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Functional Rehabilitation of the Patient with Complete D10 Spinal Cord Injury for Wheelchair Training

Hemrajsinh Ataliya*, Mukesh Doshi, Veerendra Shandilya, Loganathan T and Ashok Trivedi

Jaya Rehabilitation Institute & Research Center, India

***Corresponding author:** Ataliya H, Bachelor of Physiotherapy, Jaya Rehabilitation Institute & Research Center, India, Tel: +916352951672; E-mail: hemrajataliya453@gmail.com

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Abstract

An adult 22 years old male, met with an accident in the form of road traffic accident, got spinal cord injury at level of D10 & become paraplegic. He received rehabilitation training in the form of Physiotherapy, Occupational Therapy, functional training, and transfer training. After one month of rehabilitation he becomes independent in his mobility indoor & outdoor with assistive devices.

Keywords: Complete Spinal Cord Injury; D10 (Dorsal 10); Wheelchair Skill Test Scale (WST); Functional Rehabilitation; Wheelchair Mobility

Introduction

To study the effectiveness functional rehabilitation approach in the patient having D10 spinal cord injury for wheelchair training.

- It is mostly seen due to RTA (Road traffic accidents) and it accounts for 80% of total SCI patients.
- Mainly younger popuare are affected, who are the bread earner of the society.
- In Spinal cord Injury nervous system is affected which will affect functional dependence on others for ADLs as well as survival.
- Incomplete Thoracic spinal cord njury patient have spared Upper extremities, some trunk muscle and minimum power lower extremity with use of those & some assistive devices patient can achieve the functional independence in his life [1-7].
- Ability can overcome the disability.

Research Methodology

This is a single case study.

- Patient is assessed with Wheelchair Skill Test Scale (WST).
- The patients underwent for rehabilitation training in the form of Upper Extremity Strengthening exercises, Selective Strengthening, Core activations, Core strengthening, Trunk facilitations, Trunk Balancing, Pre-Functional Training, Functional training, Bilateral KAFO with locked knee joint, Activities of Daily Living Training, Transfer Training, Vocational Training, Psychological Counseling and Motivation.
- Functional wheelchair training given indoor then it is progressed to outdoor training on plane surface, uneven surface, soft surface etc.
- Patient is trained for carrying out his all transfers and mobility i.e., indoor and outdoor.
- Patient has been reassessed after every month through-out rehabilitation with Wheelchair Skill Test Scale (WST) [8-14].

Results and Discussion

Patient having complete spinal cord injury at D10-D12 have shown significant improvement Wheelchair Skill Test Scale (WST) after functional Institutional Rehabilitation.

Rehabilitation to the complete Thoracic Spinal cord Injury patient in the form of Use of spared muscle groups & other assistive devices can give the more independence to the patients in their Activities of Daily Living as well other areas of survival [15-17] **(Figures 1-3 and Table 1).**

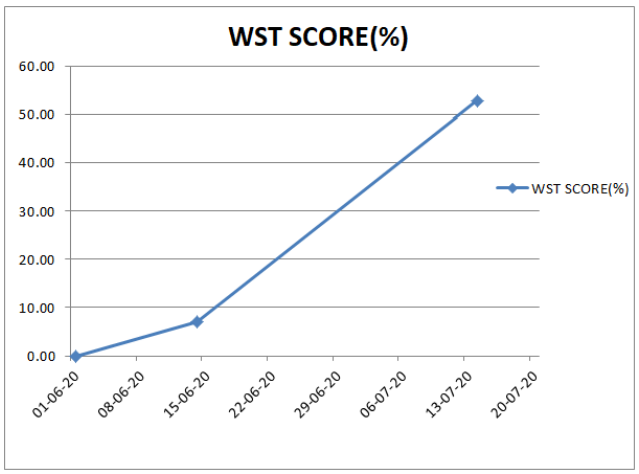

Figure 1: Wheel-chair skill test scale for spinal cord injury patient.

Table 1: Wheelchair skill test score.

Date	WST score (%)
01-06-2020	0
14-06-2020	7
14-07-2020	53

Figure 2: Person in wheelchair.

Figure 3: Side view moment of wheelchair.

Conclusion

Functional rehabilitation approach is the main tool for the complete Thoracic Spinal cord Injury patient to gain the independence mobility in their life again.

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