Functional Outcome After Complete Spinal Cord Injury With Left Below Elbow Amputation, Medial Nerve Palsy at Right Hand: A Case Report

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국문요약

척수손상과 좌측하박절단, 우측 손의 정중신경손상 등 복합상해를 가진 척수손상 환자의 재활치료: 중례연구

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본 중례연구는 복합상해를 가진 척수손상환자의 재활치료과정을 소개하여 유사한 사례의 치료에 도움이 되고자 하는 것이다. 중례연구의 대상자인 26세 남자환자는 홍수 4번 완전손상과 사고 당시 전기화상에 의한 좌측하박 절단과 우측손의 정중신경이 마비되었다.

치료초기에는 일상생활활동 검사에서 MBI (Modified Barthel Index) 점수가 22점으로 독립적으로 가능한 것은 거의 없었고, 기능적으로도 모든 도움이 필요한 상태였으나 재활치료결과 독립적으로 가능한 기능수행 능력은 돌아올기, 일이나 앉기, 침상에서 의자로 이동하기, 의자로 끌어서 기기와 재한적인기는 하지만 독립적으로 가능한 일상생활활동은 식사, 상의 입기, 의자와 같은 높이의 이동 등이 가능하여 MBI 점수가 47점을 나타내었다.

이 환자의 초기의 장기치료목표는 전동 의자차를 이용하여 보호자의 도움을 줌이는 것이었다. 그러나 환자가 익숙하게 의자를 사용하였으며 일반 의자차 사용을 위해 필요한 만큼의 근력증가가 있었고, 의자차에 앉은 상태의 균형감각이 증가하여 목표를 수정하여 일반 의자차를 사용하도록 하였다. 환자 본인이 가지고 있는 재활 임계력을 최대로 이끌어낼 수 있도록 유도한 결과 부분적으로 제한이 있었지만 실내에서는 의자차를 이용하여 독립적인 생활이 가능하였다.

핵심단어: 기능적 회복, 복합상해: 척수손상.
Introduction

The incidence rate of traumatic spinal cord injury is increasing since other traumatic injuries such as motor vehicle accident, industrial accident, and sports related injury are increasing with social modernization and development. More than 10,000 cases of spinal cord injury are occurring in the United States annually. Eighty–two percent of cases are men and eighty percent of cases are occurring for individual between 16 and 45 (White et al, 1992). Thirty nine percent of spinal cord injuries were caused by a motor vehicle accident in Korea (Doh et al, 1979). Twenty seven point five percent of spinal cord injuries were caused by a motor vehicle accident in Korea (Lee, 1980). Thirty eight percent of spinal cord injuries were caused by a motor vehicle accident and twenty one percent were by a fall in the United States (Young and Northu, 1982).

Traumatic spinal cord injury can be associated with traumatic brain injury or complicated injuries such as an amputation or a burn. Karamemtomoglu and associates (1997) indicated that the most common form of associated injury with a spinal cord injury was a brain injury. Oller and associates (1992) documented that 5,021 patients among 13,834 spinal cord injury patients had associated injuries and the most frequent form of associated injury occurred was a brain injury followed by a facial injury, a clavicle injury in order. Saboe and associates (1991) studied 240 (47%) patients with associated injuries of 508 spinal cord injury patients and showed that the brain injury was the most frequent form of associated injury followed by a thoracic injury (24%), a ilium injury (23%). Ten percent of 508 spinal cord injury patients had associated injuries affecting three body parts.

Associated injuries can limit the performance level of activities of daily living (ADL) more than paraplegia or quadriplegia caused by spinal cord injury does. The injury level, age, gender, home situation, and family support can determine the functional performance level of ADL with the complete spinal cord injury patients. Water and Adkins (1997) suggested that injury level and associated injury are the contributing factors for functional recovery after the rehabilitation program.

A twenty six–year–old male patient who had T4 complete spinal cord injury with left below elbow amputation and incomplete right median nerve palsy was evaluated and treated for this case study. Without such associated injuries, the patient could have been independent with the use of the wheelchair. The functional level of the patient was expected to be low secondary to associated injuries. The purpose of this case study was to introduce the process of physical therapy with the use of prosthesis for bed mobility, transfer, and wheelchair propulsion for spinal cord injury patient with associated injuries.

Subject

A twenty six–year–old male patient who was injured when he fell from 4 m height sustained a T4 and T5 compression fracture resulting in a T4 complete spinal cord injury and associated injuries such as burn to left hand and right forearm on May 20, 1992. Left forearm was amputated 5 cm below elbow joint secondary to electrical burn and Benedict hand resulted from median nerve injury secondary to burn. The patient used