The hemodynamic system was stable, no paresis of n.cranialis, chest was in normal limit except the slem at upper region lobes. Extremities were hypotrophies. *Materials and Methods:* The main goal was to improve the functional capacity. We started the programs: patient spent time mostly sitting without back support, chest expansion exercise, strengthening of lower extremities muscles, standing using AFO and backslab, balance exercise, as well as psychosocial support. All programs were done while playing. *Results:* After 2 months programs, she could breath spontaneously in 1 h and stand independently. One month later she could walk independently and ride the 4-wheel bicycle with gradually increased distance, and 2-h spontaneous breathing. After 4 months program, she could take the ventilator off about for 3 h, and could eat orally. *Conclusion:* Rehabilitation program has important role to increase functional capacity and make the recovery process faster for prolong mechanical ventilator patient e.c. CIDP.

0521PP070

THE SYNERGISTIC EFFECTS OF COLD-WATER SWIMMING EXERCISE IN COMBINATION WITH MESENCHYMAL STEM CELL THERAPY ON SCIATIC NERVE CRUSH INJURY

Yueh-Ling Hsieh[1], Chen-Chia Yang[2]
[1]Department of Physical Therapy, China Medical University, Taichung, Taiwan, [2]Department of Physical Medicine and Rehabilitation, Taichung Tzu Chi General Hospital, Taichung, Taiwan

Purpose: Exercise and hypothermia have therapeutic benefits for nerve regeneration. In our previous study, amniotic fluid mesenchymal stem cells (MSCs) can augment growth of injured nerve, but full recovery of nerve function after MSCs transplantation was still limited. Therefore, the aim of this study was designed to investigate the synergistic effects of cold-water swimming exercise (CWS) combined with MSC transplantation in animals with crushed nerve injury on functional recovery. *Materials and Methods:* Peripheral nerve injury was induced in Sprague Dawley rats weighting 250 to 300 g by crushing a sciatic nerve using a vessel clamp with duration of 20 min. The MSC were embedded in fibrin glue and delivered to the injured site. CWS (19°, 5 min/day) was administered 12 h after operation for seven consecutive days. Sciatic function index (SFI), vertical activity (VA) of locomotion, angle of ankle (AA), electrophysiological studies, and histological analysis were evaluated to assess functional recovery and nerve regeneration. *Results:* The deterioration of neurological function was attenuated by CWS combined with MSC therapy. The combined therapy caused the most significantly beneficial effects. CWS treatment improved SFI, VA, AA, electrophysiology and suppressed the inflammatory responses which correlated with increased nerve regeneration. *Conclusion:* These findings suggest that a CWS combined with MSC treatment can protect against sciatic nerve crush injury through modifying cellular environments, making it favorable for regeneration. Therefore, environmental reconditioning of injured site by combination of hypothermia and exercise will be substantial and feasible for nerve repair on crush nerve model treated with MSCs.

0521PP071

ELECTRICAL STIMULATION COMBINED WITH AMNIOTIC FLUID MESENCHYMAL STEM CELLS ENHANCE FUNCTIONAL RECOVERY AFTER PERIPHERAL NERVE INJURY

Chen-Chia Yang[1], Yueh-Ling Hsieh[2]
[1]Department of Physical Medicine and Rehabilitation, Taichung Tzu Chi General Hospital, Taichung, [2]Department of Physical Therapy, China Medical University, Taichung, Taiwan

Purpose: Regeneration of peripheral nerves is remarkably restrained across traumatic injuries, limiting recovery of function. Various techniques have been investigated to enhance peripheral nerve regeneration including the application of electrical stimulation (ES) and the administration of amniotic fluid mesenchymal stem cells (MSCs). The purpose of this study was to investigate the effects of combining ES and MSCs therapies, in comparison to each sole modality, on peripheral nerve regeneration in a rat model with crush-injured sciatic nerve. *Materials and Methods:* Forty male Sprague-Dawley rats (250–300 g) with standard crush injuries on the sciatic nerves were equally distributed into four groups; the control (no treatment), ES, MSC, and the combination groups. Immediately after injury, The MSCs were embedded in fibrin glue and delivered to the injured site. ES was delivered 20 mins/day and current intensity was 3 times of the threshold for denervated muscle contraction and consisted of trains of 100 Hz pulses every 0.5 s for 7 days. Sciatic function index (SFI), vertical activity (VA) of locomotion, angle of ankle (AA), electrophysiological, and histological studies were followed up for 4 weeks. *Results:* Significant improvement in SFI, VA, AA, amplitudes and latencies of compound muscle action potentials were found in the ES-MSC combination group. But morphological study showed no significant differences among four groups. *Conclusion:* Both the ES and the MSC treatments were effective techniques enhancing functional recovery following a crush nerve injury in rats. The combined ES-MSC treatment on peripheral nerve injury showed superior recovery compared to a sole modality.

0521PP072

CLINICAL OBSERVATION OF ACUPUNCTURE TREATMENT ON PARKINSON'S DISEASE

Xiaoying Shang, Shoubin Luo, Qiuhong Cui
Rehabilitation Department, Heilongjiang Provincial Hospital, Harbin, China

Purpose: Observation and study of acupuncture for patients with spasticity and Parkinson activities of daily living (ADL) of the clinical efficacy. *Materials and Methods:* Choose 60 patients of Parkinson disease, then divided into treatment and control groups. One treatment group of 32 patients, use Integrated rehabilitation therapy and acupuncture therapy for treatment; The use of the control group, 28 cases of simple application of an integrated rehabilitation approach. Comprehensive rehabilitation treatment, including exercise therapy, Occupational Therapy, Speech therapy, ADL training, Cognitive Therapy, Swallowing therapy and other modern methods of rehabilitation. Before treatment and 60 days after application of all selected cases, modified Ashworth Scale and Barthel Index, respectively, evaluation of the patient's muscle tone and level of ADL. *Results:* Two groups before treatment and 60 days after treatment and ADL assessment of muscle tone compared to the results of the treatment group than the control group ($p<0.05$). *Conclusion:* Parkinson's patients in the acupuncture treatment can be effective in improving spasticity and improve ADL ability.

0521PP073

CLINICAL OBSERVATION OF THE EARLY REHABILITATION THERAPY WITH THE INTEGRATIVE TRADITIONAL AND WESTERN MEDICINE IN STROKE TREATMENT

Xiaoying Shang, Shoubin Luo, Qiuhong Cui
Rehabilitation Department, Heilongjiang Provincial Hospital, Harbin, China

Purpose: To observe the therapeutic effect of rehabilitation therapy with the integrative traditional and western medicine in stroke treatment. *Materials and Methods:* A total of 180 patients were randomly divided into three groups, each 60 cases. All observed objects were under conventional Neurology drug treatment. Group A, which under early rehabilitation and acupuncture treatment, is called the group of rehabilitation with integrative traditional and western medicine (ie, early rehabilitation with acupuncture); Group B, which under acupuncture treatment, is called the acupuncture group; Group C, which under early rehabilitation therapy, is called the early rehabilitation group. Compare the motor function and activities of daily living (ADL) of each group before and after treatment. *Results:* The Brunnstrom classification and the Barthel of each group were improved in varying degrees after the rehabilitation therapy. Group C is superior to Group B ($p<0.05$); Group A is