BEIKE BIOTECHNOLOGY

Patient Case Study

Spinal Cord Injury

Male, 48 years, July - August 2018

Summary

Diagnosis	Sex	Age	Nationality
Spinal Cord Injury	Male	48 years	Australian
Injections	**Cell type**	**Admission date**	**Discharge date**
6	UCBSC + UCMSC	July 23rd 2018	August 16th 2018

Medical history

The patient was diagnosed with spinal cord injury in 2016 from lifting heavy objects (over 15-20 kg). He had severe lower back pain that caused pain in both legs as well. In may 2016, an MRI scan test result revealed severe central canal and neuroforaminal stenosis at the L4-L5 level due to broad-based disc bulge. As a result, the patient had a laminectomy surgery in L3-L5 and a microdiscectomy surgery in L4-L5 as well as a postoperative rehabilitation program for pain relief.

Condition On Admission

The patient had numbness in both legs with the left leg being more affected. There was muscle weakness in the left leg as well. Dynamic standing balance was rated as fair, muscle endurance was low and there was partial bowel and bladder function impairment. The patient was able to engage in all daily activities, independently.

Treatment Schedule

The patient received 3 umbilical cord blood-derived stem cell (UCBSC) packets and 3 umbilical cord mesenchymal stem cell (UCMSC) packets by intravenous (IV) and intrathecal injections, as per the schedule below:

Number	Date	Cell Type	Delivery Method	Side Effects
1	2018-07-27	UCMSC	Intravenous Injection	none reported
2	2018-07-31	UCMSC	Intrathecal Injection	none reported
3	2018-08-03	UCMSC	Intrathecal Injection	none reported
4	2018-08-06	UCBSC	Intrathecal Injection	none reported
5	2018-08-10	UCBSC	Intrathecal Injection	none reported
6	2018-08-14	UCBSC	Intravenous Injection	none reported

Condition at discharge

At the end of the 3 weeks therapeutic program, the patient has shown some improvement in sensation, muscle endurance and dynamic standing balance as follows: The patient has informed us that he has more feeling in his left leg and his right leg feels now normal. Endurance has slightly improved as he is now capable of walking on the treadmill for 15 minutes with a speed up to 5.5 (compared to less than 10 minutes at a slower speed earlier). Dynamic standing balance went from fair/good, to good/normal. By the end of the program the patient could perform one leg standing for 1 minute without support in aquatic therapy.

Condition 12 months after treatment

At the 12 month follow up point the patient reported that he still had numbness in a small area behind the left leg with a little pain but he was feeling better than before the treatment. He rated his improvement in quality of life as moderate. Please see an excerpt from the patient's 12 month own assessment below:

Symptom	Assessment of Improvement
Bladder control	Moderate improvement
Bowel control	Moderate improvement
Control of body temperature	Significant improvement
Fatigue	Significant improvement

Fine motor control	Moderate improvement
Lower limb muscle tone	Significant improvement
Lower limb sensation	Moderate improvement
Lower limb strength	Moderate improvement
Pain	Moderate improvement
Sexual Function	Moderate improvement
Skin Condition	Significant improvement
Sweating	Significant improvement
Trunk muscle strength	Moderate improvement
Trunk muscle tone	Significant improvement
Trunk sensation	Moderate improvement
Upper limb muscle tone	Significant improvement
Upper limb sensation	Significant improvement
Upper limb strength	Moderate improvement

BEIKE BIOTECHNOLOGY CO., LTD.
www.beikebiotech.com
info@beikebiotech.com

16F Building, 18 Keyuan Rd.,
South Area, Shenzhen Hi-Tech Industrial Park
Shenzhen, China 518058