

BEIKE BIOTECHNOLOGY

Patient Case Study

Spinal Muscular Atrophy Type 3

Female, 30 years old, March - April 2010

Background

Age: 30 years old

Sex: Female

Nationality: Indonesian

Date of Admission: March 8, 2010

Date of Discharge: April 6, 2010

Treatment Center: Bethune International Peace Hospital, Shijiazhuang, China

Diagnosis on Admission: Spinal Muscular Atrophy Type 3

Condition On Admission

Main presenting problem was the progressive weakening on the limbs for 28 years. The muscle strength grade of her upper limbs was extensor strength grade 3- and flexor strength grade 3+. The lower limbs were both grade 2. The muscle tone in her arms and legs was low and tendon reflexes weak. The patient had difficulty to turn herself over, sit up, and walk independently. She was able to walk short distances with help but quickly became short of breath. Routine examination of heart, lungs, and abdomen showed no abnormalities and vital signs were normal.

Treatment Schedule

Patient received 7 umbilical cord blood-derived stem cell (UCBSC) packets by intravenous (IV) injection and lumbar puncture (LP) 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 24, 2010	UCBSC	LP	none reported
5	March 29, 2010	UCBSC	LP	mild headache
6	April 2, 2010	UCBSC	LP	none reported
7	April 5, 2010	UCBSC	IV	none reported

Condition On Discharge

The doctors reported improvements after the treatment and noted that the most remarkable improvement was the reduction in the shortness of breath the patient experienced. They also observed an improvement in muscle strength in her arms, legs, and neck and she could turn herself over in bed after the treatment and bend her knee when lying on her tummy. The muscle strength of her upper limbs improved to extensor strength grade 3 and flexor strength grade 3+. The lower limbs also improved to a grade 2+.

The patient reported similar improvements and some of her statements have been placed below:

“1. My best improvement I can feel right now is I no longer have short breath when I talk a bit much, unlike before. I can take a much deeper breath.

“2. My digestive muscle might slightly be better now. Before I had poop once every 10-14 days, after stem cells, around 4-7 days.

“3. I can now bend my left leg up to my bottom and straightening it by myself, without help. Even still slowly and not too many times but I can do it now (it doesn't happen to my right one yet).

“4. I can now roll my body better, much easier to roll up then rolling back since it takes hip muscle first to move my body around, but I feel lifting up my hip now is a little lighter.

“5. My neck muscle feels a little stronger, unlike before which making me feel like wanna lay my neck backwards most of the time.”

Follow Up Information

Condition 1 month after treatment: The patient still had improvements and she noted that when she spread her arms widely she could lift them higher than before.

Condition 3 months after treatment: The patient still maintained the improvements she gained and is hoping to come back for a second treatment: “All improvements I have gained after I received the treatments few months ago are still exist and [are] stable. My immune system is better somehow, usually I have bad asthma bronchitis this time of season changing, but I stay alright, probably because my lung muscle is stronger.”

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