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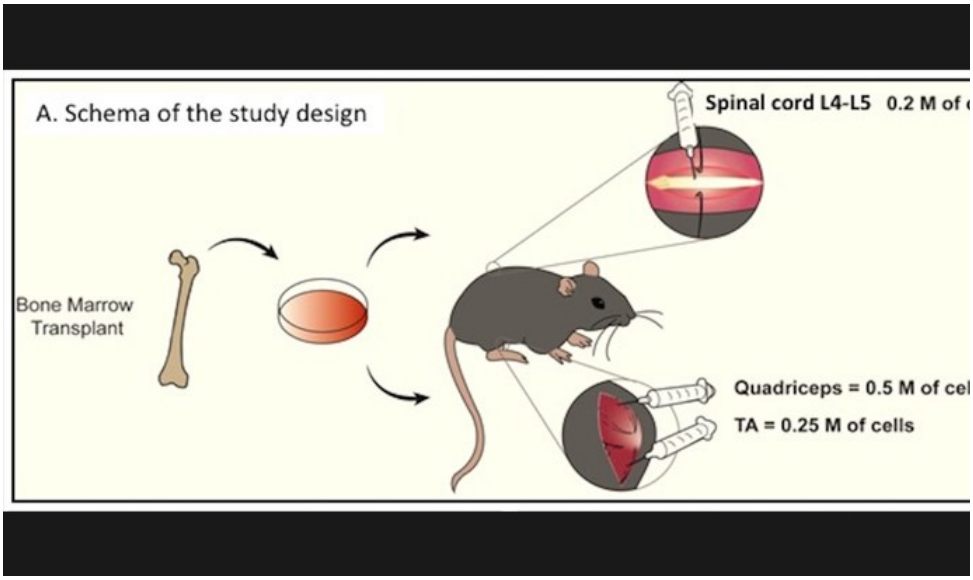
Multiple strategy with bone marrow cells to t



There is no effective treatment to overcome Amyotrophic Lateral Sclerosis (ALS the Neuroplasticity and Regeneration group of the UAB Institute of Neuroscier two cell therapy protocols with ALS model mice to study, based on a multifocal protect motor neurons in the spinal cord and their connections with muscles, both of the disease.

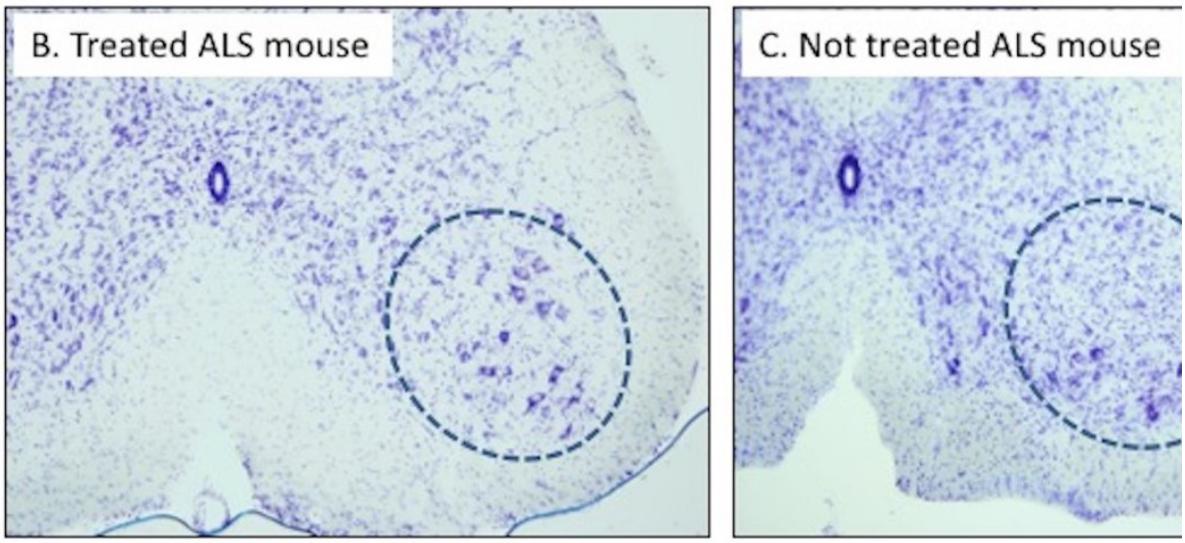
Outline of the study design (A). Bone marrow cells are extracted, purified, and injected into the muscles and spinal cord of SOD1 transger

Amyotrophic Lateral Sclerosis (ALS) is a neurodegenerative disease characterized by a progressive upper (in the brain) and lower (in the spinal cord) motoneurons. Resulting from neuronal loss, pati atrophy and eventual muscle paralysis that leads to their death few years after the onset, since there is for ameliorating the disease. Most of the cases of ALS are sporadic, of unknown cause.

The concurrence of alterations in several molecular and cellular mechanisms raises the difficulty to find In fact, therapies that only target a single factor have largely failed when translated into clinical trials in way, cell therapy has emerged as a promising way to target several disease-related mechanisms involv

In this study, we assayed two different cell therapy protocols to protect both peripheral and central ne purpose, we combined injections of bone marrow cells in several muscles of the hindlimbs of a mouse

the connection of motor axons with the muscle, and an injection of bone marrow cells in the lumbar s mice in order to protect the spinal motoneurons.



Cross section of the lumbar spinal cord, stained with cresyl violet, from a treated mouse (B) and from a A higher number of motoneurons in the anterior horn (in the region marked with a circle) can be see than in the control.

The mice were repeatedly evaluated along two months after the cell therapy. The results found indi significantly improved the motor outcomes, measured in rotarod test and in electrophysiological tes found that the dual cell therapy tended to preserve the survival of spinal motoneurons at late stag reduced the neuroinflammatory reaction in the spinal cord, although did not prolong mice survival.

Overall, our findings suggest that targeting more than one affected area of the motor system with bo may result in a valuable therapeutic intervention for ALS.

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References

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