

New hope for survivors of stroke and traumatic brain injury

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A new ground-breaking study about to be published in the Adis journal *CNS Drugs* provides clinical evidence that, for the first time, chronic neurological dysfunction from stroke or traumatic brain injury can rapidly improve following a single dose of a drug that targets brain inflammation, even years after the stroke or traumatic event.

The observational study¹ of 629 patients, conducted over the course of nearly two years, documents a diverse range of positive effects, including statistically significant rapid clinical improvement in [motor impairment](#), spasticity, cognition, etc. in the stroke group, with a similar pattern of improvement seen in the [traumatic brain injury](#) (TBI) group. The study involved 617 patients treated an average of 42 months after stroke and 12 patients treated an average of 115 months after TBI, long after further spontaneous meaningful recovery would be expected.

The study was conducted at the Institute of Neurological Recovery (INR) in the USA. The drug utilized was etanercept, a therapeutic that selectively binds and neutralizes an inflammatory immune molecule that may remain elevated for years following stroke. Etanercept was administered utilizing a novel delivery method, invented by Edward Tobinick M.D., lead author of the study.

"These results represent a sea change in the therapeutic possibilities for stroke and TBI patients," said Steven Ralph PhD, Associate Professor at Griffith University School of Medical Science in Australia. "Rarely do we see such a radical breakthrough in medical treatment as this for

stroke. A previous example was the advance with thrombolytic therapy using drugs such as [tissue plasminogen activator](#) (t-PA) for the treatment of [acute stroke](#) with their significant impact when applied at the early stages. However, no similar treatment has existed for chronic stroke until now."

Professor Ralph recently led a team of physicians to the INR for training in the new etanercept delivery method, prior to their initiation of randomized trials in Australia. "Our team observed, first hand, rapid clinical improvement in stroke patients following this brief office treatment," said Professor Ralph.

In an accompanying editorial², Professor Ian Clark, a world expert on tumor necrosis factor (TNF) and brain dysfunction, discusses the science underlying the novel treatment method and clinical results. The high prevalence of chronic post-stroke and post-TBI neurological disability, with millions of individuals affected worldwide, highlights the study's significance.

More information: References:

1. Tobinick E, Kim N, Reyzin G, et al. Selective TNF Inhibition for Chronic Stroke and Traumatic Brain Injury – An Observational Study Involving 629 Consecutive Patients Treated with Perispinal Etanercept. *CNS Drugs*. 2012;16(12). [DOI 10.1007/s40263-012-0013-2](#)
2. Clark, I. New Hope for Survivors of Stroke and Traumatic Brain Injury. *CNS Drugs*. 2012;16(12). [DOI 10.1007/s40263-012-0014-1](#)

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