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REVIEW OF *AGNIKARMA* THERAPY IN *JANUSANDHIGATA* VATA WITH SPECIAL EMPHASIS ON KNEE OSTEOARTHRITIS.

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ABSTRACT

Knee Osteo Arthritis ranks 38th among disability variables that impact life expectancy and is the 11th most common cause of disability globally. With a prevalence of 22% to 39% in India, osteoarthritis is the most common joint illness and the second most common rheumatologic issue. Women are more likely than males to have OA, but as people age, the prevalence rises sharply. Approximately 45% of women over 65 experience symptoms, while 70% of those over 65 have radiological evidence. One of the main causes of decreased mobility, especially in women, is osteoarthritis of the knee. The main treatments for OA in modern medicine include analgesics, anti-inflammatory medications, and surgery.7 Even while these treatments result in a great recovery, the patients must take them for the rest of their lives, which has negative repercussions. Knee replacement surgery is expensive, and the patient must take analgesics for a long time following the procedure. Acharya Sushruta provides a detailed description of *Agnikarma*, a form of Therepeutic burn.Knee OA's clinical characteristics can be linked to Janu *sandhigata vata*, a condition that affects *Asthi* and *Mamsa dhatu.Acharya Sushruta* recommended *Agnikarma* as a pain reliever for this kind

of illness,which could be the alternative for Pain reliving medicine because overuse of these medicine can cause serious health issues.

KEYWORDS: Knee OA, knee osteoarthritis, *Janusandhigata vata, Agnikarma*, Pain mangemment, analgesics.

INTRODUCTION

The Father of Surgery, *Acharya Sushruta*, explained *Agnikarma* is one of the parasurgical methods for pain relief.[1] In contrast to other parasurgical techniques, *Agnikarma* is renowned for providing immediate pain relief.Knee Osteo Arthritis ranks 38th among disability variables that impact life expectancy and is the 11th most common cause of disability globally.[2] With a prevalence of 22% to 39% in India, osteoarthritis is the most common joint illness and the second most common rheumatologic issue. Women are more likely than males to have OA, but as people age, the prevalence rises sharply. Approximately 45% of women over 65 experience symptoms, while 70% of those over 65 have radiological evidence. One of the main causes of decreased mobility, especially in women, is osteoarthritis of the knee. According to estimates, OA ranks as the tenth most common cause of nonfatal burden.[3]

With a complex etiopathogenesis, OA is a clinically diverse illness. Overweight, persistent micro traumatization of the cartilage from excessive physical activity, trauma, metabolic problems, and genetic susceptibility are the most well-known risk factors for osteoarthritis (OA).[4] Degenerative-dystrophic damage to the articular cartilage, which arises from an imbalance between anabolic and catabolic processes in cartilage and subchondral bone, provides the basis for the pathophysiology of OA.[5] The diagnosis of OA can be established through a gradual onset of pain, crepitus during movement due to a violation of the congruence of the articular surfaces, limitation of active and passive movements in the joint, atrophy of the surrounding muscles, and limb deformity (e.g., Heberden's and Bouchard's nodules, varus deformity of the knee joints) with a moderate change in laboratory parameters. The gold standard for diagnosing osteoarthritis is an X-ray, which is frequently used to show joint constriction.[6]

The main treatments for OA in modern medicine include analgesics, anti-inflammatory medications, and surgery.[7] Even while these treatments result in a great recovery, the patients must take them for the rest of their lives, which has negative repercussions. Knee

replacement surgery is expensive, and the patient must take analgesics for a long time following the procedure.

Acharya Sushruta provides a detailed description of *Agnikarma*, a form of Therepeutic burn. Knee OA's clinical characteristics can be linked to *Janu sandhigata vata*, a condition that affects *Asthi* and *Mamsa dhatu*. *Acharya Sushruta* recommended *Agnikarma* as a pain reliever for this kind of illness, which could be the alternative for Pain reliving medicine because overuse of these medicine can cause serious health issues.

Procedure

The procedure of *Agnikarma* mainly carried out in three phases

1. *Purvakarma,*
2. *Pradhana karma and*
3. *Paschata karma*

Purva karma

It involves appropriately evaluating and preparing the patient as well as the tools needed for the *Agnikarma*. Prior to the *Agnikarma*, the patient's informed consent should be obtained.

Pradhan Karma

area with maximum tender point on knee is selected and *snehana* with *vatahara* oil is done after that *swedana* is done. At the location, *Agnikarma* is done until *Samyaka dagda Lakshana* shows up. Two s*amyak dagda vranas* should be kept apart by a suitable distance. (Figure 1 &2).

Paschata Karma

For immediate pain relief and appropriate *vrana* healing, *shat dhauta ghrita* and *madhu* should be applied to *samyaka dagda vrana*.

The patient should be advised to follow a healthy diet.The patient should be instructed to take *pathya apathya* and advised to apply *shatdhauta ghrita* to vrana and any contact of water is prohibited.

Evaluation of *Agnikarma*

Twaka dagda: Skin constriction, unpleasant odor, and crackling sound production. *Manmsa dagda*: dry contracted vrana, slight swelling, minor pain, and peigon-like color.

Sira snayu dagda: no discharge, elevation of the site, and black coloring. *Sandhi asthi dagda*: The part's stability, roughness, dark red coloring, and dryness.8

Studies on *Agnikarma* in Knee Osteoarthritis.

A study done by Vasudev Aneesh et. All stated that *Agnikarma* procedure with *Panchtikta ghrita guggul* orally provide better pain relief and decreases joint stiffness and crepitus as compared to *Agnikarma* Alone.[9]

A stdy done by Manisha kapdiya et all as *Agnikarma* on knee joint stated that *Agnikarma* Has Analgesic effect and can be performed easily at opd level.and after adding *Panchtiktaka guggul* enhances the effect and reduces joint related symptoms.[10]

A study done by Rathod Shivraj et al on Clinical study of *Agnikarma* and *mustadi Upnaha* in Knee OA management on two group patient 20 Patients each in group ,in Group A ,*Agnikarma* done with *Loha shalaka* and in Group B patient treated with *mustadi Upnaha sweda* concluded that Both *Agnikarma* and *Mustadi upnaha* are effective in treating *janu Sandhi gata vata* but *Agnikarma with Loha Shalaka* is more effective in treatment of associated pain and *upnaha i*s effective in reducing tenderness and swelling.[11]

A clinical Study done by Puri Shubham et al on 30 patients in which one group received oral medication for Knee Oa pain and other group received *Agnikarma* suggested that *Agnikarma* is found to be more effective in treating janu sandhigata vata pain as compared to oral drugs.[12]

A clinical study done by Saini Karan et al suggested that *Agnikarma* done with Swarna shalaka is quite effective in pain management in case of Janu sandhi Gata vata.[13]

Research carried out by Sharma et al. at IPGT & RA, Jamnagar 33 patients *with Janugata Sandhivata* (Knee OA) were randomly categorized divided into two categories. In Group A (n = 18), *Agnikarma* was performed using Pancha dhatu Shalaka once a week for four weeks while in Group B (n = 15) received *Agnikarma* combined with *Panchatikta Guggulu.* administered orally for a duration of one month. It was noted that the symptoms of knee OA were significantly lessened in Group A in comparison with Group B.[14]

Research carried out by Priyanka Ganguly and Manjunatha Bhat in Alva's Ayurveda Medical College in Karnataka focuses on the comparative impact of *Agnikarma* employing Tapta

Kshaudra and Pancha dhatu Shalaka in the treatment of *Janusandhigata vata* (Knee) pain management. Osteoarthritis) on 20 patients across three sessions demonstrated notable decrease in pain in both groups.[15]

Research carried out by Jiji G and colleagues at Government Ayurveda College, Thiruvananthapuram, Kerala to examine the impact of *Agnikarma* in Knee Osteoarthritis in comparison to *Upanaha sweda* 60 patients (30 in each group) discovered that *Agnikarma* with Shalaka completed in two sessions with a weekly gap was greater successful in controlling the symptoms of Knee Osteoarthritis when in comparison to *Upanaha sweda* with *Vachadi choorna* for a duration of 7 days.[16]

A clinical study done by Vats Himanshi et al on 15 patients in which *Agnikarma* done on 15 patients and Before treatment and Affter treatment Patient blood was taken for Assesment of biomarkers and patients hs-Crp decreased effectively after treatment.which concluded and provided evidenced based result that *Agnikarma* has significant result in reducing Pain in Janu Sandhigata Vata Patients.[17]

DISCUSSION

Sandhi shopha(swelling near or on joints) and *Sandhishoola*(pain in joint) is the charcterstic feature of *Janusandhigata vata*.it occurs when intensified *Vata Dosha* combined with *Kapha Anubandha dosha*.*Agnikarma* with its Vata and Kapha hara property can be a best option for *Janu sandhigata vata.Teekshna,ushna,sookshama and ashukari guna of agni* is opposite than *guna* of *Vata and Kapha*.18due to these guna it removes the srotavarodha and aids to increase the *rasa-rakt samvahana* to the affected joints and the disturbed *Vata* and *Kapha* Doshas become calmed right away. In *Agnikarma* heat transferred increases the *dhatwagni*, so metabolism at dhatu level increases which helps to digest the ama dosha or metabolites.

The *Rasa Rakta Samvahana* at this site *Agnikarma* can be improved, allowing Other *Dhatus* to obtain appropriate nourishment.18 According to modern literature the Action of *Agnikarma* can be elucidated by the Gate Control Theory of Pain. When heat is applied to the body, it activates A-beta nerve fibers, which are tasked with transmitting non-painful sensory signals. These fibers can block the transmission of pain signals conducted by A-delta and C fibers, effectively "shutting the gate" in the spinal cord to painful stimuli. Consequently, the awareness of pain is greatly diminished.

Furthermore, *Agnikarma*'s heat therapy promotes vasodilation, enhancing local blood flow. This enhanced circulation aids in diminishing ischemia (insufficient oxygen delivery to tissues), eliminating inflammatory substances, and facilitating tissue recovery, all of which assist in alleviating pain and promoting healing.

The use of heat also lessens the sensitivity of nociceptors which are the sensory receptors for pain,thus decreasing pain sensitivity as time progresses. Additionally, exposure to heat might encourage the release of endogenous opioids like endorphins, which serve as the body's natural pain relievers, leading to enhanced analgesic effects.

Finally, warmth has a soothing impact on muscles and connective tissues, aiding in lessening muscle spasms and tightness. This relaxation of muscles improves movement, reduces stress, and offers additional pain relief. Heat therapy eases periarticular muscles and soft tissues, diminishes stiffness, and improves joint mobility.[19]

Heat shock proteins (HSPs), particularly HSP70, are produced in response to elevated temperatures and aid immune recognition of damaged cells. In osteoarthritis, HSP70 offers chondroprotective effects by exhibiting anti-apoptotic and anti-inflammatory properties, potentially delaying extracellular matrix degradation and slowing disease progression. Their role supports thermal therapies like *Agnikarma* in managing OA symptoms.[20]

Figure 1.

Figure 2.

CONCLUSION

Agnikarma therapy, an ancient Ayurvedic treatment that uses therapeutic heat, has demonstrated encouraging effects in reducing pain and improving function in patients with knee osteoarthritis. Compared to modern pharmacological therapies such as NSAIDs and

corticosteroid injections, *Agnikarma* may be a safer long-term option, particularly because it avoids common side effects such as gastrointestinal difficulties, renal impairment, and cartilage degeneration.

While contemporary medicine can provide quick symptom alleviation, it is frequently accompanied with long-term negative effects and does not address the underlying joint degradation. In contrast, *Agnikarma* is less intrusive, has fewer systemic adverse effects, and may induce local healing responses, making it a potentially beneficial complementary or alternative therapy.

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