



Case report

Effectiveness of Physiotherapy Treatment Protocol in the Rehabilitation of Patient with Medial Meniscal and Anterior Cruciate ligament injury

Pratiksha Waghmare, Rakesh Krishna Kovala*, Mohammed Irshad Qureshi

Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha, Maharashtra, India.

ABSTRACT

Cruciate ligaments and menisci are intracapsular ligaments in the knee joint which plays a major role in stabilizing the knee and promoting activities without any discomfort. Uneven inward forces on the knee joint usually causes injuries to Medial collateral ligament, Medial Meniscus and Anterior Cruciate Ligament. Usual symptoms are Swelling and the progression of muscle spasms over the first few hours. Pain is usually mild to extreme with 2nd-degree sprains. Pain can be mild with 3rd-degree sprains, and, interestingly, some patients can walk unaided. The present case report is of a 27-year-old adult who suffered with left knee injury a month while playing cricket. He was having severe pain with instability after injury for which he was rushed to hospital where after initial scanning they advised ACL reconstruction surgery. He underwent procedure immediately within two days after the injury. He was then advised for physiotherapy rehabilitation. We gave planned exercise protocol for 4 weeks. Initial one week he took physiotherapy as an inpatient facility later he took as an outpatient facility. After 4 weeks there was decreased pain, patient was able to bear mild weight and his ADL's were improved.

Keywords: Anterior Cruciate Ligament injuries; Meniscal Injuries; Functional activities; Mobility training; Activities of daily living.

Received – 09-09-2021, Accepted- 01-06-2022

Correspondence: Rakesh Krishna Kovala * ✉ rakesh.kovala@dmimsu.edu.in, **Orcid Id:** <https://orcid.org/0000-0002-3744-4778>

Department of Neuro Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Ins. of Med. Sciences, Sawangi, Wardha, Maharashtra. India.

INTRODUCTION

The meniscus is often damaged in anterior cruciate ligament (ACL) injuries or as a result of a long-term degenerative process [1]. With acute ACL rupture, lateral meniscal tears predominate, while the frequency of medial meniscal tears rises dramatically with chronic ACL insufficiency [2]. Medial meniscus is tightly attached to tibial plateau compared with lateral menisci. The medial meniscus acts as a knee stabiliser because of its firm attachment, and studies have shown that it is a major constraint on anterior tibial translation in ACL-deficient knees [3]. Thus, during ACL injuries medial menisci has to work significantly to restrain the tibial translation which is the major reason to go for its injuries. Similar scenario is seen in the present case report of 27-year-old male suffered with both medial meniscus and ACL tear who underwent ACL reconstruction surgery and took 4 weeks of planned physiotherapy protocol and 3 months of home exercise program which helped him to return to his sport activities.

Case presentation

Patient is a 27-year-old adult male who was apparently normal till end of November 2020 when he suffered with left knee injury while playing cricket. He was given first aid immediately but

there was severe swelling and pain in the knee, for which he was rushed to hospital. Patient was normally built without any major comorbidities like diabetes and hypertension.

Clinical Findings

There was no swelling nor redness over the surgical site. Crepe bandage was applied to prevent any effusion. Full extension was possible in knee without any flexion deformity. Bilateral upper limbs and contralateral knee range of motion were normal.

Physiotherapy Intervention

The aim was to protect the surgical repair/reconstruction and prepare the patient for restoring function. Major goals were to maintain Joint Homeostasis, Scar management, ROM in all directions, Quadriceps independent work and terminal extension range, A long term plan for 6-9 months of recovery as framed. Arthroscopic reconstruction was done and immediately referred for physiotherapy. On the same day partial weight bearing started with knee immobilizer. Post-operative day 1 walking was encouraged with walker and the patient was discharged. Patient continued physiotherapy on OPD basis for 4 weeks where we focussed mainly to prevent knee flexion

deformity and strengthened quadriceps and improved gait pattern. After 4 weeks of OPD based treatment a home program for 6 months was taught to the patient to re-join the sports related activities.

Results

4-week training helped the patient to gain strength in quadriceps without any deformity in knee joint. Early weight bearing and mobility training are the most important reasons behind the recovery.

DISCUSSION

The rehabilitation of patients who have had anterior cruciate ligament (ACL) surgery has progressed significantly in recent decades [4]. Clinicians have gradually shifted their strategy from complete immobilisation and no muscle movement to reduced range of motion (ROM) restrictions and immediate muscle activation following surgery during this period [5,6]. While ACL post-operative rehabilitation has advanced, there is still a lack of literature detailing the details of ACL rehabilitation [7,8]. There are no specific guidelines to follow after ACL surgery so clinicians are left with minimal literature support to give specific focused rehabilitation. Thorough surgical procedure with planned exercise regimen helped patient to prevent complications and gain more functional skills [9][10].

CONCLUSION

We would like to confirm from the study that early and acute rehabilitation post ACL surgery is essential to prevent complications and gain functional recovery. Home exercise program under physiotherapist supervision is essential for sports people to re-join their sports activities.

REFERENCES

1. Eberl, R., Ruttensstock, E.M., Singer, G., Brader, P., Hoellwarth, M.E., 2011. "Treatment algorithm for complex injuries of the foot in paediatric patients". *Injury* 42, 1171–1178.
2. Bawiskar, D., Dhote, S., Phansopkar, P., 2020. "Early physical rehabilitation post-surgery in a complex type 5 Schatzker Tibial plateau fracture improves functional outcomes: A case report". *Medical Sciences*. 8.
3. Jain R, Pawar A, Phansopkar P, Wadhokar OC, Chitale N, 2021. "A complex case of prosthetic joint infection post total knee replacement: A case report". *Medical Science*, 1028-1032.
4. Purushe D, Phansopkar P. 2019. "A Research Protocol - Musculoskeletal screening using pGALS in girls and boys aged between 5 and 12 years". *J Crit Rev Khan, F.*, n.d. Rehabilitation in Guillian Barre syndrome. *Clin. Pract.* 5.
5. Godoy-Santos, A.L., Schepers, T., 2019. "Soft-Tissue Injury To The Foot And Ankle: Literature Review And Staged Management Protocol". *Acta Ortop. Bras.* 27, 223–229.
6. Phansopkar, P., Naqvi, W.M., 2020. "Early physiotherapy rehabilitation approach enhances recovery in rare acute tibial osteomyelitis post-operative in a 9 year old child". *Medical Sciences*. 5.
7. Schepers, T., Rammelt, S., 2017. "Complex Foot Injury: Early and Definite Management. Foot". *Ankle Clin.* 22, 193–213.
8. Simatos Arsenault, N., Vincent, P.-O., Yu, B.H.S., Bastien, R., Sweeney, A., 2016. "Influence of Exercise on Patients with Guillain-Barré Syndrome: A Systematic Review". *Physiother. Can.* 68, 367–376.
9. Vaidya, L., Naqvi, W., Awasthi, A., Kumar, K., Phansopkar, P., 2020. "Achievement of Functional Independence in a Patient with Sickle Cell Disease with Autoimmune Hepatitis, Osteomyelitis, Wilson's Disease, and Pathological Fracture Following Physiotherapy". *J. Evol. Med. Dent. Sci.* 9, 3271–3276..

How to cite this article

Pratiksha W, Rakesh Krishna K, Mohammed Irshad Q, 2022. Effectiveness of Physiotherapy Treatment Protocol in the Rehabilitation of Patient with Medial Meniscal and Anterior Cruciate ligament injury. *J. Med. P'ceutical Allied Sci.* V 11 - I 3, Pages – 4978 - 4979. doi: 10.55522/jmpas.V11I3.1419.