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Effect of Ayurveda Treatment in Knee Joint Ligament Tear-A Case Report

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Abstract

The knee is a compound synovial joint and is the largest weight bearing joint, useful in most of the routine activities and postures. Knee is the primary hinge joint which offers a range of movements, promoting a flexible living. It is described as Janu sandhi in Ayurveda. Ligament injuries of Knee has become an unsettling issue in medical fraternity, mild to severe, often poses variance of therapy from simple rest to reconstructive procedures. Sports injuries can limit a person's ability to continue their career and hinder their chances of success. Although reconstructive procedures are often praised, their non-judicial usage, especially for minor injuries, poses significant challenges for low-income patients. Ayurveda, the ancient science of life, provides valuable insights into sports injuries through its well-defined concepts mentioned in classical texts like Sushruta Samhita, Charaka Samhita, and Ashtanga Hridaya. So an alternative cost effective modality was needed to overcome the side effects of the medicines and surgeries. In the present case study, the patient had an accident after which he had swelling and pain in left knee joint. The patient was treated with ayurveda drugs and Panchakarma therapies. The patient got significant relief in the symptoms and decrease in pain during walking.

Keywords: ACL tear, janu pizhichil, kottamchukkadi oil, Jalaukavacharana, Dasang lepa

Introduction

Injuries to the Musculo skeletal system can result in damage to bones, joints, muscles and tendons. In addition, the neuro vascular bundle of limb may be damaged. The anterior cruciate ligament (ACL) has been regarded to be the principal passive limitation on tibial anterior translation in relation to the femur. Because of its unique location, the ACL promotes knee rotational stability in both the frontal and transverse planes ^[1]. The anterior cruciate ligament (ACL) rupture is among the most common knee injuries.

Injuries to knee reduce an individual's quality of life, regardless of age, gender, or career. The

The knee's function and stability depend on certain muscles, ligaments, cartilage, synovial, and connective tissues

- i). In clinical practice, the most frequent knee injury is an anterior cruciate ligament (ACL) tear (86.5%), followed by lateral and medial meniscus injuries (78.24%)
- ii). Orthopaedic clinics may get reports of several ligamentous knee injuries, including intraarticular damage patterns. There are both surgical and non-surgical methods for restoring pre-injury function and delaying the onset of post-traumatic osteoarthritis.

The knee joint is made up of three articulations: two condyloid joints between the femur's condyles and the corresponding meniscus and condyle of the tibia, and a

partially arthroial joint between the patella and the femur. However, the articular surfaces are not completely adapted to each other, resulting in a non-gliding movement.

According to Acharya Gananath Sen, kora sandhi comes in four varieties: Ghalla kora, Paraspara kora, Chakra kora, and Sandamsa kora. Ayurveda focuses on Asthi sandhi, or joint articulation. Sira sandhi, or Pesi sandhi, is a combination of similar or unlike items. Ayurveda mainly considers Asthi sandhi or Joint articulation primarily, it becomes innumerable when comes to Sira sandhi or Pesi sandhi, as Sandhi is nothing but a union of two or more similar or dissimilar things.

Sandhi, Asthi, Snayu, Rajju, Kandara, Sira, Dhamani, and Sleshmadhara kala all these words are interpreted to be inter related. According to Acharya Sarngadhara, the word "Sira" is incorporated in the phrase "Sandhi bandhana karaka." In Susrutha's Apabahuka, the term "Sira" may refer to Rajju or Kandara. The differences in paaka (Mrudu paaka for Sira and Ghara paaka for Snaayu) throughout embryological development are closely connected. Dhamani serves as the nutritional artery that nourishes joints. Another opinion by Sharangadhar specifies Snaayu as Maamsa asthi medo bandhana karaka-the compactness of any joint.

Snaayu and kandara are considered as tendons in modern science performs very important function providing stability and high mobility to each joint. There are 900 Snayus

mentioned in ayurveda out of which 10 are attributed for knee joint. Sushruta has told 4 types of snayus. Susrutha, of which the Prathanavathi type appears in joints that may be interpreted as Ligaments. Vrutha snayu may represent Kandara, whereas Pruthula snayu may represent Aponeuroses. Only with this Snayu and Sandhi does a person become Bhaarakshama or Bhara Saha, according to Susrutha. Susrutha believes that injuries to the snayu (injury or sprain) and ligaments cause more problems for humans than other ailments such as bones, muscles, or veins.

Susrutha 201 describes injuries to Snaayu caused by foreign bodies as elevated tendons, acute pain, and stiffness. Rupture of Snaayu may cause stiffness, difficulty lifting the body, inability to move the affected region, and intense discomfort similar to osteoarthritis. Other disorders, such as Baahya ayama, Pakshavadha, and Apabahuka 301, include snaayu.

Table 1: Knee Ligaments Examination

Ligament	Mechanism	Pain	Swelling	Tenderness	Tests
Medial collateral	Valgus force	Medial side	Medial side	Medially on Femoral Condyle	Valgus stress + at 30* knee flexion
Lateral collateral	Varus force	Lateral side	Lateral side	Laterally on Fibular Head	Varus stress + At 30*knee flexion
Ant Cruciate	Hyper Extension	Diffuse	Haemarthrosis	Vague	Anterior drawer test+ Lachmann test +
Post Cruciate	Backward force on tibia	Diffuse	Haemarthrosis	Vague	Posterior drawer test +

Case Report

A patient with age 59 years came to the OPD with complaint of severe pain, swelling, restrictions of movements of left knee, crepitations in bilateral knee joint, difficulty in walking. The patient was admitted in the IPD of PTKLS IPD no. 2020152 and OPD no.2020000764 with on 08/01/2020.

History of present illness revealed that 10 days ago the patient had an accident (19 December 2019). He started with severe left knee joint pain and after few hours he had swelling in left knee. The patient was unable to walk after that. The patient consulted in allopathic doctor who advised him for surgery. The patient refused for surgery and came to the OPD of panchkarma of Pt Khushilal Sharma ayurveda hospital for better management.

Ashtavidha Pariksha

- Nadi-Vata kaphaja (88/min)
- Mala-Sama
- Mutra-Prakrita
- Jivha-Aliptha
- Shabda-Spasta
- Sparsha-Sama shitoshna,
- Drika-Prakrita
- Akriti-sthoulya

In Dashavid Pariksha

- Prakrit-Vata Kapha Prakriti
- Vikrati-rakta, asthi
- Sara-Madhyama Sara (medium purity of body tissue)
- Samhanana-Madhyama
- Pramana-Sama Pramana (equal body proportions)
- Satmaya-pravara Satmya (homologation)
- Satva-pravara Satva (Medium mental strength)
- Ahara shakti-Madhyama Ahara Shakti (medium food activity and digestive power)
- Vyayam shakti-Avara Vyayama Shakti (least physical endurance)
- Vaya-Madhy Vayah (Medium age)

General Examination

- Built-Medium
- Pallor/jaundice/cyanosis-NAD
- Vitals-Temp-98.8F
- Pulse-88/mt
- Height-5 feet 8 inches
- weight-76kg
- BP-120/80mmHg
- Respiratory rate-18/mt

Examinations of Knee Joint

- Restriction of movement of right knee
- Anterior drawer test-+
- Lachmanns test-+
- Pain-Diffuse
- Tendernes-Vague
- Crepitus-slightly

Investigations

- Serum calcium-9.52 mg/dl
- 25-Hydroxy vitamin D-18.51 ng/ml
- HBA1C-6.7%
- Fasting Blood Sugar-85.8 mg/dl
- Post meal Blood Sugar-128.7 mg/dl
- HIV I and II-Non reactive
- HbsAg-Negative
- Triiodothyronine (T3)-1.9 ng/ml
- Thyroxine (T4)-7.9 micro.gm/dl
- TSH-11.7 micro. IU/dl
- ESR-7 mm 1st hr.
- Bleeding time-1:30 min
- Clotting time-4:45 min

Mri Report (31/12/2019)

- Complete ACL tear causing anterior tibial translation
- Small patches of contusional marrow edema in posterior parts of lateral and medial tibial condyles
- Moderate joint effusion
- Degenerative OA changes

Differential Diagnosis

Sandhigata Vata⁴⁰¹: Disease manifested in Janusandhi but from history Sandhigata vata excluded

Janusandhi Marma Kshata: History suggested an acute onset and from examinations & MRI Marma kshata was confirmed.

Table 2: Oral intervention

Treatment Given		
Shamana drugs		
1.	Panchtikta ghrita guggulu	2bd
2.	Brihat vata chintamari rasa	1bd
3.	Laxadi guggulu	

Table 3: Panchkarma therapy intervention

Panchkarma		
1.	Janu pichinchil with kottamchukkadi oil	21 Days
2.	Sthanik Shasthi shalli pinda swedana	21 Days
3.	Jaluka avcharna	7 sitting
4.	Dashang lepa	10 Days

Assessment Chart**1. Gradation of Pain**

- No pain Grade 0
- Mild pain Grade I
- Moderate pain Grade II
- Severe pain Grade III

2. Gradation of Tenderness

- No tenderness Grade 0
- Mild-patient complains pain Grade I
- Moderate-patient winces with pain Grade II

3. Gradation of Swelling

- No swelling Grade 0
- Mild swelling Grade I
- Moderate swelling Grade II
- Severe swelling Grade III

4. Gradation of Limitation of Flexion

- No limitation of flexion (flexion \geq 135°) Grade 0
- Mild limitation flexion (flexion $<$ 135° but $>$ 45°) Grade I
- Moderate limitation of flexion (flexion $<$ 90° but $>$ 45°) Grade II
- Severe limitation of flexion (flexion $<$ 45°) Grade III

5. Assessment of Limitation of Extension

- Full extension to 0° possible-Normal
- Full extension to 0° not possible-Restricted

6. Gradation of Joint instability

- No instability-Grade 0
- Mild instability (Instability appreciable by the patient but cannot be elicited on clinical examination)-Grade I
- Moderate instability (Instability can be elicited on clinical examination)-Grade II

7. Gradation for Crepitus

- No Crepitus Grade 0
- Mild Crepitus Grade I
- Moderate crepitus Grade II
- Severe even with slight joint movement-Grade III

Table 4: Therapeutic effect on clinical sign and symptoms for treatment protocol

S. No.		Grade BT	Grade AT
1.	Pain	3	1
2.	Tenderness	2	0
3.	Swelling	2	0
4.	Limitation of Flexion	2	1
5.	Limitation of Extension	Restricted	Normal
6.	Joint instability	2	1
7.	Crepitus	3	2

Discussion

Pizhichil (kayaseka) is a karma composed of snehana and swedana. The benefits of pizhichil include improved blood circulation and immunity. Relieves stress and anxiety, strengthens the neurological system, and rejuvenates the body. Vata Dosha is the main cause for pain and also Kshaya (depletion) of Snehabhava. Provided successfully. With this consideration, Snigdha Sweda would be an ideal line of management, which is delivered effectively with Pishinchil. Thermal treatment improves circulation and metabolism while relaxing the muscles and tendons, increases blood supply, venous drainage, and lymph flow, and activates local metabolic processes to relieve pain, tenderness, edema, and stiffness.

Kottamchukkadi Taila was selected for Janu Pishinchil. It has been proven that Kottamchukkadi Tailam has anti-inflammatory, analgesic action.

The Shastika Shali Pinda Swedana method offers both thermal and medical benefits. Fomentation increases skin permeability by opening it. Appendage via Sweating dilates blood arteries and improves drug absorption. The outer layer of skin is typically impenetrable to most objects. Milk contains phospholipids, a key component of cell membranes. Its amphipathic nature enhances drug absorption. It alleviates symptoms of Vata, Pitta, and Rakta in the skin, joints, muscles, and soft tissues. It promotes joint mobility and flexibility, relaxes nerves, and improves circulation.

Raktamokshana which is easy to apply on the painful joint. This is one of the ancient techniques of bloodletting. It is one of the exceptionally viable treatment methodologies for treating different medicosurgical conditions. As indicated by present day science, parasite's salivation contains Hirudin, Hyaluronidase compound which goes about as anticoagulant.

Application of lepa enters in to Romkupa & further gets absorbed through swedavahisrotas & siramukh leading to quicker absorption of medicament and desired effects. Dashanga lepa is an Ayurvedic composition used to treat inflammation, swelling, edema, itching, bug bites, Skin disorders. This mixture is used topically after combining with ghee or water. The formulation included Yashtimadhu, Shirisha, Tagara, Ela, Jatamanshi, Rakta Chandana, Daruharidra, Kushta, Sugandha Bala, and Haridra. This formulation with Roga karma characteristics effectively treats ailments such as Visarpa, Kusta, Shotha, and Jwara. It provides Tridosahara and Kaphapittahara effects, as well as Shophahara properties.

Conclusion

Ayurvedic treatment provides promising management of chronic knee injury. The shamana and shodhana therapy are capable to alleviate ACL injury. It was a cost effective, quick healing approach along with traditional and cultural believes tend to attract the patients towards Ayurveda treatment. But further more work should be done on it for precise results.

References

1. Kiapour AM, Murray MM. Basic science of anterior cruciate ligament injury and repair. *Bone Jt Res.* 2014; 3(2):20–31
2. Boer BC, Hoogeslag RAG, Brouwer RW, Demmer A, Huis in 'T Veld RMHA. Self-reported functional recovery after reconstruction versus repair in acute anterior cruciate ligament rupture (ROTOR): a randomized controlled clinical trial. *BMC Musculoskeletal Disorder.* 2018; 19(1):127.
3. Vaidya Yadavji Trikamji Acharya, Susrutha samhitha Sootra sthana-Susrutha samhitha,, 2004, Varanasi, Chowkambha Krishnadas Academy, 2004, 150.
4. Vaidya Yadavji Trikamji Acharya,Susrutha samhitha Nidana sthana- Susrutha samhitha, 2004, Varanasi, C
5. Vaidya Yadavji Trikamji Acharya Susrutha samhitha Chikitsa sthana- Susrutha samhitha, 2004, Varanasi, Chowkambha Krishnadas Academy, 2004, 276.