

Media release

Promising treatment for people with tetraplegia

Zurich, 12 September 2019 – Recovery from acute spinal cord injury is unfortunately very limited and at present there are no medications available to treat the damaged spinal cord. Until now, rehabilitation has always been the most effective way of treating patients with spinal cord injuries. New medications with antibodies could be the breakthrough and allow the first real therapy for damaged nerves in the spinal cord.

Studies in the laboratory and pilot studies on humans have been successful and providing hope to patients with acute spinal cord injuries. For the first time, it seems possible to improve the recovery of nerve function using a medication that also helps patients recover considerably better. The new antibodies, an endogenous inhibitor, (Nogo-A protein), which prevents growth and regeneration of nerve fibres, can be blocked in humans. – The treatment aims to improve the regeneration and plasticity of the nerve fibres so that they can reunite. This should considerably improve both the motor and sensory functions and the patient's quality of life.

This antibody therapy is currently being tested in a clinical trial that is being conducted across Europe, which is looking at patients in the first few weeks of an accident causing tetraplegia (see box). Prof. Armin Curt, Director of the Spinal Cord injury Centre at Balgrist University Hospital, is coordinating the project. He believes that the results will confirm the earlier studies, showing the treatment to be safe, well tolerated, and offering a promise of success. "It really does look possible that damaged nerve fibres or fibres around the lesion can reunite. For the first time we would have a treatment for spinal cord injuries. That would be revolutionary."

EU Horizon 2020 NISCI Project

People with an acute spinal cord injury should be able to regain lost bodily functions. The purpose of the [NISCI* project](#) is to take the first steps towards treatment that will enhance functional recovery. The ongoing Phase II trial is looking at how the new antibody therapy acts on nerve function, the recovery of movement, and the general condition of the patient. The researchers want to find out whether antibody therapy can really improve nerve function and the quality of life in people who have suffered an acute cervical spinal cord injury (tetraplegia). They are paying special attention to function in the arms and hands.

NISCI is a European multicentre trial. Hospitals and Universities in Germany, Spain, Italy, the Czech Republic, and Switzerland are participating. The trial is being financed by the European Union's Horizon 2020 program, the Swiss Paraplegic Foundation, the Wings for Life foundation, the Swiss State Secretariat for Education, Research and Innovation, and the Wyss Zurich, a center of ETH Zurich and University of Zurich.

* NISCI = Nogo Inhibition in Spinal Cord Injury

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