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CASE STUDY ON *JANU SANDHIVATA* (KNEE ARTHRITIS) – EFFECT OF *NARAYANA TAILA ABHYANGA* AND *MATRABASTI*

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ABSTRACT

Knee arthritis is the analogy of *Vatavyadhi* termed as *Sandhivata* in *Ayurveda* possessing similar symptoms like pain, crepitus, limited range of motion, crepitus with bony enlargement. Treatment option available in the contemporary field includes NSAID administration, Intraarticular steroids or eventually surgical interventions in the form of knee replacement. With this regard, there is a need for safe, effective and affordable treatment options. n the present case study it is tried to explore the effectiveness of *Narayana Taila Abhyanga* and *Matra Basti*, particularly for bilateral knee arthritis and results found significantly after careful evaluation.

Keywords: *Panchakarma, Abhyanga, Matrabasti, Narayana Taila*

INTRODUCTION[1,2,3,4,]

In various inflammatory conditions of the knee, joint common knee arthritis is Knee Osteoarthritis. Which is the second disability causing joint disorder slowly progressive at the age of 30 and results in the development of radiologically changes in 80 per cent of the elderly people at the age of 65. Knee Osteoarthritis is evident to entangle the group of distinct overlapping diseases having various mechanical, biochemical causes including different genetic predispositions with similar biologic, morphologic or clinical outcomes. Instead of involving degeneration of articular with low-grade chronic inflammation of cartilage, disease processes involve the entire joint including subchondral bone, capsule, periarticular muscles and synovial membrane. In *Ayurveda* degeneration occurred mainly due to the aggravation of

Vata. when this vitiated *Vata* positioned in knee joint ensue the condition of *Sandhivata*.[5,6,] This chronic low grade inflammatory degenerative condition of *Sandhivat*a gradually worsen with time and is being told as *Kastasadhya vyadhi* (disease curable with difficulty) in *Ayurveda*. By incorporating the various *Panchkarma* (bio purification) procedure in this article it is attempted to focus on rejuvenation of damaged cartilages and surrounding joint structures to enhance the joint mobility or lubrication by slowing down the rate of low-grade inflammation.[7,8,9]

AIM & OBJECTIVE- To evaluate the effect of *Basti* and *Abhyanga* with *Narayana Taila* in *Janu Sandhivata* (Knee arthritis)

Material And Method- Place of Study- OPD and IPD of Department of *Panchkarma* of Gurukul campus Haridwar

Ethical Clearance- The study was initiated after getting, the institutional ethics committee clearance vides letter no. UAU/GC/IEC/2021/10 dated 19/04/2021. CTRI registration was done retrospectively with no. CTRI/2021/05/033521 Written informed consent was taken from the patient at the time of registration.

CASE PRESENTATION- A female of 55yr age attended the OPD of *Panchkarma* of Gurukul campus Haridwar having OPD number 1139/9292 having chief complaints of severe pain in both knee joints with stiffness, crepitus or found extreme difficulty in walking, squatting, climbing and standing for long hours in the past 3 years. Pain worsens usually in evening hours and got slight relief in rest. She was diagnosed with a case of knee osteoarthritis. She was undergone many allopathic treatments but got benefits only for the short time.

GENERAL EXAMINATION:

B.P.=130/80mmHg, P/R = 76/min, Pallor -ve, Icterus-ve, Cyanosis-ve, Clubbing-ve, Oedema ++ve in both knee joint, Temperature-98.6^{o} F., CVS: S1, S2 audible, no added sound present., Respiratory system: Normal vesicular breath sound, no added sound.

Per abdomen: soft, non-tender, no signs of organomegaly present.

CNS: Higher function normal.

Reflexes: Upper Limb-Normal, Lower limb- Knee Jerk diminished, Plantar response –Flexor, Muscular Atrophy –present, involuntary movement –absent Hamstring power (R)-4/5, (L) –4/5 Quadriceps power(R)-4/5, (L) –4/5

Ashtavidha Pariksha- *Nadi- Vata kaphaja* (76/min), *Mala- Sama*, *Mutra- Prakrita*, *Jivha- Aliptha*, *Shabda- Spasta*, *Sparsha-*, *Sama shitoshna*, *Drika- – Prakrita*, *Akriti- sthoulya*

In Dashavid Pariksha- *Prakrit- Vata Kapha*-Prakriti, *Vaya- Madhya Vayah* (Medium age), *Sara- Madhyama Sara* (medium purity of body tissue), *Satva- Avara Satva* (Medium mental strength), *Satmaya- Avara Satmya* (homologation), *Pramana- Sama Pramana* (equal body proportions), *Ahara shakti- Madhyama Ahara Shakti* (medium food activity and digestive power), *Vyayam shakti- Avara Vyayama Shakti* (least physical endurance),

Assessment Criteria- Symptoms were graded subjectively or objectively as per the table given below and Assessment was done on the 0th day, 30th and 60th day of the study.

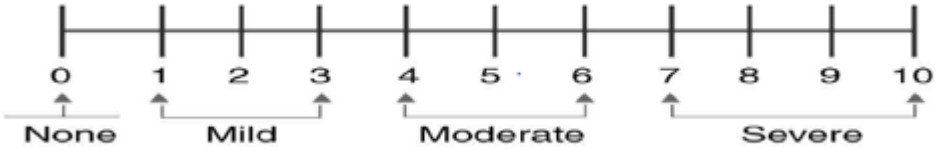
SUBJECTIVE CRITERIA

Table 1

Grade	Knee Pain (SADHISHULA)	Pain during flexion & extension (*AKUNCHAN PRASARANJANYA VEDANA)*	Tenderness *(SPRSHASHAYATA)*	Swelling/ synovitis *(SANDHISHOTH)*	Crepitation (*SANDHISPHUTAN)*
Grade-0	No pain	No pain	No tenderness	Absent	no crepitus
Grade-1	Mild	Pain without winching the face during flexion and extension	Pain on deep touch	mild slightly swelling (covering only the bony prominence)	mild (perception on touch)

Grade-2	Moderate pain but no difficulty in walking	Pain with winching of face & prevent complete flexion-extension of joint	Pain on superficial touch	moderate (completely covering all the bony prominence)	moderate (audible on attention
Grade-3	Slight difficulty in walking due to pain	Severe & does not allow passive movement	The patient does not allow touch	Severe (completely covering the joint)	severe (clearly audible)
Grade - 4	Severe difficulty in walking				

Objective Parameters - Pain, physical function and stiffness of the patient will be assessed by WOMAC INDEX (MODIFIED – CRD PUNE VERSION) with VISUAL ANALOGUE SCALE by giving a score before and after the treatment



Sr. no.	Physical Function	Pain	Stiffness
1.	Descending chairs	In walking on a flat surface	After first awakening in the morning
2.	Ascending chairs	Going up and downstairs	After sitting, lying or resting later in the day
3.	Standing up from the chair	At night while in bed	
4.	While standing	Sitting or lying	
5.	Bending to the floor (to pick up an object)	Standing upright	
6.	Walking on flat ground		
7.	getting in and out of auto-rickshaw / Bus / Car		
8.	Going shopping		
9.	On rising from the bed		
10.	While lying on the bed		
11.	While sitting on a chair		
12.	Going in/out of toilet Indian- western		
13.	Doing heavy domestic duties (moving heavy boxes, scrubbing the floor, lifting shopping bags)		
14.	Doing light domestic duties (cleaning room / table / cooking / dusting)		
15.	While sitting cross-legged floor		
16.	Rising from the cross-legged floor		
17.	While squatting on the floor		

1. RANGE OF MOTION will be assessed by GONIOMETER-

FLEXION is the first movement to go off. For the present study flexion of joint was taken for restricted movement. Gradation of the different joints as under.

Gd 0	Normal range of flexion	130^0
Gd 1	Mild	101^0 - 120^0
Gd 2	Moderate	81^0 - 100^0
Gd 3	Severe	< 60^0

2. SWELLING-

Measurement of the girth of the knee joint was done using a measuring tape around the girth of the knee and above or below the knee joint (5cm) before and after the treatment in the follow-up period to assess the change in the swelling of the knee joints.

Knee joint measurement by measuring tape	BT	AT
The middle point of patella		
2 inches above patella		
2 inches below patella		

3. X-Ray of involved knee joint KELLGREN– LAWRENCE RADIOGRAPHIC GRADING SCALE OF OSTEOARTHRITIS for radiographic changes-

Grade	classification	Description
0	Normal	No radiographic findings of osteoarthritis
1	Minor	Minute osteophytes of doubtful clinical significance.
2	Mild	Definite osteophytes with unimpaired joint space.
3	Moderate	Definite osteophytes with moderate joint space narrowing
4	Severe	Definite osteophytes with severe joint space narrowing

4. WALKING TIME-

0	walk without pain up to 1 km
1	walk without pain up to 500 meters
2	walk without pain up to 250 meters
3	Feels pain on standing
4	Cannot stand

INTERVENTION SCHEDULE-

Table 2

Panch karma procedures	Drugs	Method of preparation	Route of administration	Method of application	Days of treatment
Matra basti	*Narayana taila*	60 ml mixed with 1gm rock salt and *Shatpushpa* powder	Rectal	Given after meals with *basti yantra*	3 courses of 7 days with an interval of 3days in between each course
Abhyanga	*Narayana taila*	15ml lukewarm oil	Local (knee joint)	massage at the bilateral knee joint with *Narayana taila* for 15 minutes two times a day	30 days

INGREDIENTS OF *NARAYANA TAILA*- Oil was prepared with the following ingredients for *Abhangha* and *Matra basti* in the pharmacy of Gurukul Campus after being authenticated by the department of *D*ravyaguna, gurukul campus Haridwar

Table 3

SR. NO.	DRUG NAME	BOTANICAL NAME
1.	*Bilva*	Aegle marmelos
2.	*Agnimantha*	Premna mucronate
3.	*Shyonaka*	Oroxylum indicum
4.	*Patala*	Stereospermum suaveolens
5.	*Paribhadra*	Erythrina variegate
6.	*Prasarini*	Paederia foetida
7.	*Ashwagandha*	Withania somnifera
8.	*Brihati*	Solanum indicum
9.	*Kantakari*	Solanum surattense
10.	*Bala*	Sida cordifolia
11.	*Atibala*	Abutilon indicum
12.	*Gokshura*	Tribulus Terrestris
13.	*Punarnava*	Boerhavia diffusa
14.	*Shatapushpa*	Anethum sowa
15.	*Devadaaru*	Cedrus deodara
16.	*Jatamansi (Mansi)*	Nordostachys jatamansi
17.	*Saireyaka*	Barleria prionitis
18.	*Vacha*	Acorus calamus
19.	*Raktachandana*	Pterocarpus santalinus
20.	*Tagara*	Valeriana wallichi
21.	*Kushtha*	Saussurea lappa
22.	*Ela*	Elattaria cardamomum
23.	*Shalaparni*	Desmodium gangeticum
24.	*Prishniparni*	Uraria picta
25.	*Mashaparni*	Teramnus labialis
26.	*Mudgaparni*	Phaseolus trilobus
27.	*Rasna*	Pluchea lanceolata
28.	*Turagagandha*	Withania somnifera
29.	*Punarnava*	Boerhavia diffusa
30.	*Shataavari*	Asparagus racemosus
31.	*Saindhava Lavana*	Sodii chloridum
32.	*Godugdha*	Cowmilk
33.	*Tila Tail*	Sesame oil

DISCYSSION & RESULT-

Effect of treatment shown as below-

Table 4

Sr. No.	Sign & Symptoms	Grading Before Treatment	Grading After Treatment	Grading After Follow Up
1.	*Sandhishoola*	2	0	0
2.	*Sandhisotha* (swelling)	3	0	0
3.	*Sandhishoola* (crepitation)	1	1	0
4.	*Sprashashayata* (tenderness)			
5.	*AKUNCHAN PRASARANJANYA VEDANA (*Pain during flexion & extension)	3	0	0

6.	VAS (Pain scale)			7	3	3
7.	WOMAC SCALE (Max score 96)			62	39	39
8.	Walking time			3	2	2
9.	X-Ray			2 (Both knee joints)	1 (left knee joint) 2 (Right knee joint)	1 (left knee joint) 2 (Right knee-joint)
10.	Measuring tape	Swelling right knee joint (In cm)	The middle point of patella	50cm	46cm	46cm
			2 inches above patella	52cm	50cm	50cm
			2 inches below patella	53cm	50cm	50cm
		Swelling left knee joint (In cm)	The middle point of patella	51cm	48cm	48cm
			2 inches above patella	53cm	50cm	51cm
			2 inches below patella	53cm	49cm	50cm
11.	Goniometer readings	Right knee joint	Flexion	120	130	130
			Extension	10	10	10
		Left knee joint	Flexion	110	130	130
			Extension	10	10	10

6. BIOCHEMICAL AND LABORATORY FINDINGS - not many changes were observed except ESR.

DISCUSSION

For breaking the *Samprapti* (pathogenesis) of *Janu Sandhigata Vata*, *Ushna* (hot), *Kapha Vatahara*, *Deepana* (appetizer), *Pachana* (carminative), *Sothahara*, *Vedanasthapana (Analgesic)*, *Balya* (strength promoting factor) and *Rasayana Dravyas* (anti-inflammatory and antioxidants) are essential. Hence *Narayana Taila* is selected here. *Taila* is considered to be the best in *Vata Vyadhi*. *Ksheera* (cow's milk) is another ingredient in the formulation which has Madhur Rasa (sweet) and *Madhur Vipaka* (state of food/drug after digestion) having *Snigdha* (unctuous) *guna* which is acknowledged as *Ojas* and assist for Dhatu Pushti

Narayana Taila was mentioned in the form of *Matra basti* (oil enema) and *Abhyang* (oil massage) is the measure adopted to bring about *Snigdhata* in the body. Because of these properties of the drugs used in the formulation patient got considerable relief in both subjective and objective parameters at the end of the treatment.

CONCLUSION

Hence the treatment with *Narayana Taila Matra-basti* and *Abhyanga* has a significant role in the management of knee arthritis (*Janu Sandhigata Vata)*. Since *Abhyanga* and *Matra Basti* are the simplest forms of prolonged *Panchkarma* procedure that has no complications and can be administered without much difficulty, this ease can look right on the promising factor for the patients to avail *Panchkarma* from the physicians.

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