

Identification of stroke-related target genes with high clinical impact

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Stroke is the second most-leading cause of death worldwide and has an enormous economical impact for industrial countries. Unfortunately, there is still lack of valid neuroprotective therapeutic strategies beyond systemic thrombolysis therapy despite various successful experimental results. Thus, a more profound understanding of stroke pathophysiology and identification of better target genes for treatment strategies seems to be mandatory. The talk will focus not only on the different model systems for stroke research and target gene identification, but also will deal with the difficulties to identify valid target proteins. Many highly impressive findings of experimental stroke experiments in the past often were followed by rather poor results in clinical studies. Thus, careful planning of experimental studies is urgently required and parameters such as the model system, the age of the animals and the time windows used for assessment of stroke-related tissue damage have to be chosen carefully. Experience with interventions, which has been shown to be neuroprotective in experimental stroke, but which failed in the clinics (such as erythropoietin) were disappointing, but other upcoming strategies (e.g. anti-inflammatory strategies) were highly encouraging, but still need further evaluation in larger human studies.

Biography

George Trendelenburg has completed his M.D. 1994 at the Free University Berlin. After molecular-oncological studies in the laboratory of Prof. C. Hanski he switched his research-interest to stroke-related expression-patterns. For this purpose he used serial-analysis-of-gene-expression (SAGE) as well as hybridization-based techniques in collaboration with the Max-Planck Institute for Molecular Genetics/Berlin to identify novel neuroprotective genes in experimental cerebral ischemia. After working as a group leader and Consultant Neurologist at the Charite University Medicine, Berlin he is working since 2011 in the Neurological department of the University Medicine Gottingen as Professur for Experimental Stroke Research and as head of the local stroke-unit. He has published 30 paper in journals (e.g. *J.Neurosci.*, *Nature Med.*, etc.) and serves as an editorial board member of journals such as *Frontiers-of-Neurology* or *BMC-Genomics*.

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