

Abstract ID: A0157

(4. WCNR Hong Kong 12-16 Feb 2006)

The Mentamove Rehabilitation After Traumatic Cauda Equina Syndrome (Case Report)

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Keywords: Cauda Equina, Cauda Equina Syndrome, Lumbar Compression Fracture, Paraplegia, Urinary Retention, Priapism, Electromyography, Rehabilitation, Biofeedback, Electrotherapy, Brain Efficiency Training, Mentamove®, Neuroplasticity, Relearning

Background: The Brain Efficiency Training (Mentamove) is a neurorehabilitation method used for rehabilitation after various brain lesions. If the motoric activities are mentally practised by the patient, the real movement gives a reorganisation to the brain, due to neuroplasticity. The Mentamove Method has never been documented for use to treat Cauda Equina Syndrome (CES) deficits and paraplegia prior to this Case Report.

Methods: The subject of this case (a 30 year old male) was operated on for a L2 compression fracture, 3 days after sustaining the injuries in a traffic accident. The spinal surgery used was a complete laminectomy of L2 and L3, and then the Cauda Equina were decompressed. The dura was ruptured approximately 4-5 cm's and the some caudal fibers were disrupted. After dural repair, the posterior spinal instrumentation was implemented. The subject had total paraplegia before and after surgery, and anaesthesia was below of the L1 segment. The anal tonus was lost and priapism was noted. After 5 days of the surgical decompression, the Mentamove treatment program was implemented. Mentamove was applied to the hip flexors, knee extensors, peroneal group muscles, gluteal muscles and the hamstring muscle groups 2 times/daily bilaterally. The data was measured with the Medical Research Council Scale (MRC) 0-5 for 10 days.

Results: After 10 days, the subject was able to slightly move the toes on his right foot. Based on the MRC scale, after 30 days, he started to move the right leg from 0 to 4. And his left hip demonstrated 2 point muscle activity, and his left foot showed 2 point motor activity. After 50 days of therapy he started to stand with assistance. After 4 months of therapy, he walked with 5 point muscle control of the legs. He was able to control urinary incontinence and anal tonus.

Conclusion: These data demonstrates that Mentamove can be successfully used to treat the CES deficits after decompressed spinal surgery, with incomplete nerve injury.