



## CASE REPORT

### MANAGEMENT OF KNEE OSTEOARTHRITIS THROUGH AYURVEDA: A CASE STUDY KHUSHAL KAMESHWAR NIKODE<sup>1</sup> VAISHALI KUCHEWAR<sup>2</sup>

#### Summary:

Knee osteoarthritis is the most common type of arthritis and is a major cause of disability. Its prevalence in India is 22% to 39%. In Modern medicine, OA is generally treated with Acetaminophen, aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) as pain relief medicines. Excessive use of NSAIDs can lead to gastric complications. Total knee arthroplasty (TKA) is widely employed in the treatment for end-stage osteoarthritis but Pneumonia is one of the most common complications after knee arthroplasty. It is the major cause of readmission and death after surgery. In *Ayurveda*, Osteoarthritis can be correlated with *sandhigata vata* because of its resemblance in clinical features. This is a case of knee Osteoarthritis who was advised arthroplasty. He was successfully managed with internal medication & some external therapy. Osteoarthritis is routinely treated by *Ayurveda* practitioners but from this case study. It can be concluded that severe osteoarthritis may be managed with *Ayurvedic* intervention

**Keywords:** - Osteoarthritis, *Sandhigata Vata*, Internal medication, External therapy, *Ayurvedic* intervention

<sup>1</sup>JR III, Dept. of Kayachikitsa, <sup>2</sup>Associate professor III and Head of Dept. Kayachikitsa, Mahatma Gandhi Ayurved College Hospital & Research Center, Salod, Wardha, Maharashtra.

Corresponding Email id: [khushaln6@gmail.com](mailto:khushaln6@gmail.com)

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## INTRODUCTION:

Knee osteoarthritis (OA) is the most common type of arthritis and is a major cause of disability which reduced the quality of life<sup>[1]</sup>. The prevalence of it is 22%-39% in India<sup>[2]</sup>. More than 50% of the population around the world (>65 years) show X-ray evidence of OA in one of the joints, thus demonstrating the high incidence of this disease. Though OA is equally present in men and women, it appears to be more common among younger men (<45 years) and in the older women (>45 years)<sup>[3]</sup>.

According to Piramal Healthcare Limited in a nationwide campaign against chronic diseases, India is expected to be the chronic disease capital with 60 million people with arthritis by 2025. Currently in OA affected persons, 80% are having some movement limitation and 20% are unable to perform major activities of daily living<sup>[4]</sup>.

In Modern medicine, OA is generally treated with Acetaminophen, aspirin and non-steroidal anti-inflammatory drugs (NSAIDs) as a pain reliever. Excessive use of NSAIDs can lead to gastric complications like ulcers and increased risk for hospitalization<sup>[5]</sup>. In Some patients, upper gastrointestinal (GI) side effects are so severe that they require discontinuing the medication.

The most drastic treatment of knee OA is partial or total knee replacement. Total knee arthroplasty (TKA) is widely employed in the

treatment for end-stage osteoarthritis (OA). This surgical procedure allows for the improvement in patient's clinical symptoms and quality of life, but complications related to TKA represent a major problem for orthopedists. Pneumonia is one of the most common complications after total knee arthroplasty<sup>[6]</sup>. It is the major cause of readmission and death after surgery. In addition, atelectasis and pleural effusion are also common after total joint arthroplasty, which may adversely affect the outcomes of patients<sup>[7]</sup>.

The clinical features of *Sandhigatavata* is described in various *Ayurvedic* ancient text which is characterized by *shula* (joint pain), *shotha* (swelling), *prasaarana-aakunchanayo pravruttscha vedana* (painful joint movement) resembles with Osteoarthritis<sup>[8, 9]</sup>.

*Acharya Bhavamishra* in *Bhavaprakasha nighantu* described treatment like *snehana* (oleation), *swedan* (sudation), *upanaha* (poultice) and *lepa* (topical application) for *sandhigata vata*<sup>[10]</sup>. Multiple Medicines are also described in *Ayurvedic* texts which are being prescribed routinely from many years.

Following case of Knee osteoarthritis was successfully treated by using above said treatment principles.

## CASE REPORT –

A 67 year old male patient came in *Kayachikitsa* OPD of Mahatma Gandhi *Ayurved* College, Hospital & Research Center, Salod, with the complaints of severe pain and swelling over left

knee joint & difficulty in walking since 2 months. He was taken allopathic treatment, but did not get relief and suggested knee replacement. He was not willing for surgery so he preferred to take Alternative treatment. Patient was clinically examined & decided to admit for some procedures. On clinical examination, we got following findings.

Pallor 2+, Pulse-76/min, Blood pressure-140/80 mm of Hg, huge swelling of left knee joint, Tenderness 2+and restricted movements.

In consideration with the findings of clinical examination & investigations (Given in Observation & Result), following treatment was given. As he was also suffering from Hypertention, Amlodipin 5mg was continued.

**Table no. 1– Management plan**

Sr. No.	Treatment	Dose	Duration
1.	<i>Punarnavadi guggulu</i>	500 mg twice a day after meals	30 days
2.	<i>Shiva gutika</i>	500 mg twice a day 250 mg twice a day	15 days Next 15 days
3.	Cap. <i>Ascofol-C</i>	1 capsule twice a day	30 days
4.	<i>Dashamula qwath</i>	20 ml twice a day with Lukewarr water	30 days
5.	Local <i>Snehan &amp; swedan</i> wit <i>Dashamula taila</i>		7 days
6.	Janudhara with <i>Dashamula taila</i>		7 days
After completion of one month of above medicines , following medicines were given for continuou two months			
7.	Tablet. <i>Asthiposhak</i>	1 tablet twice a day	For next tw months
8.	<i>Punarnava mandoor</i>	500mg twice a day	For next tw months

**Table no. 2- Ingredients of above compounds**

1) <i>Shiva gutika</i>	<i>Shilajeet</i> processed in <i>Triphala</i>
2) <i>Ascofol-C</i>	<i>Praval pisti</i> -125 mg

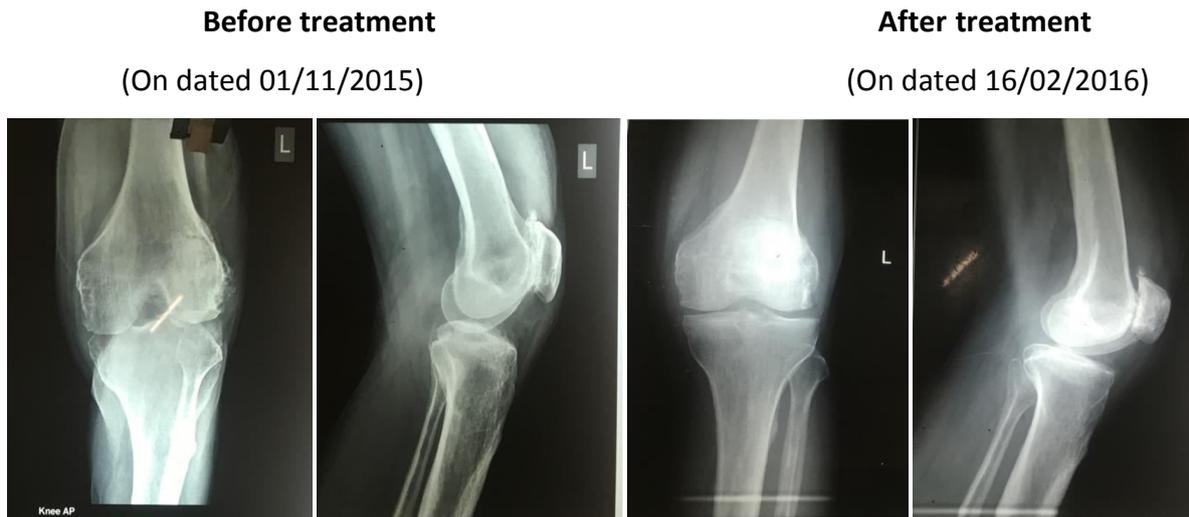
	<p><i>Godanti bhasma</i> -125 mg  <i>Shukti bhasma</i> -25 mg  <i>Lauha bhasma</i> -25 mg  <i>Mandoor bhasma</i> -75 mg  <i>Amalaki (Emblica officinalis)</i>-75 mg</p>
3) Tablet. <i>Asthiposhak</i>	<p><i>Kukkutandatvak bhasma</i> -100 mg  <i>Asthishrunkhala ( Cissus quadrangularis)</i>-100mg  <i>Arjuna (Terminalia arjuna)</i> 50 mg  <i>Amalaki (Emilca officinalis)</i> -50 mg  <i>Aswagandha (Withania somnifera)</i> -50 mg  <i>Guduchi (Tinospora cordifolia)</i> -50 mg  <i>Guggulu( Commiphora mucul)</i> -50 mg  <i>Bala (Tinosphora cardifolia)</i> -50 mg  <i>Babbul kwath(Acacia arabica )</i></p>

## OBSERVATION & RESULT

**Table no. 3 - Assessment on Day 1, 15 & 30**

Sr. No.	Assessment parameters	Day 1	Day 15	Day 30	
1	Hemoglobin percentage	9.3 gm %	9.6 gm %	10 gm %	
2	Measurement of Swelling of left knee joint	Middle margin	38 cm	36 cm	35 cm
		Upper margin	38.5 cm	37 cm	35.5 cm
3	Walking distance	50 meter with support of stick (Painful)	100 meter without support (Mild pain)	500 meter without support (No pain)	

**Fig. 1- X-ray left knee joint**



Still patient is coming to us for follow up. He has no pain or swelling on left knee and he can walk the distance approximately one kilometer without pain. There are also significant changes in the radiographs of left knee. (Fig. 1)

#### **DISCUSSION:**

The treatment given in this patient was in accordance with following properties of medicine.

***Punarnavadi guggulu*** – It was used for local swelling & pain. *Punarnava* is the main ingredient of *punarnavadi guggulu*. It is known as '*shreshtha shothaghna*'(anti-inflammatory). In one study of *Boerhaavia diffusa*, it was found to be Anti-inflammatory and diuretic<sup>[11]</sup>.

***Guduchi***– It is one of the ingredients of *punarnava guggul* & *Asthiposhak*. In *ayurvedic* texts, it is described as *Rasayan*(Rejuvenator). It is proved to stimulate growth of osteoblasts, increases the differentiation of cells into

osteoblastic lineage and also increases the mineralization of bone<sup>[12]</sup>.

***Devadaru*** - It is included in *punarnavadi guggul* because of its *Shothahara* (anti-inflammatory) & *vedana sthapan* (pain relivers) properties. It is specifically indicated in *jeerna sandhivata* & *Amavata*. The volatile oil extracted by steam distillation of the wood of devadaru was found to possess anti-inflammatory & analgesic activity against acetic acid induced writhing and hot plate reaction in mice<sup>[13]</sup>.

***Haritaki***– It is known as *Mrudu virechak*(mild laxative) as well as *strotoshodhak*. In this case , there was huge swelling due to accumulation of synovial fluid. *Haritaki* may be helpful to alleviate swelling by its *strotoshodhan* property. It is also proved to be an anti-oxidant<sup>[14]</sup>.

***Gomutra*** - Recent study have proved that cow urine could be a potential source of natural

antioxidant that could have greater importance as supportive therapy in preventing or slowing oxidative stress related degenerative diseases<sup>[15]</sup>.

*Guggul* – It is the ingredient of punarnavadi guggul & Asthiposhak. In Ayurveda, it is described as *vedanasthapan*, *Shothahara* & *Rasayan*.

It contains two highly effective compounds, guggulesterone and myrrhanol A. In arthritis there are high levels of certain inflammatory protein. Guggulesterone neutralizes this protein and decreases level of inflammation. Myrrhanol A relieves pain by blocking pro-inflammatory COX enzymes. Many studies showed Antiinflammatory & antiarthritic activity of guggul<sup>[16]</sup>.

*Shiva gutika* which contains *shilajeet* is useful in multiple diseases because of its Rasayan property. *Shilajit* enhances the bioavailability of other herbs. It contains more than 84 types of minerals. Fulvic acid is one of them which helps in the transportation of nutrients into the deep tissues and removes deep-seated toxins from the body. *Shilajit* reduces the recovery period of injured muscles and bones<sup>[17]</sup>.

Capsule *Ascafol C* is having the ingredients which are hematinic as well as osteoprotective. It was advised to increase hemoglobin level & to protect the bones.

*Dashamoola qwath* was given as a *Vatashamak* medicine. Some of its ingredients have been evaluated in experimental models of inflammation and pain and have shown to possess anti-inflammatory and analgesic activities<sup>[18]</sup>.

*Snehan* with *dashmula taila* was given to alleviate *Vata* by its *Snigdha* (unctuous), *guru* (heavy), and *mridu* (soft) properties.

According to modern studies, massage stimulates blood circulation and help in elimination of waste throughout the body. The medicines used for massage are absorbed through the skin<sup>[19]</sup>.

*Swedana* was advised as it decreases *stambha* (stiffness), *gaurava*(heaviness) and *shula*(pain)<sup>[20]</sup>. *Janudhara* with *Dashamula taila* was done to alleviate *vata* & may be helpful to prevent further degeneration.

Patient was on Tablet *Asthiposhak* and *punarnava mandoor* for next two months. *Asthiposhak* contains *Kukkutandatvak bhasma*, *asthishrunkhala* and *arjuna* which are osteoprotective.

*Amalaki*, *aswagandha*, *guduchi* and *bala* are *rasayan* to prevent further degeneration of bones

*Punarnave mandoor* was given to treat the anemia.

#### **CONCLUSION:**

To treat osteoarthritis is a routine practice of *Ayurvedic* practitioners, but for end stage OA,

we generally uncertain to manage. From this case study, it can be concluded that severe osteoarthritis may be successfully managed with *Ayurvedic* intervention. This study will be helpful for further collaborative research with modern medicine in the cases of end stage osteoarthritis.

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