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Management of *Sandhivata* (osteoarthritis of knee joint) in Ayurveda with *Rasnashirishadi Kwatha* and *Ajamodadi Vati*: A Case Series

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ABSTRACT

Sandhivata or Osteoarthritis is a degenerative joint disease. It is considered to be the result of inflammation, degeneration and wearing out of joint cartilage over time. Here the top layer of cartilage breaks down and goes away. This makes the bones under the cartilage to rub together. The rubbing results in pain, swelling and loss of motion of the joint. *Sandhivata* develops in all ages of people, but most probably it occurs after the age of 40. The most commonly affected joints include knee, hips, etc. Gradually O.A worsens as the time passes. Then the bone starts to break down and develops growths called spurs. There is a possibility to chip off the bits of bone or cartilage and float around in the joint. As a result of inflammatory process in the body, cytokines (proteins) and enzymes are produced that will further damage the cartilage. The primary purpose of this study was to establish the efficacy of medicines or treatment and demonstrate freedom from unwanted side effects in human. Suitable medicine plays a paramount role in the success of treatment as it is a main factor lying with the management of a disease. There is a direct proportional relationship between the success of treatment and the genuineness of the medicine. The present study was undertaken to carry out the clinical evaluation of *Rasnashirishadi Kwatha* and *Ajamodadi Vati* in *Sandhivata* patients.

Key words: *Sandhivata*, *Rasnashirishadi Kwatha*, *Ajamodadi Vati*, *Osteoarthritis*, *Case series*.

INTRODUCTION

Sandhivata term is derived from words *Sandhi* and *Vata*. This is the most common disease affecting large population. As mentioned earlier, this mainly occurs in old age due to *Dhathukshaya*, which limits everyday activities such as walking, dressing, bathing etc. Among *Tridoshas*; *Vata* and *Kapha* plays an important role in *Sandhivata*. *Vayu* regulates all the functional activities

of the body and keep all the *Dhathus* in their physiological limits. In *Sandhivata*; *Vata* become vitiated when different *Vataprakopa Nidana* is taken. This vitiated *Vata*, desiccates *Sleshaka Kapha* in the *Sandhi* which will ultimately cause the degeneration and difficulty in the movement of joint. This is how the *Dhathukshayajanya Sandhivata* occurs. In obese people as *Medodhathu* is produced in excess; their *Srotas* will be obstructed with *Medas*. Due to, this *Aavarana* caused by the *Medas*; proper nourishment will not occur in the level of *Uttarottara Dhathu*. Hence *Kshaya* occurs there. Here this excessive *Medas* will cause *Aavarana* of *Vata*. This *Medavrutha Vata* when settle down in joints become, the reason to occur the disease *Sandhivata*.

So, this disease is seen in both types of patients like in *Sthula* due to *Avarana* and in *Krisa*, in the old age, may be due to *Prakopa* of *Vayu* resulted from *Dhathukshaya*. It is more difficult to manage, when it is caused due to *Avarana* of *Meda*, *Kapha* or *Ama*. This may be the reason that the patients suffer from *Sandhi Vata* for

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their whole of remaining life. Osteoarthritis is the most common articular disorder begins asymptotically in the 2nd and 3rd decades of life and is extremely common by 60 years of age. Almost all persons after the age of 40 have some pathologic change in weight bearing joint. Osteoarthritis (O.A.) is a most frequent joint disease with prevalence of 22% to 39% in India. Almost 25% females and 16% males have symptomatic Osteoarthritis.

AIMS AND OBJECTIVES

- To evaluate the efficacy of *Rasnashirishadi Kwatha* in the management of *Sandhivata*.
- To evaluate the efficacy of *Ajamodadi Vati* in the management of *Sandhivata*.
- To assess the clinical effectiveness of *Rasnashirishadi Kwatha* and *Ajamodadi Vati* in the combined form to manage *Sandhivata*.

MATERIALS AND METHODS

Literary Review

A thorough review of literature in traditional Ayurvedic texts, and online databases was carried out. Pharmacological properties of the drugs are analyzed and data are arranged. Detailed literary review about osteoarthritis from the modern medicine text books are also carried out.

Clinical Study

Clinical trial was started after getting approval from ethical committee. Registered patients from Dhanwantari ayurvedic hospital have been taken for the study after getting written consent from them to include in the study. Here presents 3 cases from, each of the trial group. All the selected patients were properly informed about the nature of the disease

Composition of *Rasnashirishadi Kwatha*

Drug	Latin Name	Family	Part Used	Rasa	Guna	Virya	Vipaka	Dosha Karma
Rasna	<i>Pluchea lanceolata</i>	Compositae	Mula	Tiktha	Guru	Ushna	Katu	Kapha Vata Samana
Shirisha	<i>Albizia lebbek</i>	Leguminosae	Mula	Kashaya Tikta	Laghu Ruksh Tikshna	Ishad ushna	Katu	Tridosha Samana

process and treatment. Diagnostic medical history was taken according to both Ayurveda and modern clinical methods. X-ray of the patient was taken before the treatment for the proper diagnostic purpose and assessment of the case and CBC, ESR, CRP of the patients were assessed before and after the treatment. Detailed Proforma was made to record the progress and status of the patient under trial.

Methodology / Treatment Plan

Trial medicines were prepared in the pharmacy of Govt. Auto. Dhanwantari Ayurvedic Medical College Ujjain and the selected patients under trial were treated in the Kayachikitsa OPD of Dhanwantari Ayurvedic Hospital, Ujjain. Study was carried out for 2 months and follow-up has been done on every 10 days.

Details of the medicines given

Drug administration	<i>Rasnashirishadi Kwatha</i>	<i>Ajamodadi Vati</i>	Both <i>Rasnashirishadi Kwatha</i> and <i>Ajamodadi Vati</i>
Dose	20ml BD	1Tab BD	<i>Kwatha</i> - 20ml BD <i>Vati</i> - 1Tab BD
Route of administration	Oral	Oral	Oral
<i>Anupana</i>	Lukewarm water	Luke warm water	Luke warm water
Follow-up	Every 10 days	Every 10 days	Every 10 days
Duration	2 months	2 months	2 months
Case name	Case 01	Case 02	Case 03

				Madhura				
Yasthimadhu	<i>Glycyrrhiza glabra</i>	Leguminosae	Mula	Madhura	Guru Snigdha	Sita	Madhura	Vata Pitta Samana
Shunthi	<i>Zingiber officinale</i>	Zingiberaceae	Mula	Katu	Laghu Snigdha	Ushna	Katu	Kapha Vata Samaka
Sahachara	<i>Barleria cristata</i>	Acanthaceae	Mula	Tikta Madhura	Laghu	Ushna	Katu	Kaphavata Samana
Amruta	<i>Tinospora cordifolia</i>	Menispermaceae	Stem	Tikta Kasaya	Guru Snigdha	Ushna	Madhura	Vata Pitta Samana
Shyonyaka	<i>Oroxylum indicum</i>	Bignoniaceae	Mula	Madhura Tikta Kashaya	Laghu Ruksha	Ushna	Katu	Kapha Vata Samana
Devadaru	<i>Cedrus deodara</i>	Pinaceae	Bark	Tikta	Laghu Snigdha	Ushna	Katu	Kapha Vata Shamana
Shampaka	<i>Cassia fistula</i>	Leguminosae	Mula	Madhura	Guru Mrud Snigdha	Sita	Madhura	Vata Pitta Samana
Ashwagandha	<i>Withania somnifera</i>	Solanaceae	Mula	Tikta Katu Madhura	Laghu Snigdha	Ushna	Madhura	Kapha Vata Samana
Trikantaka	<i>Tribulus terrestris</i>	Zygophyllaceae	Fruit	Madhura	Guru Snigdha	Sita	Madhura	VatapittaSamana

Mode of action of Rasnashirishadi Kwatha

Rasna is known to be Agrya for Vataharatva (Rasna Vataharanam). It is having Ushna Virya and Vatakaphahara properties. Rasna is specially known to be Vayasthapana, Vatanulomana, and Vatakaphahara in nature. Shirisha is Vedanasthapana and Shothahara. Susrutha included Shirisha in Salasaradigana, while Vagbhata included it in Asanadigana. Shunti is having Shulaprasamana, Shophahara, Deepana, Amapachana and Bhedini properties. Susrutha included it in Pippalyadi and Trikatugana and Vagbhata also included it in Pippalyadigana. Yashtimadhu is having Rasayana properties and improves digestion as well. Sahachara is Vedanasthapana, Deepana, Pachana,

Composition of Ajamodadi Vati

Drug	Latin Name	Family	Part Used	Rasa	Guna	Virya	Vipaka	Dosha Karma
Ajamoda	<i>Carum roxburghianum</i>	Umbelliferae	Phala	Katu Tikta	Laghu Ruksha Tikshna	Ushna	Katu	Kaphavata Samana

Shophahara, Balya, and Rasayana in nature. Guduchi is having Deepana, Balya, Rasayana, Tridoshasamana etc. properties. Shyonaka is Vedanasthapana, Deepana and Shothahara in nature. Susrutha included the other drug Devadaru in Vatasamsamana group, it is Amapachana and Shophahara also. Aragvadhha possess Shulahara property. Aswagandha has been used in Ayurveda thousands of years as a Rasayana and it is Shulahara in nature. Gokshura possess Deepana, Anilahara, Tridoshasamana, Shulahara, Balakrith, and Pushtikrit properties. Charaka included this drug, in Shothahara group. Over all we get an idea that this Yoga is having a potent role in the management of Sandhivata.

<i>Kanaa</i>	<i>Piper longum</i>	Piperaceae	<i>Phala</i>	<i>Katu</i>	<i>Laghu Snigdha Tikshna</i>	<i>Anushna sita</i>	<i>Madhura</i>	<i>Kapha Vata Samana</i>
<i>Vellam</i>	<i>Embelia ribes</i>	Myrsinaceae	<i>Phala</i>	<i>Katu Kasaya</i>	<i>Laghu Ruksha Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata Samana</i>
<i>Shatapushpa</i>	<i>Anethum sowa</i>	Umbelliferae	<i>Phala</i>	<i>Katu Tikta</i>	<i>Laghu Ruksha Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata Samana</i>
<i>Chitraka</i>	<i>Plumbago zeylanica</i>	Plumbaginaceae	<i>Mula</i>	<i>Katu</i>	<i>Laghu Ruksha Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata Samana</i>
<i>Nagara</i>	<i>Zingiber officinale</i>	Zingiberaceae	<i>Kanda</i>	<i>Katu</i>	<i>Laghu Snigdha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavata Samaka</i>
<i>Maricha</i>	<i>Piper nigrum</i>	Piperaceae	<i>Phala</i>	<i>Katu</i>	<i>Laghu Tikshna</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kaphavata Samana</i>
<i>Saindhava</i>	Rock salt			<i>Lavana</i>	<i>Laghu Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridosahara</i>
<i>Devadaru</i>	<i>Cedrus deodara</i>	Pinaceae	<i>Kandasara</i>	<i>Tikta</i>	<i>Laghu Snigdha</i>	<i>Ushna</i>	<i>Katu</i>	<i>Kapha Vata Shamana</i>
<i>Haritaki</i>	<i>Terminalia chebula</i>	combretaceae	<i>Phala</i>	<i>Kasaya pradhana pancharasa</i>	<i>Laghu Ruksha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridosahara</i>
<i>Vruddhadaru</i>	<i>Argyrea speciosa</i>	Convolvulaceae	<i>Mula</i>	<i>Katu Tikta Kasaya</i>	<i>Laghu Snigdha</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Kapha Vata Shamaka</i>
<i>Guda</i>	<i>Saccharum officinarum</i>			<i>Madhura</i>	<i>Guru Snigdha</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Vata Pitta Shamaka</i>

Mode of action of *Ajamodadi Vati*

Vata has the properties like *Ruksha*, *Laghu*, *Sita*, *Khara*, *Sukshma*, *Chala*, etc. when the aggravation of *Vataguna* occurs in the body the disease *Sandhivata* manifests. Contents of *Ajamodadi Vati* are *Ajamoda*, *Vidanga*, *Shunti* etc. Most of the drugs of *Ajamodadi Vati* are having *Deepana*, *Pachana*, *Ushna*, *Tikshna*, *Amapachana* and *Vatanulomana* properties. *Ajamoda* is also having *Srothogamini* property which will also help to manage *Sandhivata*. Other drugs like *Chitraka*, *Pippali*, *Maricha*, etc. are also helpful to pacify *Vata*. *Charakacharya* mentioned most of the ingredients of *Ajamodadi Vati* in *Shulaprasamana Gana* and

Susruthacharya mentioned most of the drugs in *Pippalyadigana*, which act as *Deepana*, *Vatakaphahara*, *Amapachana*, *Aruchi*, *Gulma* and *Shulahara*. The drugs possessing these properties will help to eliminate *Vata* out of the body and reducing the pain.

CASE HISTORY

Case 01 Presentation - A 65 year old male patient came to our OPD on 09/05/23 with chief complaints of bilateral knee joint pain and swelling of the right knee joint. Pain had a gradual onset eventually developed swelling on the right knee joint.

Case 02 Presentation - A 55 year male patient came to our Kayachikitsa OPD ON 07/01/23 with bilateral knee joint pain and difficulty in walking. Symptoms have a gradual onset associated mild swelling of both the knee joints.

Case 03 Presentation - A 45 year old male patient came to the Kayachikitsa OPD of our hospital on 20/04/23 with bilateral knee joint pain. Symptoms had a gradual onset.

Demographic data of presented cases

Data	Case 01	Case 02	Case 03
Name	Xxx	Yyy	Zzz
O.P.D	18267	384	11140
DOA	09/05/23	07/01/23	20/04/23
Age	65	55	45
Sex	Male	Male	Male
Marital Status	Married	Married	Married
Occupation	Service	Laborer	Laborer
Diet and Habits	Veg	Veg	Veg
Addiction	Nil	Nil	Tea
Koshta	Krura	Madhyama	Madhyama
Emotional status	Normal	Normal	Tensile
Sleep	Sound	Sound	Sound
Family history	Nothing relevant	Nothing relevant	Nothing relevant

Treatment Given

Case Name	Case 01	Case 02	Case 03
Name of medicines	Rasnashirishadi Kwatha	Ajamodadi Vati	Both Rasnashirishadi Kwatha and Ajamodadi Vati
Dose	20 ml after meal	1 Tab BD Empty stomach	Kwatha - 20 ml after meal & Vati - 1 tab Empty stomach

Anupana	Lukewarm water	Lukewarm water	Lukewarm water
Duration	2 months	2 months	2 months

Treatment assessment on the basis of subjective parameters

Case 01

Lakshana	BT		AT	
	Lt	Rt	Lt	Rt
Sandhi Shula (Joint Pain)				
No Pain	0		0	1
Occasional Pain	1			
Pain during excess work	2			
Constant pain disturbing routine	3	3	3	
Severe pain	4			
Sandhi-Shotha (Joint-Swelling)				
No Swelling	0	0	0	0
Mild Swelling	1			
Moderate Swelling	2	2		
Severe Swelling	3			
Akunchana Prasaranajanya Vedana (Pain during flexion and extension of the joint)				
No Pain	0		0	0
Pain without winching of face	1	1	1	
Pain with winching of face	2			
Shouts or Prevent complete flexion	3			
Does not allow passive movement	4			
Stambha (Stiffness)				
No Stiffness	0		0	0
Stiffness for few minutes after sitting for long duration but relieved by mild movements	1	1	1	
Stiffness more than 1 hour or more than once in a day but routine works are not disturbed.	2			

Stiffness lasting for more than 1 hour or many times a day mildly affecting the daily routine.	3				
Episodes of stiffness lasting for 2-6 hours daily routines are hampered severely	4				
Sandhi Sphutana (Crepitus)					
No Crepitus	0			0	0
Mild Palpable Crepitus	1				
Moderate Palpable Crepitus	2	2	2		
Moderate Palpable & Mild Audible Crepitus	3				
Audible Crepitus	4				
Sparshasahyata (Tenderness)					
No Tenderness	0			0	0
Patient says the joint is tender	1	1	1		
The patient winces	2				
The patient winces and withdrawal of the affected joint	3				
The patient will not allow the joint to be touched	4				

Case 02

Lakshana	BT		AT	
	Lt	Rt	Lt	Rt
Sandhi Shula (Joint Pain)				
No Pain	0		0	0
Occasional Pain	1			
Pain during excess work	2			
Constant pain disturbing routine	3	3	3	
Severe pain	4			
Sandhi-Shotha (Joint-Swelling)				
No Swelling	0		0	0
Mild Swelling	1	1	1	

Moderate Swelling	2				
Severe Swelling	3				
Akunchana Prasaranajanya Vedana (Pain during flexion and extension of the joint)					
No Pain	0			0	0
Pain without winching of face	1	1	1		
Pain with winching of face	2				
Shouts or Prevent complete flexion	3				
Does not allow passive movement	4				
Stambha (Stiffness)					
No Stiffness	0			0	0
Stiffness for few minutes after sitting for long duration but relieved by mild movements	1	1	1		
Stiffness more than 1 hour or more than once in a day but routine works are not disturbed.	2				
Stiffness lasting for more than 1 hour or many times a day mildly affecting the daily routine.	3				
Episodes of stiffness lasting for 2-6 hours daily routines are hampered severely	4				
Sandhi Sphutana (Crepitus)					
No Crepitus	0	0		0	0
Mild Palpable Crepitus	1				
Moderate Palpable Crepitus	2	2			
Moderate Palpable & Mild Audible Crepitus	3				
Audible Crepitus	4				
Sparshasahyata (Tenderness)					
No Tenderness	0	0	0	0	0

Patient says the joint is tender	1				
The patient winces	2				
The patient winces and withdrawal of the affected joint	3				
The patient will not allow the joint to be Touched	4				

Case 03

Lakshana	BT		AT	
	Lt	Rt	Lt	Rt
Sandhi Shula (Joint Pain)				
No Pain	0		0	0
Occasional Pain	1			
Pain during excess work	2			
Constant pain disturbing routine	3	3	3	
Severe pain	4			
Sandhi-Shotha (Joint-Swelling)				
No Swelling	0	0	0	0
Mild Swelling	1			
Moderate Swelling	2			
Severe Swelling	3			
Akunchana Prasaranajanya Vedana (Pain during flexion and extension of the joint)				
No Pain	0		0	0
Pain without winching of face	1	1		
Pain with winching of face	2			
Shouts or Prevent complete flexion	3			
Does not allow passive movement	4			
Stambha (Stiffness)				
No Stiffness	0	0	0	0
Stiffness for few minutes after sitting for long duration but relieved by mild movements	1			
Stiffness more than 1 hour or more than once in a day but routine works are not disturbed.	2			

Stiffness lasting for more than 1 hour or many times a day mildly affecting the daily routine.	3				
Episodes of stiffness lasting for 2-6 hours daily routines are hampered severely	4				
Sandhi Sphutana (Crepitus)					
No Crepitus	0			0	0
Mild Palpable Crepitus	1	1			
Moderate Palpable Crepitus	2		2		
Moderate Palpable & Mild Audible Crepitus	3				
Audible Crepitus	4				
Sparshasahyata (Tenderness)					
No Tenderness	0	0	0	0	0
Patient says the joint is tender	1				
The patient winces	2				
The patient winces and withdrawal of the affected joint	3				
The patient will not allow the joint to be Touched	4				

RESULT

Both the drugs *Rasnashirishadi Kwatha* and *Ajamodadi Vati* could successively manage the symptoms of *Sandhivata*. All the 3 cases showed excellent improvement from the symptoms.

DISCUSSION

Most of the drugs of *Rasnashirishadi Kwatha* possess the properties like *Madhura*, *Tiktha* and *Kasayarasa*, *Ushna Virya*, *Vatahara*, *Vedanasthapana*, *Shothahara*, *Dipana*, *Pachana*, *Balacruth*, *Pushtikruth*, *Rasayana* etc. properties. Most of the ingredients of *Ajamodadi Vati* are having *Tikta Kasaya Rasa*, *Ushnavirya*, *Dipana*,

Pachana, Vata Kaphahara, Shulaprasamana, Rasayana etc. properties.

Vatahara properties of the *Yogas* will reduce the aggravation of *Vata*. Reduction in *Vata* will help to restore the *Snehamsa* in the joints. Restoration of *Snehamsa* as well as *Vedanasthapana* and *Shothahara* properties of medicines will help to relieve the pain and swelling of the joints. *Balkruth* and *Pushtikruth* properties of the drugs help to strengthen bones and joints while, *Rasayana* properties of the drugs will reduce the degeneration of the joints. Relieving of symptoms by above medications facilitates the easy movements of the joints and removes the difficulty in flexion and extension of joints.

CONCLUSION

Sandhivata is one of the most common diseases affecting a large population. When severe degeneration of joint occurs, it will lead to unbearable pain and other symptoms like restricted movement of joint, inflammation etc. So, *Sandhivata* is a disease which interfere the day today activities of a person. The disease *Sandhivata* or Osteoarthritis may be regarded as a reward of longevity. There is no absolute cure for O.A. in modern medicine. Nowadays, management of osteoarthritis is going on with analgesic and non-steroidal anti-inflammatory drugs. These drugs are very costly and causing various unwanted effects leading to peptic ulcer etc. Osteoarthritis become cause of distress to modern medical science and satisfactory treatment is yet to be discovered. Furthermore, the complications arising from Osteoarthritis have been entrusted to the surgery,

which too has its limitation. All such factors show the gravity of the disease and compelled to go for a better remedial search from *Ayurveda*.

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