BEIKE BIOTECHNOLOGY

Beike-Coordinated Patient Case Study
Spinal Cord Injury
Male, 26 years old, January - February 2012

This case study has been produced by Beike Biotechnology in association with the doctors and medical staff of Bethune International Peace Hospital of Shijiazhuang. Information concerning the provided treatment and patient condition upon admission and discharge has been distributed to Beike by the treating facility's medical staff. All follow-up data has been provided directly to Beike by the patient and/or patient's guardians. For additional information about treatment, please send an inquiry at www.stemcellschina.com

Background

Age: 26 years old
Sex: Male
Nationality: Trinidadian
Date of Admission: January 24, 2012
Date of Discharge: February 20, 2012
Treating Facility: Bethune International Peace Hospital, Shijiazhuang, China
Diagnosis on Admission: Spinal Cord Injury (T2-T3)
Stem Cell Type: Beike-produced umbilical cord-derived mesenchymal stem cells (UCMSC) and autologous bone marrow stem cells (BMSC)

Condition On Admission

Patient was in a road traffic accident five years prior to his admission for treatment. Physical assessment on arrival showed that the patient was fully conscious, with perception and normal awareness of surroundings. Examination of the heart, lungs and abdomen showed no abnormalities. The strength of the arms was normal, with a full grade 5. Muscle strength in the legs was absent, a grade 0. The patient was unable to walk. Muscle tone and tendon reflexes in the legs were higher than normal. The superficial sensation on the left side disappeared below the level of T2 and on the right side superficial sensation was absent from T6 and below. The patient had a lack of bladder and bowel control; however, some sensation was present. He also complained of pain in the lower back and left side hip.

Treatment Schedule

Patient received 4 Beike-produced umbilical cord-derived mesenchymal stem cell (UCMSC) packets and 4 autologous bone marrow 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	January 27, 2012	UCMSC	IV	none reported

2	February 1, 2012	UCMSC	LP	none reported
3	February 6, 2012	UCMSC	LP	none reported
4	February 8, 2012	UCMSC	LP	none reported
5	February 10, 2012	BMSC	LP	none reported
6	February 14, 2012	BMSC	LP	none reported
7	February 17, 2012	BMSC	LP	none reported

Condition On Discharge

The patient suffered no complications or side effects from the treatment. At the time of his discharge there was no notable improvement in his condition.

Follow-Up Information

Condition 12 months after treatment: The patient provided feedback via the Beike Follow-Up Survey at 12 months after his treatment. At this time he felt his overall condition and quality of life had been improved by the treatment. As well as the symptom improvements listed below, he also commented that his superficial sensation has increased a lot and he can now wiggle his big toes with great concentration and focus. Please see the excerpt below from his follow-up survey:

Symptom	Patient's Assessment of Improvement
Lower limb sensation	Small improvement
Lower limb muscle tone	Moderate improvement
Lower limb strength	Moderate improvement
Trunk sensation	Moderate improvement
Trunk muscle tone	Small improvement
Trunk muscle strength	Small improvement
Upper limb sensation	Moderate improvement
Upper limb muscle tone	Moderate improvement
Upper limb strength	Small improvement
Fine motor control	Small improvement

Sweating	No improvement
Control of body temperature	Moderate improvement
Skin condition	Significant improvement
Bladder control	Moderate improvement
Bowel control	Small improvement
Fatigue	Moderate improvement
Pain	Moderate improvement
Sexual function	Small improvement

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