

BEIKE BIOTECHNOLOGY

Patient Case Study

Cerebral Palsy

Female, 2 years, June - July 2023

Summary

| Diagnosis | Sex | Age | Nationality |
|----------------|-----------------------|----------------|----------------|
| Cerebral Palsy | Female | 2 years | Australia |
| Injections | Cell type | Admission date | Discharge date |
| 8 | UCMSC | June 19th 2023 | July 5th 2023 |

Medical history

The patient, a female from Australia born in 2021, was diagnosed with hypoxic-ischemic encephalopathy (HIE) at birth, leading to cerebral palsy quadriplegia. This diagnosis renders her unable to walk, sit, stand, or talk, and she experiences difficulty with feeding. Regular physical therapy (PT), occupational therapy (OT), and speech therapy have been part of her treatment regimen, resulting in some improvements in tone, posture, and tongue use. The patient's current medications include Baclofen three times a day, Melatonin at night, and Omeprazole in the morning. Additionally, she relies on a nasogastric tube for supplemental feeds and drinks orally otherwise. Despite her physical limitations, the patient remains aware, smiles, and displays happiness, though she requires assistance to sit and exhibits poor fine motor skills.

Condition On Admission

The patient, despite her awareness and positive disposition, faces significant challenges in mobility and fine motor skills. While she can sit on her parents' lap, she is unable to sit unassisted. Her fine motor skills remain underdeveloped, limiting her ability to perform tasks independently. There is no indication of epilepsy or seizures, abnormal bowel movements, or other significant medical issues beyond her primary diagnosis of

cerebral palsy quadriplegia. The patient's current treatment plan includes considerations for stem cell therapy, aiming to potentially improve her cognition, muscle tone, motor functions, sitting balance, and overall quality of life.

Treatment Schedule

| Number | Date | Cell Type | Delivery Method | Side Effects |
|--------|------------|-----------------------|---|---------------|
| 1 | 2023-06-22 | UCMSC | Intrathecal Injection & Intravenous Injection | none reported |
| 2 | 2023-06-26 | UCMSC | Intrathecal Injection & Intravenous Injection | none reported |
| 3 | 2023-06-09 | UCMSC | Intrathecal Injection & Intravenous Injection | none reported |
| 4 | 2023-07-03 | UCMSC | Intrathecal Injection & Intravenous Injection | none reported |

Condition at discharge

The feedback provided on stem cell treatment indicates no improvement in the general physical condition or the quality of life of the patient. The parents have not expressed satisfaction with the treatment outcome at this early stage.

Condition 1 month after treatment

The update on the patient's condition post-stem cell treatment indicates some improvements, albeit modest ones. While there have been small enhancements noted in the patient's general physical condition and quality of life, the doctor has not confirmed these improvements, leaving some uncertainty. The patient's parents express a level of satisfaction with the treatment outcome, suggesting a somewhat positive response to the intervention. Notably, the patient seems more visually aware, slightly stronger in the trunk, and exhibits improved head control, as well as expressing her first word "more" and displaying increased vocalization. However, despite these positive developments, certain symptoms persist or show no improvement after treatment.

| Symptom | Parents' Assessment of Improvement |
|-----------------------|------------------------------------|
| Head control | Small improvement |
| Involuntary movements | Small improvement |

| | |
|-------------------------------|-------------------|
| Learning disability | Small improvement |
| Mood disorder | Small improvement |
| Range of movement | Small improvement |
| Speech (babbling for infants) | Small improvement |
| Trunk muscle strength | Small improvement |

Condition 3 months after treatment

The patient shows some improvements in her general physical condition and quality of life, albeit minor ones. Despite the absence of confirmations from the doctor regarding these improvements, the patient's parents note slight enhancements, including Adeline's ability to communicate her toilet needs and use simple words like "yeah" and "more," as well as demonstrating increased body and visual awareness. Additionally, there's a small improvement noted in cognition and mood regulation. Certain symptoms have worsened after treatment, such as increased drooling.

| Symptom | Parents' Assessment of Improvement |
|-------------------------------|------------------------------------|
| Drooling | Worse than before treatment |
| Head control | Small improvement |
| Mood disorder | Small improvement |
| Range of movement | Small improvement |
| Speech (babbling for infants) | Small improvement |

Condition 6 months after treatment

The last update on the patient's progress following stem cell treatment her general physical condition and quality of life have continued to improve. Despite the absence of confirmations from the doctor regarding these improvements, the patient's parents note slight enhancements, including Adeline's ability to communicate using eye gaze and indicating her need to use the toilet for bowel movements. There's also notable progress in her continence, particularly with regards to fecal matters. While the parents express a level of satisfaction with the treatment outcome, the absence of confirmations from the doctor leaves some uncertainty. Despite these positive developments, certain symptoms persist or show no improvement after treatment.

| Symptom | Parents' Assessment of Improvement |
|-----------------------|------------------------------------|
| Symptom: Head control | Small improvement |

| | |
|--------------------------------|-------------------|
| Symptom: Limb muscle strength | Small improvement |
| Symptom: Trunk muscle strength | Small improvement |