

Pilot Study on the effectiveness of *Avarai kattu* on *Santhi Varma Kayam* (Anterior Cruciate Ligament Tear)

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ABSTRACT

Objective:

To Study the effectiveness of *Avarai Kattu* on *Santhi Varma Kaayam* (ACL tear)

Material and Methods: Use the *Avarai kattu* for patients who are suffering from *Santhi Varma Kaayam* for 3 to 5 times in 15 days interval on locally affected areas.

Study Population

Ten (10) patients with symptoms of ACL tear were treated in OPD at Ayothydosar Pandither Siddha Hospital, National Institute of Siddha.

Results and observation:

The study shows that, the AK therapy exhibits the significant reliefs in the symptoms of pain, swelling, restrictions of movements, difficulty in prolong standing and walking. According to this result the study reveals us the AK therapy is effective in ACL tear.

Key words

ACL tear, santhi varma kayam , Avarai Kattu, Immobilization.

INTRODUCTION

Siddha system of Medicine otherwise called Dravidian system of Medicine. It is one of the oldest traditional Health-care Science which is relevant to Indian sub-continent especially Southern region. These sciences not only deal with medication and treatment but also it covers all the aspects of the social well being, and well concentered in the fundamental Basics of Nature and Spirituality. Out of the various Branches of the Siddha Medicine the *Sirappu maruthuvam* stand, unique because of its wide application zones and specialty practices, which no other system of Medicine possesses. *Sirappu maruthuvam* mainly consist the external therapy, which include *Varma* therapy and Orthopedic Surgical methods. The Orthopedic Surgical methods comprise *Thokkanam*, *Kattu*, *Kalimpu*, *Seelai*, *Attai vidal*, *Kompukattal*, *Murichal*, *Kudori* and etc.

Kattu means leaves or bark of specific herb part is powdered finely, either grinds or boiled with suitable media including *kaadi* (vinegar) or prescribed juices and applied locally in the affected parts and tightly bandaged. This method is practiced commonly in conditions of *odivu murivu* (fracture & cracks), *moottu vilagal* (dislocations & subluxation), *varma kayam* (ligaments injury), *veekkam* (swelling with pain), *kaduvan* (amyloidosis), *anda vatham* (hydrocele) and *araiaappu* (lymphadenopathies). *Kattu* may comparing with present conventional methods like plaster of paris and this procedure is much easy to adopt with a faster recovery rate.

The human physical body comprises many joints, which extents small to large in nature for the purpose of fine to vast movements. Some joints is very important for weight bearing and locomotion. A joint encompasses bony parts, ligaments, tendons and synovial membranes and fluids. The knee joint is an imperative for weight bearing and locomotion and also take the necessary parts in sports activity.

In the knee joint the Anterior Cruciate Ligament (ACL), is an important ligament located inside the lower leg upon the thigh bone. It may damaged or tear due to hyper-extension or

twisting or forceful direct expose of thrashing which may common in sport activities and road traffic accidents.

This medical system classify the diseases as totally 4448 and which include 32 types of internal medicine and 32 types of external medicines, to treat the above mentioned 4448 diseases. This system of medicine has been divided into three major groups *Vinnavar Maruthuvam*, *Makkal Maruthuvam* and *Asura Maruthuvam*. Siddha medicine has recognized Surgery as one of its branches and it includes within the *Asura Maruthuvam*. Within the *Asura Maruthuvam*, *Kattu* is one of important part for treat specially the fracture, dislocation and ligament injuries. *Kattu* means tight bandaging on the affected parts with use the pastes of any leave or bark. In *Avarai Kattu* (AK), *Avarai* and black gram powders are mixed with egg white to make paste. Paste applied on affected area and bandaged. It may compare to plaster of paris in Allopathic Medicine.

In human being, the physical body consists of many joints for the purpose of movements. It varied from minor to major joints for the actions of minute to vast movements. Within these joints the knee joint is most important joint. It has the major role for weight bearing, locomotion and sports activities. The Anterior Cruciate Ligament (ACL) is an important, internal stabilizer of the knee joint, restraining hyper-extension. It may injured when its bio-mechanical limits are exceeded (over stretched), often with a hyper-extension mechanism. Formerly, this occurred most often in a sports activities and road traffic accidents, when other structures were frequently involved. It may be correlated with *Santhi Varma Kaayam*. *Santhi Varmam* located both sides of the pettala. It may injured to elicit the symptoms like ACL tear.

Symptoms of ACL tear: At the time of injury by hearing or feeling a snap or pop in their knee. Pain or tenderness along with swelling in knee joint, feeling of instability followed by a lack of full range of motion at the knee joint.

In current situation, the treatment is immobilization and surgery. ACL injuries frequently affects the young, active individuals, and females are at a reported two to ten - fold greater risk than males playing the same sports.

ACL tear, has been described in our classical Siddha text in the term of *Santhi Varma Kayam*.

SANTHI VARMAM(SANNI VARMAM):

“ Thaandendra muttin iru pakkathiru sannivarmam

Thatidikal kondaal kaalthalaranth thidum

Vaanendra tharippudanae ulaichcha lundaam

Valamaana mukottu thadavathirnthu pokum

Naanendra iththalaththil murivu kondal

Naazhigaithan mondraemukaa lukkulsanni undaam

Anendra mayakkamundam anjeni thilam

Arunthiyae murivennai murivil podae.”

(Varma Nithanam-500)

According to the text of *Varma Nithanam-500*, the above stanza describes the condition of *Santhi Varma Kayam*. It elucidates the characterized features are pain, swelling, difficulty and discomfort in walking.

OBJECTIVE

To study the effectiveness of external therapy of *Avarai Kattu* in the condition of knee injury associated with *Santhi Varma Kaayam* (ACL tear).

Secondary objective:

To document and correlate the literary reference as said in the Siddha texts in relation to the topic of study.

MATERIALS AND METHODS

Ten (10) patients with knee injury (partial ACL tear) is selected from the Out Patients Department (OPD) at Ayothidasar pandither Hospital, National Institute of Siddha, Department of *Sirappu Maruthuvam*. Standard knee joint examination protocol is followed to selection of patients along with the investigation tool like MRI for conform the diagnosis.

CRITERIA

Inclusion Criteria:

- ACL injury occurred while playing sports activity or twisted joint
- Normal contra-lateral knee status
- Both sex male and female
- Age group between 20 - 50 years old

Exclusion Criteria:

- Underlying inflammatory diseases (i.e. Rheumatoid Arthritis, Psoriatic Arthritis, Gouty Arthritis and etc.)
- As been diagnosed with hepatitis B or Tuberculosis.
- Currently suffering with infective diseases including skin infection.
- Fracture in relation to knee joints.
- Diabetic mellitus patients

Method of preparation of Avarai kattu

Ingredients:

- 1) *Avarai ilai* powder (*Cassia auriculata*) - 10gm
- 2) *Ullunthu* powder (*Vigna mungo*) - 40gms
- 3) Egg white - Quantity sufficient.

Method of preparation

Cleaned the *Avarai* leaves well, than dried in shade and powdered finely, and separately prepare the *Ullunthu* powder like prepared of *Avarai* powder, thereafter stored in separate clean containers.

Treatment plan

At the time of the usage, mix the above powders in 1:4 ratio in respect of *Avarai* powder and *Ulunthu* powder with quantity sufficient of egg white and make it as a paste like consistency, then locally applied in the affected area of the knee joint and bandaged (standard bandage roll 10cm X 300cm) firmly to Immobilization for the period of 15 days. The same procedure is repeated depends upon the condition up to [three (03) to six (06) times] depends upon condition is improved.

Note:

- 1) The patient is advised for take proper rest
- 2) Avoid the contamination of water on the bandaged area.

Clinical assessment

1. Standard knee joint examination (pivot shift test, anterior drawer test, lachman test) along with measurement had been advocated to clinically rule out the condition.
2. Modern diagnostic parameters like MRI in knee joint (grade II tear) for conforming the diagnosis
3. Clinical assessment with the Implemented standard questionnaire for found the outcome.

[Ref: Knee injury and Osteoarthritis Outcome score (KOOS score) before and after the treatment for documentation of study]

Clinical assessment criteria:

S. No	IP. No	Age/ Sex	Testing criteria (KOOS score)	Scores before therapy	Scores after therapy	Percentage of Improvements
01)	F83235	23/F	Pain, symptoms, Activities of daily living, sports and recreation function	149	16	79%
02)	G04258	45/M	Pain, symptoms, Activities of daily living, sports and recreation function	158	49	64%
03)	G08467	35/F	Pain, symptoms, Activities of daily living, sports and recreation function	153	38	68%
04)	G16147	20/M	Pain, symptoms, Activities of daily living, sports and recreation function	151	22	77%
05)	G12456	27/M	Pain, symptoms, Activities of daily living, sports and recreation function	142	15	76%
06)	G09115	48/F	Pain, symptoms, Activities of daily living, sports and recreation function	138	33	62%
07)	F78884	38/M	Pain, symptoms, Activities of daily living, sports and recreation function	146	33	67%
08)	G35693	26/F	Pain, symptoms, Activities of daily living, sports and recreation function	162	75	51%
09)	C79276	36/F	Pain, symptoms, Activities of daily living, sports and recreation function	142	45	57%
10)	E39364	29/F	Pain, symptoms, Activities of daily living, sports and recreation function	153	60	53%

DISCUSSION

Seven patients (70%) shown marked improved from the condition as per the diagnostic criteria and clinical evaluation from the ten selected patients. Rest of the three cases shown only mild improvement and its still continuing the treatment and follow-up. The treatment with Avarai Kattu found to be very effective in ACL tear.

CONCLUSION

External therapy of the Kattu in Siddha Medicine is significant and it still to be explored and made into practice for seeing its vast medical opportunities in future.

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