



Case report

Effectiveness of immediate physiotherapy post-split skin grafting in a patient with ankle and foot soft tissue injury

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ABSTRACT

Injuries to the soft tissue of ankle are very common and often present in the emergency room. The diagnosis is typically clinical, and 3-5 days after injury, delayed examination and reassessment is recommended as pain and swelling impede accurate evaluation immediately after injury. Treatment is normally non-operational with an emphasis on controlling swelling and discomfort of the ankle, and early rehabilitation of ankle movements. The present case report is of a male patient of 18 years old who suffered with an accidental right ankle injury at his work place. It was diagnosed as a soft tissue injury and slab was applied and immobilised for about a month. Split skin grafting surgery was done after removal of the slab and physiotherapy was started for regaining the lost range of motion of ankle. Immediate physiotherapy helped the patient to regain the active range of motion and prepare for efficient weight bearing activities. This case report adds a valid and relevant information to the literature of soft tissue injuries and physiotherapy management. Thus, would like to conclude that acute physiotherapy rehabilitation in soft tissue injuries plays a major role in early recovery.

Keywords: Ankle Joint; Soft Tissue Injuries; Skin grafting; Physiotherapy; Rehabilitation.

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INTRODUCTION

According to the World Health Organisation, 1.2 million people die in road collisions every year and over 50 million are injured [1]. The literature indicates a high degree of correlation between complicated foot and ankle trauma and polytrauma or multiple injuries in between 32% and 52% of cases, making it an even greater challenge to treat these injuries [2]. Traffic collisions, comprising 49% of the causes, followed by falling from heights and work-related injuries, are the most common injury mechanism involved in complicated fractures of the foot and ankle [3]. Initial treatment will focus on preventing the ischaemia and necrosis and also preventing infections. Present case report is of an 18-year-old boy with right ankle soft tissue injury, occurred as a result of accidental crushing of right foot in rolling machine. He was initially been immobilized later split skin grafting was performed. Aim of the present case report is to find out the effectiveness of initial physiotherapy rehabilitation protocol. As initial physiotherapy treatment protocols resulted in early recovery in previous studies [4] [5]. We have also focused on same lines and seen the case by concentrating on unaffected side in the beginning week later from 8th day we focussed on affected side range of motion, strength and functional activities. After around one week of treatment

we found that the patient can able to do all the activities freely except weight bearing.

Case presentation

The patient was 18-year-old male who was working in a factory gives the history of accident at aquadynamic industry on 26th December where his right foot being stuck in a machine when it was switched on suddenly and got injured. The skin on his right forefoot was peeled off by the rolling platform of the machine. He was unconsciousness after the incident. The patient was immediately moved to our hospital where his wound was dressed and was given medications. There was a swelling for 4 days following accident and enormous pain.

Clinical Findings

Excruciating pain on right foot both dorsum and plantar aspect. There was severe limitation of range of motion on right side ankle and subtalar joints. Right big toe movements were severely limited. Patient was not able to bear weight on right side. Rest of his activities were fine.

Physiotherapy intervention

Initially treatment focussed on unaffected joints of affected lower limb and also unaffected side as in this stage medical treatment

is primarily focussed on preventing the necrosis and infection. After wound debridement treatment was mainly to maintain blood supply to limb. Once the split skin grafting was done treatment was mainly concentrated on improving the joint range of motion by active exercise regimen. Acute physiotherapy pre and post-surgery helped in maintaining the joint range without much pain. As the graft was acute treatment was focussed on preserving the surgical site. Once the graft site heals completely treatment can be focussed on partial weight bearing then can be focussed on complete weight bearing.

Figure 1: Split skin graft



Figure 2: Soft tissue injury on dorsum of foot



DISCUSSION

Right from the start of the treatment, the final functional outcome needs to be projected. Although saving the limb may in principle be psychologically better, with the need for secondary interventions and prolonged hospitalization and rehabilitation, a stiff, painful and/or insensitive, non-functional foot may represent a much worse outcome. Literature review suggests that the outcome of the treatment depends on locomotor system's final function [6]. Local aesthetics and volume left of, Pain and loss of tenderness, Total Time for Treatment, Hospitalization costs, Emotional variables [7]. Physiotherapists have a broad spectrum of clinical expertise that can be integrated across a number of conditions and surgical contexts based on research. Even the protocols can be used to manage degenerative joint conditions [8]. For conservative and post-surgical recovery of soft tissue ankle injuries, this paper provides advice and guidance on particular aspects of physiotherapy practice. Our early outcome was in line with the previous study which states that the early outcome after complex foot trauma was essentially dictated by soft tissue damage, while the trauma of the bones and joints was more determined by the

long-term outcome [9][10].

CONCLUSION

Planned exercise protocol and appropriate decision making helps in the process of recovery and guides the patient in learning appropriate activities to be performed. We thus conclude by mentioning that proper decision making and taking absolute precautions plays a major role in the rehabilitation of soft tissue injuries.

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