



DEMENTIA

TBI

STROKE



Cerebrolysin[®]

Reconnecting Neurons.
Empowering for Life.

Treatment strategies for motor impaired stroke patients



MODERATOR



Maciej Niewada

Professor, Department of Experimental and Clinical Pharmacology, Medical University of Warsaw, Poland

SPEAKERS



Cathy Stinear

Professor at The University of Auckland, New Zealand



Viet Luc Tran

MD, PhD
Deputy Director of Vietnam National Geriatric Hospital, Lecturer of Neurology at Hanoi Medical University

INTRODUCTION

Motor impairments after stroke affects about 80% of all stroke patients and the development of effective therapies is therefore a very important goal in acute and subacute rehabilitation. Recently, several national and international guidelines have started to include pharmacological agents as well, as there is evidence that the combination of physiotherapy with evidence-based agents such as Cerebrolysin is beneficial for the long-term outcome.

In this webinar, the moderator [Dr. Maciej Niewada](#) from Warsaw, Poland gave a brief update on stroke guidelines.

[Prof. Cathy Stinear](#), who is renowned worldwide for her research efforts in the field of motor recovery, discussed advances in research and the clinical implementation.

Finally, [Dr. Viet Luc Tran](#) from Vietnam talked about the importance of post-stroke rehabilitation in acute and subacute care and how low- and middle-income countries in particular can develop programs to provide effective treatments nationwide.

Introduction

Maciej Niewada

Prof Maciej Niewada from Warsaw, the moderator of the webinar introduced the Stroke action Plan Europe, a joint political initiative by the European Stroke Organization and the European Union. This project focuses on **the seven most important domains in stroke care.**

This project, which will end in 2030 has established consensus that the main objective for the rehabilitation domain is to guarantee for 90 % of patients an access to early rehabilitation in the acute setting, ideally in a stroke unit.

Dr. Niewada continued his introduction by giving a **quick overview about the existing stroke guidelines**, showed some examples of the latest guideline recommendations for Cerebrolysin, the only pharmacological agent worldwide which is recommended for motor recovery as an evidence based treatment option.

In particular, he mentioned the **EAN-Guideline recommendation** and highlighted that this recommendation means that a majority of the population with stroke would want to be administered with Cerebrolysin, that health-care workers should inform patients about the treatment option if consistent with their

own medical ethical perspectives and that policy makers should be ready to debate this evidence-based treatment option.

He concluded his short intro by mentioning the importance of the EAN as a pan-European medical society representing 48 countries and showing their new rehabilitation guideline which shows that **Cerebrolysin is recommended for use.**

Motor outcomes after stroke

Cathy Stinear

Professor Cathy Stinear from Auckland New Zealand began her lecture by pointing out that motor function is commonly impaired after stroke but also extremely critical for gaining independence which is generally associated with stroke severity, age and upper limb function.

Dr. Stinear moved on to the important topic of predicting outcome, highlighting initially that the modified Rankin Scale is a very insensitive tool for predicting and describing the well-being of a patient as longterm outcome measure but also that more sensitive scales like the ARAT do not predict the progress a patient will make after 6 months very accurately; experts predictions are especially difficult for the ARAT range 10-56 as patients with similar acute performance will have very different longterm outcomes.

She continued to highlight the need to focus on additional markers and predictors for outcome, particularly neurophysiological markers such as TMS or EEG as well as imaging markers – MRI, fMRI, rs-fMRI and CT and moved on to explain that patients with a positive motor evoked potential (MEP+) have better motor recovery and better outcome than MEP negative patients.

Another reliable predictor for outcome is MRI biomarkers and it has been shown that small lesion size and cerebral spinal tract lesion volume and load also correlate strongly with outcome.

In the final part of her presentation Dr. Stinear interpreted the findings of the Lancet Review on “Advances and Challenges in stroke rehabilitation”, highlighting that the CARS trial with Cerebrolysin is the only intervention in motor rehabilitation which has shown a clear and significant positive outcome.

She praised the excellent conduct and methodology of the trial but also recommended to stratify patients in future trials based on MEP positive and MEP negative patients in order to understand more deeply which patients will benefit the most from Cerebrolysin treatment.

She highlighted that this can be done relatively easily by using the SAFE-score (Shoulder Abduction and Finger Extension score) which she introduced briefly and summarized her talk as follows

The AVANT Program – Project description, progress and successes

Viet Luc Tran

The 2nd speaker of the webinar was Dr. Luc Tran Viet, Vice Director of National Geriatric Hospital and Senior Lecturer in the Neurology Department of Ha Noi Medical University, Vietnam who started his presentation with an overview of the variables, which influence long-term outcome and recovery. He pointed out that, in particular, the infarct size and the extent of initial deficits are responsible for an outcome variance of 30-50%, which ultimately affects recovery after a stroke.

Since Julie Bernhardt's AVERT-study, it has been known that the timing of rehabilitation also has an influence on the results. Her study clearly showed that very early mobilization has a negative effect on the good outcome and should be avoided.

For Dr. Tran Viet, the most important challenges for stroke patients in neurorehabilitation are:

- >80% suffer from motor weakness/hemiparesis
- 1/3 suffer from aphasia
- 60% of patients with non-functional arms one week post-stroke do not recover
- 10% develop PSD within six months
- Lack of effective neurorepair
- Short time window of dynamic changes in plasticity

It is especially the impairment of the upper limbs that has devastating consequences for the patient's quality of life, as it not only hinders the return to previous activities, but also affects the ADLs such as eating, dressing, and washing.

From his clinical experience, Dr. Tran Viet was able to report that the combination of physiotherapy in a rehabilitation setting with the administration of Cerebrolysin shows the best

results in motor therapy. He found this confirmed in the various guideline recommendations from Austria, Canada, Germany, and the Europe-wide rehabilitation guidelines of the European Academy of Neurology.

Introduction of the Austrian Vietnam Advancement Neurorehabilitation Therapy (AVANT)

Dr. Tran Viet first mentioned the important fact that the supporting authority for AVANT is the Vietnamese Ministry of Health and that this program, although supported by EVER Pharma, remains free from any commercial goals and content. Additionally important is the fact that the training material used in courses (standardized nationwide) has also been approved by the MoH. These measures create confidence in the objectivity of the program.

He then presented the structure of the project and the goals and pointed out that they were implemented as planned between 2017 and 2023. (Here use slides 11 – 15, maybe either partially

or smaller to demonstrate the implementation – different presentation titled AVANT program – project description progress and successes.

In the last part of the presentation, the results of the project so far were shown: an impressive change in terms of access to care, as well as in the dysphagia screening rate, which led to a dramatic reduction in pneumonia due to aspiration.

After six years the AVANT-Program achieved the following:

- Neurorehabilitation has been practiced routinely, systematically, and standardized in hospitals all over the country
- Neurorehabilitation is started in the acute phase
- Reduced dysphagia and silent aspiration → reduced death from pneumonia
- Neurorehabilitation is widespread and practiced by therapists and caregivers at home
- AVANT is successful and much appreciated in the healthcare community
- AVANT has been extended for another five years

Summary

The presentations by Dr. Niewada, Dr. Stinear and Dr. Luc demonstrated that evidence developed in clinical research also needs projects such AVANT to be successfully implemented. Political declarations like the Stroke Action Plan Europe can become successful if the practical work is done by various stakeholders involved in stroke rehabilitation medicine.



ABBREVIATED PRESCRIBING INFORMATION. Name of the medicinal product: Cerebrolysin - Solution for injection. Qualitative and quantitative composition: One ml contains 215.2 mg of Cerebrolysin concentrate in aqueous solution. List of excipients: Sodium hydroxide and water for injection. Therapeutic indications: For treatment of cerebrovascular disorders. Especially in the following indications: Senile dementia of Alzheimer's type. Vascular dementia. Stroke. Craniocerebral trauma (commotio and contusio). Contraindications: Hypersensitivity to one of the components of the drug, epilepsy, severe renal impairment. Marketing Authorisation Holder: EVER Neuro Pharma GmbH, A-4866 Unterach. Only available on prescription and in pharmacies. More information about pharmaceutical form, posology and method of administration, special warnings and precautions for use, interaction with other medicinal products and other forms of interaction, fertility, pregnancy and lactation, effects on ability to drive and use machines, undesirable effects, overdose, pharmacodynamics properties, pharmacokinetic properties, preclinical safety data, incompatibilities, shelf life, special precautions for storage, nature and contents of the container and special precautions for disposal is available in the summary of product characteristics.

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