

STIMULATING NEURORECOVERY POST STROKE AND TBI WITH CEREBROLYSIN

Michael Chopp

Department of Neurology, Henry Ford Hospital and Department of Physics, Oakland University, UDA

Treatment of stroke and traumatic brain injury (TBI) has primarily focused on neuroprotection, i.e. the attempt to reduce the size of the lesion. However, this approach has not yielded therapeutic benefit for the TBI/stroke patient, except for the relatively quasi-effective use of thrombolytic agents for stroke. A far more fruitful approach would be to stimulate and amplify endogenous restorative processes within the central nervous system (CNS), so as to remodel the CNS to compensate for the injured or infarcted cerebral tissue. In this presentation, I will present data on the treatment of experimental embolic stroke and TBI with Cerebrolysin and demonstrate Cerebrolysin stimulates multiple and interacting restorative and remodeling processes in the CNS which in concert contribute to neurological recovery post stroke and TBI. The molecular mechanisms underlying these restorative events will be discussed. We will provide evidence that the sonic hedgehog (Shh) signal transduction pathway plays an essential role in mediating therapeutic benefit of Cerebrolysin therapy for stroke and TBI.