

## KNEE JOINT OSTEOARTHRITIS IN MENOPAUSAL FEMALES AN AYURVEDIC PERSPECTIVE

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### ABSTRACT

Osteoarthritis is considered of 8<sup>th</sup> rank in chronic diseases worldwide. India has a higher rate of osteoarthritis. Osteoarthritis is degeneration of joint cartilage and causes pain, stiffness of affected joint and as disease progresses it may cause morbidity and work disability. In Ayurveda it resembles with *sandhigata vata*. Prevalence of knee joint osteoarthritis is more in menopausal aged females. In these there is *Vata prakopa, rasa rakta dushti* and knee joint *sthana vaigunya* which causes *janu sandhigata vata*. According to Ayurveda its management

includes preventive approach like *paricharya palan* in different epochs of life, dietary and lifestyle modifications, As therapeutic aspect includes herbal medications and *basti* treatment.

**KEYWORDS:** Osteoarthritis, Menopause, Sandhigata vata, herbal drugs, Basti.

### INTRODUCTION

Osteoarthritis (OA) is a disease of cartilage degradation, which results pain in major joints, especially in knee joint. Globally OA ranks eighth in all diseases and covers around 15% proportions among all musculoskeletal problems. India has higher proliferative rate of OA among world and expected to be at top rank in chronic diseases till 2025. India is predicted as a capital for chronic diseases by 2025 and will have 60 million people with OA.<sup>[1]</sup>

### Pathogenesis

Osteoarthritis (OA) is a disorder of cartilage degradation, synovial inflammation, osteophyte formation, thinning of joint space and sub-chondral sclerosis. Cartilage act as cushion between the bones of joints and prevent the rubbing of bones on each other. Synovial fluid is filled in between two cartilage of bone joint, which is secreted by synovial membrane for

lubrication of the joints. OA leads to pain, disability as well as difficulty in joints and may also restrict the routine movements of human beings.

Overall women have osteoarthritis as the most commonest form of arthritis than men at much higher rates. After the age 55 the number of women with this condition is larger. Men are more prone to experience arthritis in their hips, while women tend to have it in the knees or hands.

Risk factors for arthritis in women are as biology, genetic predisposition, hormones and fourth important factor obesity.<sup>[2]</sup>

- 1) **Biology:** Women's lower body joints are meant to move more than men and so less joint stability are more prone to injury.
- 2) **Anatomy:** Women's hips are wider so knee joint has to bear stress of body weight and so knees are likely to damage.
- 3) It also runs in families from mother to daughter around same age, same joint and knee joint has a specific link.
- 4) **Hormones:** At menopause estrogen levels decline and there is breaking down of bones in larger amount than production. Estrogen is important in bone formation with vit D, calcium and other hormones. So perimenopausal women are 4 times more likely to suffer than men.<sup>[3]</sup>
- 5) **Obesity:** Statistics show that more women than men are obese or severely obese, and obesity plays a major role in osteoarthritis, Extra weight puts more pressure on joints and can cause the cartilage between joints to wear and tear faster.

#### ❖ Perspective of Ayurveda in osteoarthritis

In Ayurveda Osteoarthritis resembles with and is described as *Sandhigata vata vyadhi*.

The main causative factors for *sandhigata vata* are – *vata* vitiation and *sandhi sthana vaigunya*. (pre deficit).<sup>[4]</sup>

- Dietary causes for *vata vitiation* include
  - a. *Ruksha annapana* (food which causes dryness),
  - b. Excessive intake of *Kashaya* (Astringent), *Katu* (spicy) and *Tikta* (Bitter) Rasa,
  - c. *Alpabhojana* (inadequate food),
  - d. *Pramitashana* (intake of nutritionally deficient food),
  - e. *Anashana* (absolute no food intake),

- f. *Langhana* (Fasting),
- g. *Aama*- improper digested food
- **Viharatmak factors** (activity based)
  - a. *Ativyayam* (excessive exercise)
  - b. *Vegadharana* (suppression of natural urges)
  - c. *Vatasevana* (excessive exposure to wind)
  - d. *Atapasevana* (excessive exposure to sunlight)
  - e. *Ati cheshta* excess squatting, kneeling during household works
  - f. *Jagaran or divaswap*
  - g. Not following *sutika* (puerperial) and *rajaswala* (menstrual) *paricharya* (behavior) for *vata samyavastha* (pacification)
- **Pshycological causes**
  - a. Stress
  - b. Menopausal anxiety, depression, mood swings
  - c. Worries and physical ailments like hot flushes causing insomnia
- ***Sthana vaigunya*** (local pre -existing defect)
  - a. Strain in knee joint due to weight bearing causing more wear and tear
  - b. *Dhatukshaya* (degeneration) due to age and low oestrogen levels
  - c. Menopausal age as predisposing factor
  - d. Age – *vardhakya* (old age) is a *Vata pradhanya avastha*

### Pathogenesis in menopausal females

In peri menopausal period due to wrong dietary habits and lack of exercise *vayu* becomes *saama* (with putrefied and undigested *ama*) It causes *dushti* of *rasa and rakta dhatu*. These *saam rasa, rakta* causes excruciating pain wherever they go as at knee joint in osteoarthritis.<sup>[5]</sup>

*Rajo nivrutti*, older age, *Vata prakopa Dhatukshaya, janu sandhi sthana vaigunya* (wear and tear of joint) causing OA changes in joint cartilage in menopausal females.<sup>[6]</sup>

### Sign & Symptoms

1. Inflammation

2. Pain during walking and hampering daily activities further at rest also if disease progresses
3. Joint Crackles
4. Joint Stiffness

#### ❖ MANAGEMENT

Basic management includes pharmacological and non- pharmacological modalities. conventionally osteoarthritis is treated with NSAIDS, joint stabilisers, steroids. Others include physiotherapy, exercises, counselling and lastly surgical replacement. Can we avoid knee replacement in females at menopausal age? The aim of treatment is preventive as well as therapeutic approach. It includes medication to control symptoms, prevent further progression and minimize the disability due to osteoarthritis.

❖ **Preventive:** The role of Ayurveda is more as a preventive aspect than therapeutic one.

1. *Paricharya*: In Ayurveda certain periods are explained in a woman's life, where some physiological changes take place. So woman's life is divided in 3 epochs and according to *dosha avastha* management (*Paricharya*) is described. Menstruation (*Rajaswala*), Pregnancy (*Garbhini*) and Post partum (*Sutika*) period.

Some dos and don'ts are explained related to dietary and life style habits in these conditions. The main purpose is to have "Vata samyavastha". If it gets vitiated it proves to be harmful in later age and can lead to different diseases.

2. Dietary habits: To include *Sneha dravya* (oleation) in diet, avoid dry and consume diet according to *ritu, kala, prakruti, aahar vidhi*. Foods rich in phytoestrogens flax seeds, soyabeans, legumes apricot, peaches, garlic, green beans should be included in diet.<sup>[8]</sup>
3. Life style changes: Timely diet, exercise and sleep can prevent vata vitiation
4. Exercises for joint and muscle strengthening especially knee joint.

#### ❖ Therapeutic

- 1) *Snehana* –(oleation)

Local application and internal oleation can be useful. Taila is vata pacifier. Medicated oils can be used internally as well as externally. For eg- Narayan taila, Bala taila Dadimadi ghritha, Kalyanaka ghritha etc. in form of *Janu basti* to strengthen the joint.)

**2) Swedan (Fomentation)**

It can be done for whole body or locally with medicated decoctions or Nadi sweda (with tube vapour is used). It pacifies Vata and helps as analgesia.

**3) Basti- Anuvasana and Niruha (medicated enema)**

Anuvasana is given with medicated oils and Niruha basti with decoctions, milk.

Basti (medicated enema) is considered as the main treatment for Vatavyadhis. Anuvasan *basti*(enema of medicated oil) is said to be prime most treatment for *vata dosha*(*vayu*).It helps in maintaining equilibrium of generalized *vata* and thus prevents its vitiation. It can be used as a local application, Janu basti (knee joint oil basti) for better results.

4) Herbal Medications—which are used in different formulations like oil, ghrita, decoction, tablet, Asava, Arishta and also can be used as local applications. All the herbal drugs can be used in different formulations and can be used as internal medications, local application and for basti as well. Internally they can be used as anti inflammatory, analgesic, balya, Rasayana, joint strengthening drugs. Also they are uterine tonics and specially have action on female reproductive system. Also they are *Vata* pacifier, *Rasa* and *Rakta prasadak*, *Deepana*, *pachana*.<sup>[4]</sup>

All these drugs are used as single drug therapy or /and in combination considering one's constitution and *samprapti*. (pathogenesis),severity of disease and stage of the disease.

Some guggulu kalpas like Amrutadi, Punarnavadi, Rasnadi are also effective in management of sandhigata vata as anti inflammatory and vata pacifiers.

**❖ Drug properties<sup>[9]</sup>**

Sr.no	Name	Botanical name	Rasa	Veerya	Vipaka	Guna	Karma and properties
1	Shatavari	Asparagus Racemosa	<i>Madhura, Tikta</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Snighdha</i>	<i>Rasayan, Hridya, Stree doshaghna</i>
2	Ashwagandha	Withania Somnifera	<i>Tikta, Katu, Madhura</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Laghu, Snighdha</i>	<i>Balya, Rasayana</i>
3	Shunthi	Zinziber Officianale	<i>Katu, Mahura</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Laghu, Snighdha</i>	<i>Vatakaphagna, Deepana, Pachana</i> Anti inflammatory Analgesic
4	Haridra	Curcuma longa	<i>Tikta Katu</i>	<i>ushna</i>	<i>Katu</i>	<i>Ruksha Laghu</i>	<i>Raktaprasadan, stree priya,</i>

							<i>garbhashya shodhana</i> Anti inflammatory anti oxidant
5	Sariva	Hemidesmus Indicus	<i>Madhura, Tikta</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Snighdha</i>	Vatapitta Shamak Rakta prasadan
6	Guduchi	Tinospora cordifolia	<i>Tikta.Kashaya</i>	<i>ushna</i>	<i>madhura</i>	<i>Guru, snighdha</i>	<i>Vatahara, Rasayana</i>
7	Gokshur	Tribulus Terrestris	<i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Snighdha</i>	<i>Vatahara Bastishodhak</i>
8	Bala	Sida Cordifolia	<i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu Snighda Picchila</i>	<i>Vataghna, Ojovardhana, Garbhashaya balya Raktashodhana</i>
9	Shatapushpa	Anethum Sowa	<i>Katu Tikta</i>	<i>Ushna</i>	<i>Katu</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Deepan, Kapha vataghna Shoolaghna</i>

#### ❖ YOGASANAS AND REHABILITATION<sup>[9]</sup>

Physical therapy and exercise are important components in the treatment of osteoarthritis and can help you achieve and maintain optimal mobility. Exercise helps to increase flexibility, maintain range of motion of the joint, strengthen surrounding muscles, decrease associated inflammation, and improve overall fitness.

After treatment or as preventive measure to relieve joint stiffness, pain and further damage some asanas are useful. These can be done under proper guidance only. Asanas such as Mountain pose, warrior pose, dog pose, vajrasana etc.

Meditation helps in maintaining neutral mind state and balancing emotional and spiritual aspects and as stress management.

#### ❖ CONCLUSION

The average age of menopause in Indian females is at the age of 47 to 50 years. According to Ayurveda principles to avoid OA basic protocol should be-*Vata samya, dhatu poshana, Rasa rakta prasadana*, knee joint *balya and rasayana* and *saumanasya* (psychological calmness) in females.

To avoid knee joint osteoarthritis and other joint disorders females should be counselled for proper paricharya palan, right diet and life style modifications from time to time by their healthcare providers. As we know prevention is always better than cure, all available

multimodal management may be helpful to decrease the prevalence of osteoarthritis in peri menopausal females in present scenario.

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