

BEIKE BIOTECHNOLOGY

Patient Case Study

Brain Injury

Female, 38 years old, March - April 2010

Background

Age: 38 years old

Sex: Female

Nationality: Brazilian

Date of Admission: March 7, 2010

Date of Discharge: April 15, 2010

Treatment Center: Bethune International Peace Hospital, Shijiazhuang, China

Diagnosis on Admission: Brain injury with right side hemiplegia

Condition On Admission

Patient had impaired movement on her right side following a car accident seven years previous. Left side limbs had normal muscle strength, tone, and tendon reflexes. Right limbs could be flexed but not straightened. Muscle strength of the right arm was 0 and her right leg was 3-. Her muscle tone in the right limbs was very high and had tendon hyperflexia. She was unable to stand or walk without support. The doctors also noted that she suffered from apathy and reduced speech. Other routine examinations of heart, lungs abdomen, and vital signs showed no other abnormalities.

Treatment Schedule

Patient received 8 umbilical cord blood-derived stem cell (UCBSC) packets by intravenous (IV) injection, lumbar puncture (LP), and interventional injection (II) as per schedule below:

Number	Date	Cell Type	Delivery Method	Side Effects
1	March 11, 2010	UCBSC	IV	none reported
2	March 15, 2010	UCBSC	LP	none reported
3	March 19, 2010	UCBSC	LP	none reported
4	March 25, 2010	UCBSC	II	none reported
5	March 29, 2010	UCBSC	IV	none reported
6	April 2, 2010	UCBSC	LP	none reported
7	April 7, 2010	UCBSC	LP	none reported
8	April 12, 2010	UCBSC	LP	none reported

Condition On Discharge

No immediate improvements were noted by the doctors or the patient's family.

Follow Up Information

Condition 6 months after treatment: The family reported improvements in their daughter's condition and her overall quality of life. They note that "the patient got better resistance on the right leg and more strength on the leg muscles." They also feel that progress was still being made and that these benefits were continuing to increase.

They also supplied a medical report from their own physician dated November 8th, 2010. Their doctor reported that the patient had begun to feel tingling and sensitivity on the right arm, that there had been significant improvement in the patient's understanding and her ability to form more consistent sentences, and her memory of past events had improved. He also observed significant improvement in her mood and physical status.

Condition 12 months after treatment: The family completed the health evaluation at 12 months. Below are the family's answers to a list of symptoms and the changes seen since the beginning of treatment 12 months ago:

Symptom	Parents' Assessment of Improvement
Carrying out simple activities	Moderate improvement
Carrying out complex activities	Small improvement
Able to be spontaneous	Significant improvement
Concentrate	Moderate improvement
Control of mood and emotions	Moderate improvement
Problem solving	Moderate improvement
Expressing needs	Moderate improvement
Reading	Moderate improvement
Writing or drawing	Small improvement
Doing simple maths	Moderate improvement
Recognizing others	Moderate improvement
Understanding others	Significant improvement
Short term memory	Moderate improvement
Long term memory	Moderate improvement
Swallowing	Significant improvement

Symptom	Parents' Assessment of Improvement
Slurring speech	Significant improvement
Balance	Small improvement
Coordination of movement	Small improvement
Fine motor control	Small improvement
Tremors	Not Applicable
Paralysis	Small improvement
Sleep disturbance	Not Applicable
Dizziness or vertigo	Not Applicable
Ability to sit unsupported	Small improvement
Ability to stand up	Small improvement
Ability to walk	Small improvement

The family also provided a physiotherapist report from February 14, 2011, in which the physiotherapist observed the patient to now have more effective emotional control, as well as an increase in muscle strength, balance, and attention. Even her paralyzed right upper limb appeared more elongated and with an elimination of the previous pain.

Additionally, the patient's psychologist supplied a written report stating, "Important advances have occurred after treatment with stem cells. Improvement [has been made in] cognitive ability, language, thought, consciousness, reasoning and memory."

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