

A Case Study of Physiotherapy following Re-operative distal Tibial-fibular Extra-articular Fracture

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Abstract :

The purpose of this case study is to describe role of active-assisted exercise and weight bearing techniques in re-operative distal tibial-fibular fracture. A 41 year old male sustained a traumatic distal tibial-fibular comminuted extra-articular fracture operated with ORIF. Post operative vigorous physiotherapy resulted in displacement of internal fixation. Again he was posted for re-operative fixation, which was done at Ahmedabad's private hospital and again after 2 months he went for physiotherapy with successful outcome and returned to his work and activity of daily living within 15 days of physiotherapy with tailor made protocol.

Key Words : Active-physiotherapy, Extra-articular fracture of tibia-fibula, Open Reduction Internal Fixation (ORIF), Re-operative procedure.

Case Report:

A 41 year old male was admitted to the emergency department of a private hospital in Ahmedabad after a injury to his left leg due to fall from height. Plain X-ray showed a comminuted fracture of distal tibial-fibular extra-articular fracture.

They performed an open reduction internal fixation using the plate, screw, nailing according to the type of fracture. After 1 week of operation, he started a physiotherapy treatment which was very aggressive according to his type of fracture and fixation; and it displaced the internal fixation.⁽¹⁾ The patient developed severe pain in his left leg for which he consulted an orthopaedician who advised a X-ray. And X-ray findings revealed that his internal fixation was displaced and for which he was re-operated; and in this operation grafting was done. After 2 months of the surgery, he started physiotherapy treatment at GCS Medical College, Hospital & Research Center, with tailor made protocol and he recoverd within 15 days of physiotherapy treatment.

Method:

Figure 1 : Before physiotherapy



Figure 2 : After physiotherapy



* Head

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Rehabilitation protocol

Day 1 to 5	Day 6 to 10	Day 11 to 15
<ul style="list-style-type: none"> Active-assisted dorsi-flexion 10X3 times a day. ⁽¹⁾ Active-assisted plantar-flexion 10X3 times per day. ⁽¹⁾ Active-assisted eversion-inversion 10X3 times a day. ⁽¹⁾ GAIT TRAINING in parallel bar-normal walking, side-walking. 	<ul style="list-style-type: none"> Active-assisted dorsi-flexion 15X3 times a day. ⁽¹⁾ Active-assisted plantar-flexion 15X3 times a day. ⁽¹⁾ Active-assisted eversion-inversion 15X3 times a day. ⁽¹⁾ WEIGHT-BEARING BY STEPPER- Side stepping, forward stepping 20 reps. ⁽²⁾ GAIT TRAINING in parallel bar- tandem walking to improve balance, side-walking, backward walking. ⁽³⁾ 	<ul style="list-style-type: none"> Active dorsi-flexion 15X3 times a day. Active plantar-flexion 15X3 times a day. Active eversion-inversion 15X3 times a day. Dorsi-flexion plantar-flexion with foot rocker board. WEIGHT-BEARING BY STEPPER- side stepping. Forward stepping 20 reps. ⁽²⁾ GAIT TRAINING in parallel bar -tandem walking. ⁽³⁾

Discussion:

Normally in this type of fractures, early rehabilitation phase should start but in our case study we changed rehabilitation protocol according to patient's need, past history, "personality" of fracture, type of fixation. We started rehabilitation after 2 months of fixation.

Usually in this type of case, delayed rehabilitation protocol doesn't give this much good results.

We got excellent results even after 2 months of Physiotherapy treatment with tailor made protocol. The protocol included ACTIVE RANGE OF MOTION (ROM), weight bearing techniques, gait training, which was beneficial for patient to return to the activities of daily living and occupation.

Conclusion:

In this case study, patient recovered within 15 days of physiotherapy with tailor made protocol; in which in initial phase active-assisted exercise helped him to achieve ROM.

Gait training and weight-bearing techniques were very successful to make the patient independent and return to Activities of Daily Living.

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