

# BEIKE BIOTECHNOLOGY

## Patient Case Study

### Spinal Cord Injury

Female, 41 years old, Dec. 2009 - Feb. 2010

#### Background

Age: 41 years old

Sex: Female

Nationality: American

Date of Admission: December 31, 2009

Date of Discharge: February 10, 2010

Treatment Center: Bethune International Peace Hospital, Shijiazhuang, China

Diagnosis on Admission: Spinal cord injury at T6 level and optic nerve damage

#### Condition On Admission

Paralysis of the lower limbs and blindness for the previous 3 years following a car accident in 2007. Neurological examination showed that both lower limbs muscle strength grade was 0 and muscle tone was low. Superficial sensation disappeared from the front at the T6 level, on the right at the T7 level, and on the back at the T6 and T12 level respectively. Hoffman's, Babinski, and Chaddock's pathological signs were all negative. Upper limbs were normal. Vital signs were stable and physical examination of heart and lungs showed no abnormalities.

#### Treatment Schedule

Patient received 9 umbilical cord blood-derived stem cell (UCBSC) packets by intravenous (IV) injection and lumbar puncture (LP), as per schedule below (doctors decided to use delivery of UCBSC due to the patient's concurrent diagnoses):

Number	Date	Cell Type	Delivery Method	Side Effects
1	January 4, 2010	UCBSC	IV	none reported
2	January 8, 2010	UCBSC	LP	none reported
3	January 13, 2010	UCBSC	LP	none reported
4	January 18, 2010	UCBSC	LP	none reported
5	January 22, 2010	UCBSC	LP	none reported
6	January 25, 2010	UCBSC	IV	none reported
7	January 28, 2010	UCBSC	LP	none reported
8	February 1, 2010	UCBSC	LP	none reported
9	February 5, 2010	UCBSC	LP	none reported

## Condition On Discharge

The patient was observed to have a small amount of improvement in her SCI symptoms. The superficial sensation on her left side increased and sensation could be felt up to the T7 level. A new tingling sensation was reported to be felt in both legs, which was not present before. The muscle tone in the lower extremities improved a little with increased control of her thigh muscles when at the standing table and a significant increase in her trunk muscle strength also noted when standing during her physical therapy sessions. Her ability to move herself in bed and transfer also increased along with her ability to stay balanced while sitting unaided.

## Follow Up Information

**Condition 3 months after treatment:** Patient reported moderate to significant improvements in her condition and corresponding significant improvement in her quality of life. Superficial sensation has increased further to the T9 level and she also has increased tickling sensations in her stomach area, backs, legs, and feet. She has continued physical therapy at home and is making good improvements, as seen from her family's comment below:

“She is undergoing physical and occupational therapy two days per week and we have just received a standing frame which she will be using daily. The stem cells are working and she is looking forward to return to China in three to four months.”

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