129	0.2524	114	<0.01
		AT	5.35	5	1.268	0.2835	92	
6	Exercise	BT	4.6	5	1.095	0.2449	107	<0.01
		AT	4.3	4	1.174	0.2626	86	
7	Trying to sleep	BT	3.55	4	1.099	0.2458	71	<0.0001
		AT	2.85	3	0.9881	0.2209	57	
8	Visual Analogous pain scale	BT	5.15	5	1.182	0.2643	103	<0.0001
		AT	4.05	4	1.099	0.2458	81	

(Serum Calcium level)

By applying “Paired T-test” following results were observed.

Sr no		Mean	Median	SD	SE	Sum	P
1	BT	7.885	7.95	0.6393	0.143	157.7	<0.0001
	AT	8.175	8.3	0.5928	0.132	63.5	

DISCUSSION

In this study, discussion was made under following headings:

1. Discussion on drug review
2. Discussion on result

1. Discussion on drug review:

The drug used for this study was Extra pure virgin olive oil which was internally administrated. According to researches published in PubMed (shared link in references). Extra pure virgin olive oil contains Olecanthal as invitro cyclooxygenase inhibitor with potential anti-inflammatory and analgesic properties similar to the non-steroidal anti-inflammatory drug ibuprofen. pacification of *Sandhishoola* was highly significant. So probably Extra pure virgin olive oil which contain Oleocanthal help to reduce *Shool in Sandhivata*.

3. Discussion on result (effect of therapy):

The present research work was mainly based on the assessment of the aforesaid sign and symptoms and visual analogous pain scale with WOMAC Osteoarthritis Index that are mentioned in the materials and methods. Effect of therapy was assessed on the basis of scoring

pattern adopted for sign and symptoms and visual analogous pain scale with WOMAC Osteoarthritis Index, routine blood investigations like Serum calcium were recorded.

Effect of therapy on cardinal symptoms;

In subject with Abhyantar tail paan highly significant results were obtained in

Sandhishula & *Sashabdha gati* ($P = <0.0001$) while more Significant results were found in *Akuncana Prasrana Vedana*, *Sthambha*, *Vatpurna druti sparsh* i.e., $P < 0.001$ & significant results were obtained in

Shotha, *Sparsasahyata* i.e., $P < 0.01$. Percentage of relief was 47.05% in *Sandhishula*, in *Shotha* 11.76%, *Akuncana Prasrana Vedana* 26.19%, in *Sashabdha gati* 28.88%, in *Sthambha* 29.62%, *Sparsasahyata* 19.51%, *Vatpurna druti sparsh* 14.78%.

Effect of therapy on WOMAC Osteoarthritis Index and Visual Analogous Pain Scale:

The Visual Analogous pain scale used to assess the intensity of pain during various physical activity which are included in WOMAC Osteoarthritis Index. It was in the form of questionnaire 1-10.

In **subjects**, getting up in the morning, walking, resting, standing up and getting out of chair, trying to sleep, visual analogous pain scale was found to be highly significant i.e $P < 0.0001$, while for going up and down stairs and exercise was found significant i.e $P < 0.01$.

Effect of therapy on Serum Calcium level:

In subjects highly significant results were obtained i.e., $P < 0.0001$.

Conclusion:

Sandhivata is a common problem encountered in day today practice. It is degenerative joint disease affecting commonly knee joint. The involvement is initially on one side of knee joint but due to shifting of stress, the other knee joint is also involved in the later life. Ayurveda described eighty types of *Nanatmaj Vaat Vyadhi* in which the vitiated *Vatadosh* find its place (*Sthana Samshraya*) in the knee joint there by disrupting the joint anatomically and the effect is observed pathologically. There is an imbalance between the synovial fluid secretion and absorption. Advancing age and improper *aahar vihar* leads to destruction of *Asthi dhatu* which results into production of Osteophytes.

In present era most of the problem is due to life style. The most prominently *aaharaj* which is usually *Vidah*, *Asathmaya*, and further is enhanced by stress, anxiety and improper posture, all these factor leads to vitiation of *Vata dosha* in weight bearing joints i.e., knee joint. So present study recommended that if regular consumption of oil is properly included in diet probably, we may find delay in onset of *sandhivata* or reduce in sign and symptoms of progression of disease. Thus, would prevent joint replacement.

References:

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