

BEIKE BIOTECHNOLOGY

Patient Case Study

Spinal Cord Injury

Male, 24 years old, July - Sept. 2010

Background

Age: 24 years old

Sex: Male

Nationality: American

Date of Admission: July 26, 2010

Date of Discharge: September 8, 2010

Treatment Center: Bethune International Peace Hospital, Shijiazhuang, China

Diagnosis on Admission: Spinal cord injury at C6-7 level

Condition On Admission

Chief complaint was of paralysis of all four limbs for two years following a motorcycle accident in 2008. Patient had no muscle strength in his legs and the muscle tone was higher than normal. The muscle strength in his arms was low and the muscles had less tone than normal. He was unable to move his fingers. Superficial sensations decreased down from T2 level on the left and the T3 level on the right. Superficial sensation disappeared completely from T3 on the left and T4 on the right. Vital signs were normal and all other routine examinations showed no abnormalities in the heart, lungs, and abdomen.

Treatment Schedule

Patient received 7 umbilical cord-derived mesenchymal stem cell (UC-MSC) packets and 2 autologous bone marrow-derived stem cell (BMSC) packets by intravenous (IV) injection and lumbar puncture (LP), as per schedule below:

Number	Date	Cell Type	Delivery Method	Side Effects
1	July 28, 2010	UC-MSC	IV	none reported
2	August 1, 2010	UC-MSC	LP	none reported
3	August 6, 2010	UC-MSC	LP	none reported
4	August 11, 2010	UC-MSC	LP	none reported
5	August 13, 2010	UC-MSC	IV	none reported
6	August 16, 2010	BMSC	LP	none reported
7	August 19, 2010	BMSC	LP	none reported
8	August 23, 2010	UC-MSC	LP	none reported
9	August 27, 2010	UC-MSC	LP	none reported

Condition On Discharge

The doctors noted small improvements in his condition particularly with improved trunk muscle strength. The physical therapists also reported a great improvement in his trunk strength. He was able to sit up straight with the support of his elbows for longer and with great control and also improved in his ability to turn himself over in bed, particularly on the left side. The spasticity in his lower limbs decreased and the clonus (uncontrollable tremors in the muscle when stretched) visibly decreased compared to pre-treatment.

Follow Up Information

Condition 1 months after treatment: Patient reported moderate improvements in his condition, and reports that 'he feels good' and that his quality of life has improved. The main areas of improvement for him are in his bladder function. He is now more aware and able to tell when he needs to pass water and he is also able to urinate for longer.

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