



RESOLUTION

of Teleconference the «III INTERDISCIPLINARY COLLEGIUM OF NEUROLOGICAL DISEASES»

February 23, 2022

Kyiv, Ukraine

Almost 6 000 health care specialists have registered to participate in the «III Interdisciplinary Collegium of Neurological Diseases».

The leading experts of the country in the sphere of neurology and neurosurgery have shared their opinions and practical experience in management of patients with acute strokes within the framework of the event. The event became international due to involvement of the Professor of the University of Oxford (Great Britain), Harry A. Ford.

Six main reports were offered to the participants for review and discussion and they were dealing with the following issues:

- Standards for acute stroke care.
- Management of acute cerebrovascular accident: what's new?
- Compliance as a factor of satisfactory treatment results.
- Role of neurosurgeon in treatment of acute stroke.

Conclusions and decisions based on discussion of reports:

1. The urgency of the problem of acute stroke in Ukraine is explained by the high mortality rate due to cerebrovascular disorders. The stroke is on the second place in the mortality structure and is still the major cause of disability in Ukraine. The major problems related to stroke are timely provision of medical assistance within the first 4 hours after stroke with further treatment depending on the patient's clinical profile.
2. Hospital stage plays an important role in the system of step-by-step delivery of medical care to the patients with acute stroke. It has the following tasks: delivery of proper medical care, early diagnostics, safe and fast transportation of a patient to the specialized hospital department. Timely hospital admission, fast access 24/7 to neurovisualization if acute stroke is suspected, baseline and specific therapy – the combined effect of all interferences greatly improves treatment of patients with acute cerebrovascular accident, it helps to recover faster and to return to ordinary life. It is important to control the patient's clinical condition within the first 3 months – the most critical period when early complications are in force and late ones appear.
3. Stroke therapy has an impact on hemorheology, neurons, cerebral vessels and baseline therapy. The baseline therapy includes correction of respiration disturbance, cardiovascular regulation, normalization of water-electrolytic balance with solution of electrolytes in combination with other means, control of glucose metabolism and body temperature with infused paracetamol, prevention and treatment of complications. Today, in the treatment of stroke, the protection of neurovascular unit or neuroprotection of functional units (neurons, glial cells, pericytes, macrophages and vascular membrane) is applied,

as well as vascular protection that is extremely important in case of ischemia and reperfusion as far as vascular bed plays an important role in trauma distribution due to acute and chronic vascular dysfunction. The addition of L-arginine in the early recovery period to standard acute ischemic stroke therapy helps to restore the vasodilatory mechanisms of cerebral blood flow autoregulation and increases the efficiency of cerebral endothelium functioning. Sufficient collateral circulation reduces the volume of heart attack and secondary ischemia, delivering blood to the penumbra.

4. If in the acute period of ischemic stroke blood circulation is not restored by thrombolysis or thrombectomy, collateral blood supply is insufficient, neurons of the zone of ischemic penumbra will still die. The set of reactions that occur under the condition of ischemia and cause damage to brain cells is called ischemic cascade. In the doctor's arsenal there is a blocker of ischemic cascade to influence a number of stages of this process.
5. Edaravone effects are realized through definite mechanisms: the drug depresses the processes of oxidative damaging of neurons and gliocytes, removes hydroxyl and oxygen-derived radicals, which activate most stages of ischemic cascade, has an endothelium-protective action, modulates inflammatory conditions, level of matrix metalloproteinases and nitrogen oxide, apoptotic and necrotic death of cells.
6. As opposed to neuroprotectors Edaravone has demonstrated clinical efficiency that was proved by multi-center randomized clinical research. Edaravone is the only drug for treatment of acute stroke that significantly improves the long-term effects of stroke. The recently published meta-analysis (Chen C et al., 2021) has proved that Edaravone improved neurological disorders within three-months observation. As well as significant decrease of mortality rate was observed within three months. Besides, the difference in the frequency of any side effects associated with treatment between the two groups was not statistically significant.
7. Edaravone is safe and efficient for representatives of Caucasian race. The English scientist and coordinator of research on safety, tolerance and pharmacokinetics of the new administration scheme and dosing schedule of Edaravone for the patients with acute ischemic stroke, which was conducted in nine research centers in Finland, the Netherlands and Great Britain, has represented the results of the MCI-186 research during the conference. Both dosing schedules of Edaravone with new administration scheme that were tested in the research were well tolerated by patients and their safety level was comparable to placebo intake. So it proves the safety of Edaravone administration for management of acute ischemic stroke in patients of Caucasian race.
8. Compliance is a readiness of a patient to follow doctor's recommendations, their conscientiousness and disposition towards treatment. Cooperation of a doctor and a patient is an integral part of practical medicine. Doctor-to-doctor cooperation is not less important especially under inpatient treatment. Strict adherence to therapy is the guarantee of satisfactory treatment outcomes.
9. In accordance with the instructions for the medical use of Xavron®, in the acute stage of brain infarction the drug demonstrates protective action, inhibiting the occurrence and development of ischemic cerebrovascular disorders, such as cerebral edema, neurological symptoms, and slow neuron death. Method of application and dosage of the drug: 30 mg of Edaravone (1 ampoule) twice a day, in the morning and in the evening. Therapy should start within 24 hours of the onset of symptoms, the duration of treatment – at least 14 days.
10. That is why the purpose of the research H.Naritomiet al. (2010) was to determine the impact of the duration of Edaravone administration on remote functional result. The randomized controlled research was conducted in 19 centers for treatment of acute stroke and rehabilitation in Japan. The patients with acute ischemic stroke were randomly divided into the short-term therapy group receiving intravenous infusion of 30 mg of Edaravone twice a day within 3 days and the long-term therapy group receiving the same within 10-14 days. Patients with

acute stroke due to Edaravone treatment achieved more favourable results within 14 days than during short-term treatment, in particular: reduction of atrophy progression of dysfunctional muscles; improvement of locomotor function of lower extremities. The obtained data indicate that the effectiveness of stroke therapy can be increased by long-term use of Edaravone, which has myoprotective effect, improving the functional result in the chronic phase.

11. During the scientific event the data of evidence-based medicine concerning use of Edaravone in the clinical practice in case of ischemic stroke were announced. New ПКД are in need, in particular we need more data on use of Edaravone together with thrombectomy.

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