

STROKE

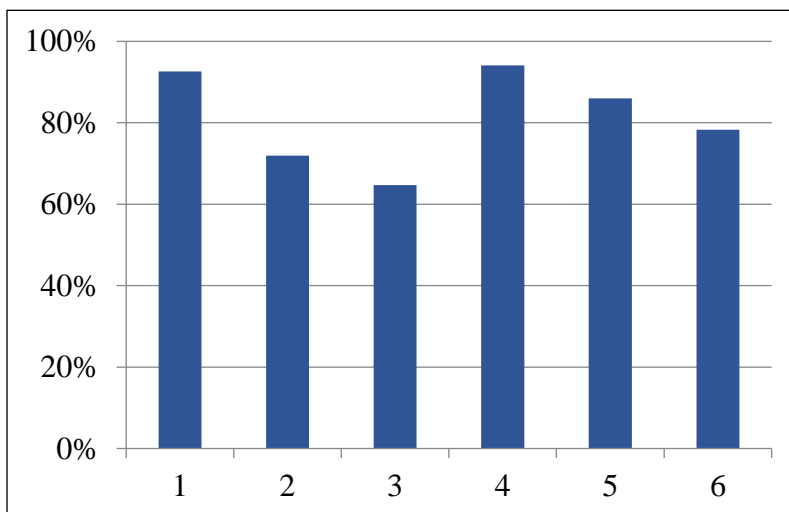
Human umbilical cord blood cell therapy of 97 research subjects with ischemic and hemorrhagic stroke showed significant improvement of mobility of upper and lower extremities, muscle strength of upper and lower limbs and neurological function after therapy. Patient assessment scales 2 months after therapy showed improved mobility of upper extremities at 93% and lower extremities at 72% of patients, improved neurological function (ability to speak, urination and bowel function) at 65% of patients, improved muscle strength of upper extremities at 94% and lower extremities at 86% of patients, improved neurological function (urinary and bowel function) at 78% of patients (Table 1; Figure 1). Significant improvement of upper and lower extremity muscle strength was observed in subjects with ischemic and hemorrhagic stroke, treated with human umbilical cord blood mononuclear cells in two or three intrathecal administrations (Table 2; Figure 2).

Table 1. Improvement of post-stroke physical conditions after human umbilical cord blood cell therapy

Description	Upper extremity mobility	Lower extremity mobility	Neurological function (ability to speak)	Upper extremity muscle strength	Lower extremity muscle strength	Neurological function (urinary and bowel function)
Number of subjects	54	82	85	34	50	23
Age	29 - 86	25 - 86	22 - 86	22 - 86	22 - 86	32 - 81
Improvement of symptoms %	50 (92.6*±2.6**)	59 (72.0±5.0)	55 (64.7±5.2)	32 (94.1±4.1)	43 (86.0±5.0)	18 (78.3±8.8)

*Mean; **Standard Error

Figure 1.



1. Mobility of upper extremities
2. Mobility of lower extremities
3. Neurological Function (ability to speak)
4. Muscle strength of upper limbs
5. Muscle strength of lower limbs
6. Neurological Function (urination and bowel function)

Table 2. Improvement of post-stroke physical conditions based on treatment modality

Therapy strategies	Upper extremity mobility	Lower extremity mobility	Neurological function (ability to speak)	Upper extremity muscle strength	Lower extremity muscle strength
0-1 IT administrations (Group 1)	19	20	28	18	23
2-3 IT administrations (Group 2)	35	62	57	16	27
Number of subjects in group 1 with improved symptoms (≥ 2 points on the scale)	4 (21.1 \pm 9.6)%	6 (30.0 \pm 10.5)%	7 (25.0 \pm 8.3)%	6 (33.3 \pm 11.4)%	11 (47.8 \pm 10.6)%
Number of subjects in group 2 with improved symptoms (≥ 2 points on the scale)	11 (31.4 \pm 8.0)%	23 (37.1 \pm 6.2)%	17 (29.8 \pm 6.1)%	11 (68.8 \pm 12.0)%	21 (77.8 \pm 8.1)%
A statistically significant difference between groups 1 and 2 (Mann-Whitney Rank Sum Test)	Non-statistically significant difference (P=0.43)	Non-statistically significant difference (P=0.57)	Non-statistically significant difference (P=0.65)	A statistically significant difference (P=0.044)	A statistically significant difference (P=0.03)

Figure 2.

