

A CASE REPORT: AYURVEDIC APPROACH IN THE MANAGEMENT OF SNAYUGATA VATA W.S.R. TO ANTERIOR CRUCIATE LIGAMENT INJURY OF KNEE JOINT

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Article Received on
20 March 2024,

Revised on 10 April 2024,
Accepted on 30 April 2024

DOI: 10.20959/wjpr20249-32242



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ABSTRACT

Snayugata Vata, a condition within the Vatavyadhi category, involves the aggravation of Vata causing affliction to the Snayu (ligaments or tendons), resulting in various Vata-related symptoms such as ruk, stambha, flexion, extension and reduced functionality. The knee, being a pivotal and intricate joint, relies heavily on its cruciate ligaments, particularly the anterior cruciate ligament (ACL), for stability. Injury to the ACL, commonly observed in sports, can significantly impair a person's daily activities and overall well-being, potentially leading to additional knee complications like instability, meniscal damage, and osteoarthritis. A case study describes a 26-year-old male who experienced a traumatic incident while playing basketball, resulting in a distinct popping sound and acute pain in his left knee. Upon examination, the knee appeared swollen and tender. MRI findings revealed a Grade III tear of the ACL. A two-month Ayurvedic treatment along with physiotherapy plan was devised and administered to the patient. Subsequently, the patient experienced relief from pain, improved knee joint mobility, and regained the ability to perform daily activities without instability.

KEYWORDS: Anterior cruciate ligament tear, knee joint, janu sandhi.

INTRODUCTION

Snayugata Vata is described under Vatavyadhi in all the ancient texts and Sangraha Grantha. Vata when vitiated by any internal or external factor resides in Snayu resulting in

instantaneous manifestation of Snayugata Vata. Acharya Sushruta has described Snayugata Vata as, vitiated Vata when lodge in Snayu then Stambha, Kampa, Shoola, aakshep is created.^[1] The primary occurrence in the progression of Snayugata Vata is the aggravation of Vata dosha affecting the tendons and ligaments. Vāgbhaṭa and Acharya Sushruta were the first to extensively describe Sanyugata Vata, a condition characterized by the aggregation of Vata dosha. They outlined therapeutic measures including Snehana, Upanah, Agnikarma, Bandhana, and Unmardana for its management.^[2-3] Jānu sandhi is indeed considered both a Sakthimarman and a Vaikalyakara marman in Ayurveda. Specifically, it is situated at the junction of the uru and the jangha. According to the Acharya Susruta, Jānu sandhi is classified as a Sandhi marman. Its measurement is said to be three anguli (finger widths). Injuries to this point can have serious consequences, potentially leading to khanjatha. This underscores the significance of understanding and protecting points like Jānu sandhi in various contexts, which the subject has to suffer lifelong. Susruta has included the injuries to the sandhi under the term sandhimukta which is a type of bhagna. There are two types of bhagna. Kanda bhagna and sandhimukta. The treatment told in bhagna may be adopted in knee injuries also. The knee is one of the primary weight bearing joints of the body, faces challenges due to its need for mobility, often leading to instability.^[4] This joint frequently suffers injuries due to its susceptibility to external forces, stemming from its anatomy and the demands placed on it for various functions. The stability of the knee joint relies on ligaments, tendons, and muscles. However, ACL injuries present particular challenges as they have limited ability to heal naturally due to the intra-articular environment. The tearing of the anterior cruciate ligament is often regarded as the beginning of the end of the knee. Typical clinical signs after an ACL tear include restricted movement, especially during extension, accompanied by slight tenderness in the knee region. Typically, the Lachman's test yields positive results and is highly dependable for diagnosing an ACL rupture.

This study focuses on Grade III ACL tears, a severe injury that Ayurveda suggests can be effectively managed within certain limitations using treatments like Abhyanga, Pinda Sweda, Upnaha Sweda along with shaman aushadhi and physiotherapy. Ayurveda has made significant strides in addressing sports injuries, leading to the development of improved treatment methods for better outcomes and wider acceptance.

MANAGEMENT

Given the complex nature of the subject, which is conventionally addressed through non-operative methods, particularly due to rising demands among young athletic individuals such as basketball and football players.

OBJECTIVE

To study the management of Snayugata vata W.S.R. to Anterior cruciate ligament injury with Ayurvedic approaches.

MATERIAL AND METHOD

In ACL tear probable causative factors, diagnosis, treatment related references and Panchakarma in such type of conditions were collected from various classical ayurveda textbook, published research papers from internet sources, previous work done and compilation was done.

CASE REPORT

A 26-year-old male patient arrived at our hospital with complaints of left knee joint pain and swelling, difficulty in walking, and restricted movement of the left knee joint for the past month.

PAST HISTROY

S/H/O- Right leg ligament surgery before 8 years ago

M/H/O- No any major illness

H/O- Injury while playing basketball due to improper landing of foot after a jump.

GENERAL EXAMINATION

Built-Medium

Pallor/Jaundice/Cynosis-NAD

Vitals- temp. 98.7°f, Pulse- 78/min, Ht- 5''9 inch, wt- 69 kg, Bp- 120/70 mmhg,

RR-18/min

ON EXAMINATION

Restrction of movement of left knee, swelling over left knee

Lachmans test -+ve

Pain – Diffuse

Tenderness- Vague

Crepitus- Slightly

Investigation

MRI Report: Grade III tear just proximal to femoral attachment of ACL with edema in rest of the ACL.

Table No. 1: Inspection.

| Inspection | | Palpitation | |
|---------------------|--------|-------------|------------------------------|
| Swelling | ++ | Warmth | ++ |
| Contusion/ Bruising | Absent | Tenderness | Grade-I- lateral compartment |

Table No. 2: RANGE OF MOVEMENT.

| | |
|--------------------------------|--|
| Flexion | 40 degree limitation in terminal flexion |
| Extension | 30 degree limitation in terminal extension |
| VAS Scale for pain on movement | 3 |

Table No. 3: Test.

| | |
|-------------------|----------|
| Patellar tap test | Positive |
| Valgus test | Negative |
| Varus test | Positive |
| Squat test | Positive |
| Lachman test | Positive |

Table No. 4: Treatment Protocol: Internal Medication.

| Days | Medicine | Quantity | Anupana | Time |
|----------------------------|------------------------|----------|---------------------|------|
| 0 to 7 days | Trayodashang guggul | 500 mg | With Lukewarm water | TDS |
| | Tapyadi Loha | 250 mg | | TDS |
| | Avipattikar Churna | 500 mg | | TDS |
| | Chopchinyadi Choorna | 500 mg | | TDS |
| 8 th to 60 days | Cap. Gandhataila | 2 cap. | | OD |
| | Tab. Asthipachaka vati | 2 tab. | | OD |
| | Lakshadi Guggul | 500 mg | | BD |
| | Avipattikar Choorna | 500 mg | | BD |

Table No. 5: Panchakarma Procedures.

| Days | Procedure |
|---|---|
| Day 0 to Day 7 th | Sthanik Abhyanga with Pinda taila |
| | Upanahasweda with Ashwagandha, devdar, tiltaila, kanji, saindhav, til |
| | Sthanik Dhara with Pinda taila |
| Day 8 th to Day 30 th | Sthanik Abhyanga with Pinda taila |
| | Sthanik Dhara with Pinda taila |
| | Sthanik Pinda sweda with Ashwagandha, Devdar |

| | |
|---|---|
| | Upnahaswedana with above mentioned content |
| Day 30th to Day 60th | Sthanik Abhyanga with Pinda taila Upnahaswedana with above mentioned content |

Injuries to the knee commonly involve the anterior cruciate ligament (ACL) and the medial collateral ligament injuries and lateral collateral ligament are less frequent. In Ayurveda, the knee joint is referred to as Janu Sandhi, and it is considered a crucial joint, susceptible to impairment. Janu Sandhi is supported by ligaments known as pratavatisnayu and Vrittasnayu. Healing ligament and tendon injuries typically requires extended time. The clinical signs of knee ligament injuries align with concepts in Ayurveda such as janu marmabhighatalakshanam, Snayuvividhalakshanam, sandhi vidhalakshanam, and marmabhighatachikitsa, suggesting Ayurvedic principles can be relevant in managing ligament injuries of the knee joint.

Abhyanga

Abhyanga is the process of oleation of the body, refers to the application of medicated warm oils to the body in a rhythmic and systematic manner. It is most commonly practices in vatavyadhi. Its mode of action is understood within the framework of Ayurvedic principles, which emphasize balance and harmony within the body, mind, and spirit.

Abhyanga has nourishes the entire body, decreases the effect of aging. Imparts muscle tone, balancing doshas, vigor to the dhatus of the body. Imparts a firmness to the limbs and increases strength. Lubricates the joints, increases circulation, stimulates the internal organs of the body, promoting sound sleep. Assists in elimination of impurities from the body.

स्नेहोअनिलं हन्ती मृदू करोति देहं मलानां विनिहन्ती संगम् ।^[5] च. सि १/७

Pinda Taila

Pinda taila is popular in the treatment of vatarakta. It's crafted by infusing dravya i.e. Manjishta, Sarjarasa, and Sariva along with madhucchishta (natural bee wax) and Tila taila, tailored to balance specific doshas in the body. It has a shothahar properties make it a go to taila in relieving Sandhi Shool, Stambha, Shotha and Pidanasahatva. The oil is used to treat daha and Suptata and its enhances overall well-being, reflecting Ayurveda's holistic approach to health and healing.

समधूच्छिष्टमाजिष्ठ ससर्जरससारिवम् । पिण्डतैलं तद्भ्यस्त्वादतरक्त रुजापहम् ॥१२३॥^[6] च. चि.

२९/१२३

Pinda Swedana

Pinda sweda follows the principle of Sankara swedana, where materials are wrapped in cloth. This involves applying a heated pottali to the body after the abhyanga procedure, reheating it frequently for the desired effect. In this case, we utilize Snighdha Pinda Swedana, which involves applying heated medicinal mixture. These mixtures consist of boiled soft rice and medicinal powders like ashwagandha and devdaru, processed with godugdha. This treatment is particularly effective for Vata-related disorders. Specifically, in cases of Vata disorders and injuries such as ACL tears, pottali are prepared with ingredients that pacify Vata and applied to the affected areas. This therapy is characterized by its Ushna, Snigghdha, and Sara properties, making it beneficial for conditions like ACL injuries by alleviating Stambha Ruk and Pidanasahatva and it helps in increases movement of knee joint.

स्नेहपूर्वप्रयुक्तेनस्वेदेनावजितेऽनले। पुरीषमूत्ररेतानसनसज्जन्तिकथज्जन॥

शुष्काण्यपिहिकाष्ठाननस्नेहस्वेदोपपानै। नमयंतीयथान्या यंकीपुनजीवतोनरान्॥^[7] च.सु, १४/४-५

Dhara

This process involves the application of warm medicated oil streams onto either the entire body or specific affected areas. This is used for treating vata diseases, aggravated vata dosha, bhagnasandhi, twakprasadaka, kshat, agnidagdha, abhighata, vighrutana, ruja etc.

सेकः श्रमघ्नोऽनिलहत् भग्नसंधि प्रसादकः । क्षताग्निदग्धाभिहत् विघृष्टानां रुजापहः ॥^[8] सु.चि

२४/३१

Upnaha

In this case, the application of a paste consisting of godhuma, ashwagandha choorna, devdaru choorna, saindhava, tiltaila, and kanji serves to reduce shotha and stambha by inducing relaxation in the affected muscles through the physical warmth generated. This warmth enhances the circulation of both blood and lymphatic fluid in the specific area, consequently relieving shotha and discomfort.

उपनाहोवचकिण्व शताघव्हा देवदारुभिः। धान्यैः समस्तेः गंधैश्च रास्नेरंड जटामिषैः ॥ उद्रीकतलवण

स्नेह चुक्रतक्रपयः प्लुपे। स्निग्घोष्णवीर्यमृदुभिः चर्मपट्टेरपूतिभिः ॥^[9] अ.ह.सु. १७/२,३,४

DISCUSSION

In this case as patient was having of improper landing of left leg while playing basketball so it comes under abhigataj vyadhi. On the basis of sign, symptoms and investigations anterior cruciate ligament tear can be correlated with snayugat vata. Because of abhigata there was dushti of sthanika ras, raktadi dhatu and vitiation of Vata dosha which leads to vikriti in asthi, sandhi, snayu, and kandara and shows the lakshanas similar to snayugat vata.

Pinda taila is indicated in ancient text in condition of vatarakta, advanced stage of shirakautilya (varicose vein), it is well known in reducing pain, daha, suptata and helps faster healing. Taila is the best remedy to treat vitiated vata so abhyanga and tailadhara with Pinda tail becomes very useful in knee injury.

The procedure that induces sweating is called as swedana, it relieves, heaviness, stiffness and coldness of the body. Conditional swedana is recommended for vatarogas. Pinda sweda is mrudu, snighddha, balya, bruhanya that is why pinda sweda is used in such ruksha, kshat conditions.

Upnaha sweda is vatagna in action. The action of upnaha depends on the material used for the application, duration of retaining on the skin surface and thickness of the paste applied. The material used for the preparation of upnaha act as good retainers, thus enhance the process of swedana and produce analgesic effect. Oil act as heat barrier and also simultaneously facilitates absorption of drug, salvana upnaha contains much amount of lavana, by sukhma guna lavana penetrates easily in the deeper tissues and provides good drug delivery. So upnaha becomes very useful in knee injury.

In this case given above shaman or abhyantar chikitsa which is Trayodashang Guggul, a classic formulation in Ayurveda, balances the Vata and Kapha doshas, enhances Agni, and supports the proper functioning of joints and muscles, thereby promoting holistic wellness. Capsule Gandha Taila offers relief from joint pain and inflammation while also promoting relaxation and enhancing overall vitality, according to Ayurvedic principles. Tapyadi Loha is an Ayurvedic herbal formulation consisting of various ingredients like Tapyadi, Loha Bhasma, Triphala, and other herbs. It is primarily used in Ayurveda for its therapeutic benefits in treating disorders related to the liver, spleen, and musculoskeletal system. Tapyadi Loha is believed to possess detoxifying, anti-inflammatory, and rejuvenating properties. Chopchinyadi Choorna is an Ayurvedic herbal powder used for its anti-inflammatory and

analgesic properties. It is primarily beneficial in managing joint pain, arthritis, and inflammatory conditions, promoting joint health and mobility. Asthiposhak Vati primarily used to support bone health. It helps in strengthening bones, reducing joint pain, and improving bone density. Regular use may aid in managing conditions like osteoporosis and arthritis, promoting overall skeletal wellness. Lakshadi Guggul is an renowned for promoting bone strength and healing fractures, as well as supporting joint health and relieving pain associated with musculoskeletal disorders. Avipattikar Choorna balances Pitta dosha, relieves Ama, enhances Agni, and alleviates conditions like amlapitta, and indigestion according to Ayurvedic principles

FINDINGS AND RESULT

The follow up on 30th day, 45th day and 60th day. During this period patient did not developed any other complaints. After 30th day patient reported mild and gradual improvement in Pain in knee, difficulty in walking, swelling, restricted movement and tenderness on the left knee joint. On 60th day patient reported Moderate improvement and significant relief. Assessment was done before treatment, and on 30th day, 45th day and 60th day after completion of treatment.

Table No.6: Result.

| Sign and Symptoms | B.T. | On 30 th day | On 45 th day | On 60 th day |
|-----------------------|----------|-------------------------|-------------------------|-------------------------|
| Pain | +++ | ++ | + | - |
| Difficulty in walking | +++ | ++ | ++ | + |
| Swelling | ++ | + | - | - |
| Tenderness | +++ | + | - | - |
| Patellar tap test | Positive | Positive | Negative | Negative |
| Varus Test | Positive | Positive | Positive | Negative |
| Squat Test | Positive | Positive | Positive | Negative |
| Lachman Test | Positive | Positive | Negative | Negative |

RECOMMENDATION

Given the promising outcomes, it is advisable to conduct extensive, long-term studies with a substantial sample size, using consistent treatment protocols and medications. This will enhance the credibility and validity of our scientific endeavors.

CONCLUSION

The analysis of Knee injury in terms of Ayurveda concludes that the knee injury is a condition where we can correlate Ayurvedic term based on the symptoms here we have taken as Snayugata vata and treated accordingly. The therapeutic techniques outlined in ancient

texts prove to be highly effective in alleviating symptoms such as pain, difficulty in walking, swelling, and restricted movements. On the basis of this study, it can be concluded that Abhyanga, Pinda swedana, Tail dhara and Upnaha along with shaman chikitsa and physiology are found to be effective in reliving symptoms in high grade knee injury thereby improving quality of daily life of the person who is suffering. There was no adverse effects of given medication and panchakarma procedures seen during the period of study.

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