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A CONCEPTUAL STUDY ON THE EFFECT OF AGNIKARMA WITH TAPTHA KSHOUDRA IN LATERAL EPICONDYLITIS (TENNIS ELBOW)

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ABSTRACT

Tennis elbow is a condition in which there is pain on the lateral epicondyle. It is a type of repetitive strain injury due to overexertion of the common extensor tendon (*Snayu*), micro-traumas, or its failed healing. Tennis elbow may be correlated with *Snayugata vata* in *Kurpara sandhi* (elbow) which has symptoms of pain, stiffness and restriction of movements. The overall prevalence rate of tennis elbow is of 1-3%. In this disease recovery is seen in about 90% of cases with 1-2 years of conservative management, whereas only in less than 10% of cases, surgery is indicated. In some cases, the problem may continue for longer period. A wide range of symptomatic treatment is available such as use of anti-inflammatory drugs, steroid injection, physiotherapy, exercise etc. which have their own limitations and adverse effects. In Sushruta Samhita various treatment modalities such as S*nehana, Upanaha, Agnikarma* and B*andhana* are mentioned for *Snayugata Vata*. Amongst these, *Agnikarma* seems to be more effective in providing distinct and instant relief. A*charya Susruta* has mentioned *Snigdha Agnikarma* (thermal cautery) in the management of *Snayugata vata*.Considering these factors, an attempt is made in the current study, aiming at establishing the effectiveness of *Taptha Kshoudra* in the management of tennis elbow.

KEYWORDS: Tennis elbow, *Agnikarma*, *Kshoudra.*

INTRODUCTION

Tennis elbow is a painful disorder of forearm; it may developed due to non-specific inflammation at the origin of extensor muscles of the forearm. Clinically it is also called lateral epicondylitis or epicondylalgia or tendinopathy or tendinosis. The pathology behind the tennis elbow remains unknown but it seems to be the sum of tendon defect, change in pain perception, and motor impairment. This may be also due to a degenerative change at the origin of the extensor carpi radialis brevis muscle. Usually the dominant hand is the more affected one.

It is clinically diagnosed by sensation of pain and tenderness at the lateral epicondyle of humerus which aggravates during the resisted dorsiflexion of wrist and fingers, while gripping and twisting movements of wrist and forearm. The disease is usually confirmed by its features like radiating pain from lateral epicondyle to the forearm and wrist, pain on resisted dorsiflexion of the wrist, tenderness on lateral epicondyle, weakness of forearm, weakened grip strength.[1]

The overall prevalence rate of tennis elbow is of 1-3%. The highest incidence is found in young age group and between the ages 40 and 60 years of life. For women, the incidence increases to 10% between the ages of 42 and 46 years.[2] The treatments followed nowadays like pharmacological interventions, steroid injections and surgery have their limitations.[3] So in these circumstances it is relevant to come with the treatment protocol advised in *Ayurveda.*

On the basis of signs and symptoms, tennis elbow can be correlated with the condition of *Snayugata Vata* described in Ayurveda. It is developed when *Vata Dosha* aggravates due to *Atichesta, Ativyayama*.etc and gets localized in *Snayu* of *Kurpara sandhi*.[4] In Ayurveda, *Acharya Sushruta* has advocated various treatment modalities such as *Snehana*, *Upanaha*, *Agnikarma* and *Bandhana* for *Snayugata vata*.[5] Amongst these, *Agnikarma* seems to be more effective in providing distinct and instant relief. *Agni karma* is indicated in *Vatakaphaja* diseases, also in *Atyugraruja* (severe pain) of skin, muscles, veins, tendons, joints etc. *Agni* possess

Usna, Tiksna, Suksma, Asukariguṇa and has *Vatahara* and *Kaphahara* properties.[6] The things used for cauterization in *Snayugata vata* are *Snigdha dravya* such as *Madhu* (honey), *Guda* (jaggery), *Taila (*oil*)* and *Vasa (*fat).[7] as they have deep heat penetration capacity with a greater latent period. As an outcome of previous studies, *agnikarma* using *madhu* is found to be effective in *snayugata vikara*. *Kshoudra* has *ushna, laghu, rooksha, sookshma guna* and it pacifies both *vata* and *kapha.*[8]

***Agnikarma* Using Kshoudra**

Materials required

a) Sterile cotton
b) *Kshoudra*(honey)
c) Gas stove
d) Steel dish
e) Borosilicate glass dropper
f) Laboratory thermometer
g) *Ghrta*(ghee)

Procedure of *Agnikarma*

The procedure of *Agnikarma* consisted of

1. Purva Karma
2. Pradhana Karma
3. *Pascat Karma*

Purva Karma

The patient is to be on *Snigdha* and *Pichila* diet before *Agnikarma. Agropaharaniya* is to be done along with well-prepared minor OT. Sterile Sponge holding forceps, Cotton pieces, Drape, *Kshoudra*, Steel dish, Borosil pipette and *Madhu Ghruta* mixture are kept ready. Procedure is explained and written consent taken. The elbow and surrounding area is cleaned with an antiseptic solution and allowed to dry. The patient is made to sit or lie down comfortably. The elbow is bent to 90˚ with the pronated forearm so that there will be the prominence of the lateral epicondyle. The area of maximum tenderness is to be palpated, then mark with skin marker.

Pradhana Karma

Agni karma is done over the tender point on and around the lateral epicondyle with a radius of 2 cm from a central point. 10 ml of *madhu is* taken in a sterile dish. It is heated to 110° C. The heated *Kshoudra* is to be taken in a container which can bear the high temperature, which has minimum heat absorption and can provide a steady and interrupted (as drops) flow of *Kshoudra*. We can use a Borosil glass pipette for the same. The tip of borosil pipette is kept in this honey till the tip attained the temperature of honey. The *Tapta Kshoudra* is sucked using Borosil glass pipette, poured on the pre - determined site and wiped off after 1 minute. At least 0.5 cm gap is maintained between the *Dagdha Stana.*

Pascat Karma

A mixture of *Madhu* and *Ghrita* has to be applied immediately after *Agnikarma*. *Pathya - Apathya* for *Vrana* mentioned in *Vranitopasaniya* chapter in Sushruta Samhita sutrasthana has to be advised.

DISCUSSION

The *khara paka* of *medho dhatu* results in the formation of *snayu*. *Vata doṣa* acts on the *medas* and absorbs its *snigdhamsa* resulting in the formation of tough structures called *snayu* (tendon)[9] In tennis elbow, due to *nidana* factors *vata* undergoes *dusti* due to the exertion and repeated movements of the forearm and wrist and it undergoes takes *sthana samsraya* in *snayu* near *kurpara sandhi*. The vayu responsible for the movements of forearm is *vyanvayu,* is affected here. The features such as pain, stiffness, restricted movement, etc. develop in this region. These symptoms may also develop due to *kaphavritta vyana vayu*. Hence, it is also considered an important causative factor for manifestation of *Snayugata Vata.*As a result, *kharatwa* property again increases making it brittle and vulnerable to tears. The collagen loses its structure due to the constant force applied to the tendon for a prolonged period. This unstructured collagen indicates that the collagen no longer has the strength to perform its functions suggesting *dhatu ksaya*. This *dhatu ksaya* makes the tendon unable to bear the weight, resulting in reduced grip strength. *Agnikarma* is considered as a supreme *anusastra karma* in *Brhatrayi.* In *snayu gata vata, snigdha agnikarma* is indicated.[10] The justification for the superiority of *Agni karma* may be taken in the context of the non-recurrence of disease in *sadhya roga*. *Agnikarma* is indicated in all *vataja* and *kaphaja* diseases as the *usna guna* of *agni* is opposite to that of *sita guna* of *vata dosa* and *kapha dosa*. Due to *nidana* factors there occurs a *vata prakopa* and an increase in *ruksa, khara* and *sita guna* of the tendon. This may cause a decrease in the elasticity and strength of the tendon as well as the extensor muscles, resulting in tears and fibrotic changes. Also, the *sita guna* of *vata* and *kapha* causes *stambana* which may result in pain during movements. During the procedure of *agnikarma*, heat is transmitted in the form of conduction through the skin and tissues. So, by the process of *snigdha agnikarma* there occurs a transfer of *usna guna* of *agni* from *Kshoudra* to the *snayu* (tendon) which helps the tendon to overcome the *sita guna* of *vata* and *kapha*. The heat generated in the tissue during *agnikarma* may stimulate the lateral spinothalamic tract which further may lead to stimulation of descending pain inhibitory fibres which release endogenous opioid peptides. These peptides bind with opioid receptors at substantia gelatinosa ronaldi which inhibits the release of substance P (presynaptic inhibition) and blockage of transmission of pain sensation.[11] Thus it may be inferred that, during the process of *agnikarma*, along with *usna guna* of *Agni*, the *tiksna guna* also helps for the deeper penetration of heat so that it reaches *snayu* and together reduce the tenderness and pain through the process of *vata shamana*.

According to Warren C G et al., at a higher temperature, there may be a relaxation of collagen in the connective tissue and thus it increases the flexibility of the tendon and enables it to sustain more force.[12] The heat also relaxes the muscles, relieving the stiffness and increasing

the range of movements. The *usna guna* does *vata shamana* and thus reduces the *khara guna* of the *snayu*. This will result in increased elasticity of the tendon. In an article by A.G. Ravisankar et al., a temperature range of 40°C to 45°C may increase the extensibility of collagen tissue and thus reduce joint stiffness. The low melting temperature allows collagen molecules to melt and refold locally, which will provide elasticity and strength to the fibres. The heat applied on the site may increase the blood flow to the region by vasodilation, an increase in blood flow may help to increase the rate of healing as lack of proper healing of the torn tendon is also a pathology behind tennis elbow. According to the article by A.G. Ravisankar et al., the thermal behaviour of *snigdha dravya* was studied and it showed that the *snigdha dravya* has higher latent heat (heat retention capacity) with the average heat dissipation of 2°C /min. The article concluded that in *snayu gata vikara, snigdha agnikarma* may provide a better result than *ruksa agnikarma*.[13]

Due to higher viscosity of *Kshoudra* the tendency to flow away from the site is reduced and this tendency is even further reduced because of the decrease in temperature of droplets due to the heat transfer from the surface and the droplet gets colder after application. The drops of *Kshoudra* will not flow away from the site and thus prevented the burning of the surrounding tissue and the temperature will be transmitted to the specified area instead of spreading to the surroundings. Heat energy (*usna guna*) thus increase the tissue temperature, blood flow, metabolism and the extensibility of the connective tissue.

CONCLUSION

Agnikarma can be conducted at the O.P level with the patient requiring no hospital stay. It is a simple procedure, has very less and easily manageable complications and cost effective. *Kshoudra* when employed for *Agnikarma,* owing to its higher latent heat it can cause a greater variation in the temperature of the tissue surface in contact with it and also that of the subsequent layers. *Agnikarma* using *Kshoudra* like substances is considered to aid the penetration of heat through *Sukshma Sira*. By the *Ushna*, *Tiksna*, *Suksma*, *Ashukari guna kshoudra* removes the *srotorodha* and pacify the vitiated *vata and kapha dosha* and maintain equilibrium thus become effective in the treatment of both *Avaranajanya* and *Dhatukshayajanya Snayugata vata*. Moreover superficial burns created will be healed within 5-7 days. So *Agnikarma* with *Kshoudra* can be considered as a effective modality of treatment in Lateral epicondylitis (Tennis elbow).

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