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CASE REPORT OPEN ACCESS

AYURVEDIC MANAGEMENT OF SNAYUGATA VATA W.S.R. TO ANTERIOR CRUCIATE LIGAMENT TEAR OF KNEE-A CASE STUDY

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ABSTRACT:

Snayugata Vata is described under *Vatavyadhi*. In *Snayugata Vat*a there will be affliction of *Snayu* by provoked *Vata* is responsible for any kind of *Vata Pradhana Vedana* like *Shoola*(Pain), *Stambha* (immobility), *Sankocha* (contraction) *Kampa, Aakshep* etc. The knee is one of the largest and most complex joints in the body. The two cruciate ligaments in the knee, anterior and posterior, are often referred to as the 'crucial' ligaments, because of their importance in providing knee stability. Anterior cruciate ligament (ACL) injury is one of the most seen injury in sports and has a devastating influence on patients' activity levels and quality of life. Complete ACL rupture can induce other pathological knee conditions including knee instability, damage to menisci and the chondral surface, and osteoarthritis. Here a case report of a 26-year-old male who while playing football had a trauma to the left knee with a pop sound and acute pain at the time of incident. He presented to the hospital with a knee which was swollen and tender. On MRI he was diagnosed with complete tear of ACL and twisting of Medial collateral ligament. A one-month Ayurveda treatment protocol was developed and followed for the patient. The patient was able to return to his daily activities without instability and also got relief from pain with remarkable improvement in the movement of knee joint.

Keywords: anterior cruciate ligament tear, knee joint, janu sandhi

INTRODUCTION

Snayugata Vata is described under *Vatavyadhi* in all the *Samhita* and *Sangraha Grantha*. *Vata* when provoked or vitiated by any internal or external factor reside in *Snayu* resulting in instantaneous manifestation of *Snayugata Vata*. Acharya *Sushruta* has described *Snayugata Vata* as, provoked *Vata* when lodge in *Snayu* then *stambha, Kampa, Shoola*, *aakshep* is created [1]. The affliction of *Snayu* by *Prakupita Vata* is the chief phenomena in *Samprapti* of *Snayugata Vata*. While mentioning the various treatment measures, extensive description of *Sanyugata Vata* is given by *Vāgbhaṭa* and Acharya *Sushruta* first time with the establishment of therapeutic measures including *Snehana*(Oeleation), *Upanaha*(Poultice), *Agnikarma*(Cautry), *Bandhana* and *Unmardana*[2,3].*Jānu sandhi* or the knee joint is a *sakthimarma* (*marma* present in lower limb) and also a *vaikalyakara marma* (an injury to a part which results in permanent disability to that joint). *janu marma* is situated at the junction of *uru* (thigh) and *jangha* (leg). *Susruta* considers *janu marma* as a *sandhi marma*. Its measurement is three *anguli.* Any injuries to this *marma* may lead to *balakshaya* (weakness) and *khanjatha* (lameness) which the subject has to suffer lifelong. *Susruta* has included the injuries to the sandhi under the umbrella term *sandhimukta* (injuries to joint) 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. The price of its mobility is a tendency to instability [4]. It is also one of the most commonly injured joints as it is easily subjected to external forces, because of its anatomic structure and also due to the functional demands laid upon it. The stability of knee joint is maintained by the ligaments, tendons and the associated muscles. Anterior cruciate ligament injuries account for between 25% to 50% of ligamentous knee injuries. ACL injury poses unique clinical problems because of its poor capacity to undergo biological healing due to the local intra-articular conditions. It is said that the anterior cruciate ligament rupture is “the beginning of the end of the knee”. The common clinical findings after an ACL tear are restricted movements mainly extension, diffuse mild tenderness on knee. Usually the Lachman’s test is positive and also is very reliable in ACL rupture. The anterior drawer test may also be positive in most of the cases of ACL tear but literature says that its specificity is very less.

CASE REPORT

Presenting complaints, a 26-year-old male, complaining of pain and swelling in his left knee joint with occasional instability for the past 2 weeks.

History of presenting illness-

The patient reported of having sustained a twisting movement to his right knee while playing football. During the time of incident, he heard a popping sound from the knee and was unable to walk due to pain, and there swelling also developed within

half hour. He consulted an orthopaedic and took rest for one week. The pain and swelling used to bother him whenever he stands or walk continuously for some time or when he gives much exertion to his knee. He was then advised to take an MRI of left knee by the consulting orthopaedic and he was advised for surgery. The patient then consulted in the R.D. Memorial Ayurveda college hospital for further management.

Investigations-

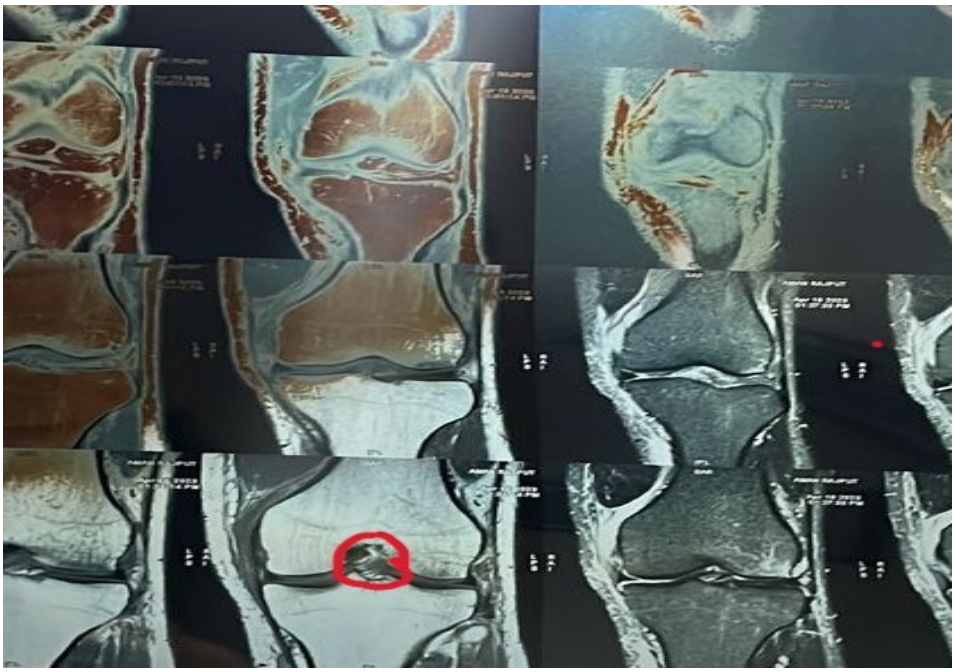

Fig 1: MRI LEFT KNEE

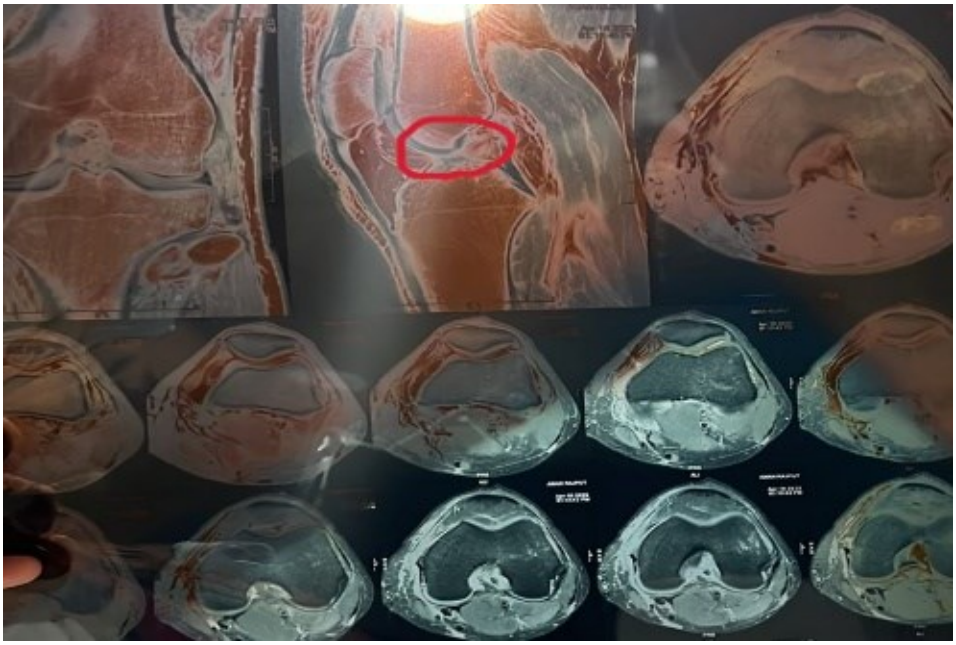

Fig 2: MRI LEFT KNEE

On examination

He had no other associated systemic illness. On detailed examination no associated

neurological deficits were seen. The findings are given below.

Table.1- inspection

Swelling	++
Wound/contusion	Absent

Table.2-Palpation

Warm	++
Tenderness	Grade-1 medial ligament

Table.3-Rang of movement

Flexion	30-degree limitation in terminal flexion
Extension	20 -degree limitation in terminal flexion
Vas scale for pain in movement	4

Table 4-TEST

Patellar tap test	Positive
Valgus test	Negative
Anterior drawer sign	Positive
Posterior drawer sign	Negative
Squat test	Negative
Varus test	Negative
Lachman test	Positive

Treatment Protocol-

Table 5: Treatment Procedure

Days	Treatment done	Patient condition
Day 1st to 8th	*Nagaradhi lepa* (morning) and Bandage using *Murivenna* (night)	Swelling - reduced. Flexion -30-degree limitation Extension-20-degree limitation Tenderness-Grade 1 – lateral compartment
Day 9th to 16th	*Janu basti* (morning) and bandage using *murivenna* (night)	Flexion -30-degree limitation Extension-20-degree limitation Tenderness- Grade.1lateral compartment Lachman test- +ve
Day 17th to 24th	*Patrapotali sweda*	Flexion –complete Extension-complete with pain Lachman test- +ve
Day 25th to 31th	*Sasitika saali lepa*	Flexion –complete Extension -complete Lachman test -ve Anterior drawer sign -ve

Internal medicine-

1.*Punarnava kwath* -15ml B.D. (Before meal)

2.*Musta marma kwath* -30 ml B.D. (Before meal)

3.*laxadi guggulu* -2B.D.

4.*Ganda tailm*- 15 drops (after meal)

Table-6 Diameter at proximal to tibial tuberosity

Measurement (girth in cm)	Before		After	
10cm proximal to tibial tuberosity	35	36	36	36
15 cm proximal to tibial tuberosity	39	41	40	41
20 cm proximal to tibial tuberosity	45	46	46	46

DISCUSSION

In all injuries initially an inflammatory mechanism will work in the tissue which is a protective action. Such an inflammatory mechanism if left uncontrolled without giving any management may result in a post-traumatic stiffness. Therefore, in order to get a better functional restoration, the inflammatory mechanism should be allowed to remain in a very controlled manner. *alepa* may help to control the inflammatory reactions and thus reduce the swelling and pain to a certain extent. *Alepa* may be applied till the gross swelling subsides (till the inflammation comes under control). During this period complete rest to the joint should be advised. In this case, patient was not in an acute stage but as there was some swelling, *Alepa* using *Nagaradi lepa* was done for the first eight days. Along with *Alepa, Murivenna bandhana* (bandage) was also done at night (12 hrs). *Bandhana* does the *ropaṇ* a of *vraṇ* a (injury which the ligament has sustained), gives *sandhi sthairyatha* (stability to the joint) and also has a pressure effect on the injured area, thus controlling the occurrence of further swelling and pain to a certain extent. Along with the stability, the pharmacological effect of *Murivenna* used for *bandhana* also has a very important role. The acute anti-inflammatory effect of *Murivenna* has been proved clinically and experimentally. On removal of *bandhana* after the required time. Janu Basti will be started its nourishes the knee joints, pacifies the dosha causing pain or discomfort (by using ideal oils), soothes the nerves, relieves degeneration, stiffness and inflammation and cures pain. Patra Pinda Sweda further rejuvenates the knee by controlling Vayu.*Snehana* and *swedana* may also increase the flexibility of the knee joint and thus reduce the stiffness of the joint. An

exercise pattern done in a phased manner along with *snehana* and *swedana* was also followed by the patient which helped to maintain the muscle endurance. After *snehana* and *swedana*, the knee regained complete movements, and the muscles were improved in their tonicity. After the joint was relieved from stiffness and regained the movements, then *brmhaṇ* a line of management was undertaken. In any injury, after a time of immobilization and due to decreased activities, there will be disuse atrophy of the muscles which may be correlated as *mamsa dhāu kshaya*. The treatment for *mamsa dhatu kshaya* usually done are *sastiksaali sweda* and *mamsa pinda sweda*. These procedures strengthen the muscles in and around the knee joint (quadriceps, hamstrings, and gastrocnemius). In this case where *mamsa dhatu kshaya* was founds *sastika sali lepa* was done for seven days. The instability was considerably reduced after *brmhan.* The quadriceps attained the normal tone and texture. Along with this procedure the patient was also advised to perform kinetic knee exercises. Thus, thirty-one days of treatment was done and the patient was able to walk without instability and pain and attained complete range of movements of the knee. There is a provision for watchful waiting when it comes to knee ligament and meniscal injuries. Usually the estimated non-surgical recovery timeframe for a ligament injury of knee depends on the extent of the original injury, pre-existing fitness and commitment to the rehabilitation Complete rupture of anterior cruciate ligament with associated other ligament tears are difficult to manage conservatively unless the patient follow strict norms.

CONCLUSION

In Ayurveda there is an existing standard treatment protocol detailed in *Suṣrutha Samhitha* regarding the management of injuries. A proper understanding of the injury through physical examination and supported by evidence based special investigations are necessary before planning of the treatment. By these treatment plan patient get relief 80% in subjective parameters patient able to walk without knee brace and any other support. And 70% relief in objective parameters. By a collective protocol through Ayurveda treatment an overall outcome may be achieved in terms of signs and symptoms and of post traumatic complications. *Suṣrutha* explains that an initial conservative management should be tried in *sastra sadhya vyadhi* if the conditions permit and surgery is to be resorted when conservative management becomes inadequate.

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