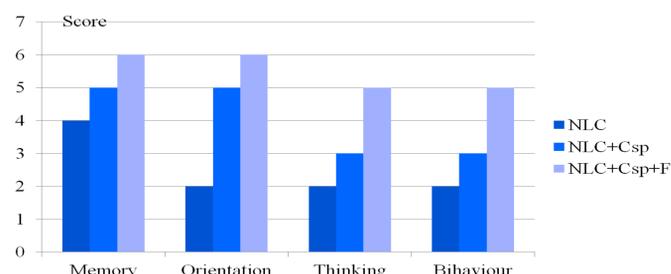


# Famvir considerably improves results of combined use of Cyclosporine A and air at optimal surplus pressure in chamber in Alzheimer's disease.

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## Effectiveness of recovery of cognitive deficit in AD patients after applying of NLC with Cyclosporine A and Famvir



### Results

Normoxic curative compression (NLC) restores tissue respiration and microcirculation, which is manifested in normalization of the acid-base state, normalization of EEG and vascular tone. The NLC course resulted in improvement of the general condition, short-term memory, and normalization of EEG of the AD patients. Combination of NLC with Cyclosporine A led to a significant improvement of AD patient's condition, as well as improvement of praxis, spatial orientation, and social adaptation. Addition of antiviral preparation Famvir to the treatment course of AD patients promoted the restoration of their personality traits, cognitive ability and quality of life. Fig.1 shows dynamics of neuropsychological parameters in 3 groups of patients. 6 patients of the first group received only NLC. 6 patients of the second group received NLC and Cyclosporin A. 6 patients of the third received NLC, Cyclosporin A, and Famvir.

Only in the third group, the patients demonstrated thinking recovery and improved social adaptation. This group also had the most prominent curative aftereffect.

Combination of NLC with Cyclosporine A resulted in a more pronounced restoration of memory and orientation. Significantly reduced behavioral and thinking disturbances and longer lasting favorable effect were observed after addition of Famvir to the complex therapy.

Fig.2 shows dynamics of immunological parameters of AD patients in 3 groups. A decrease in apoptosis (CD95) was observed in the patients of the second and the third groups received Cyclosporin A. The AD patients of the third group, who received Famvir, demonstrated regression in inflammatory changes in the form of a decrease in the initially increased CD20 level (B lymphocytes) and IgA and IM. (Fig.3)

All observed AD patients demonstrated high values of IgG to neuroviruses (1 and 2 type herpes, CMV and Epstein-Barr virus). The course of the complex antiviral therapy in combination with curative compression and Cyclosporin A led to 2-4-fold reduction in increased anti-neurovirus IgG titers.

### Discussion

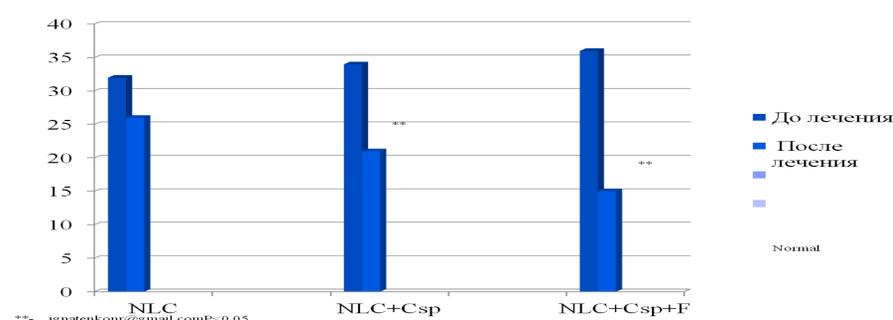
NLC restores tissue respiration in the ischemic area and improves microcirculation in the brain, promotes an improved delivery of the antiviral preparation to the inflammation area and inhibits autoimmune inflammation. Significant improvement of the curative effect observed in administration of Cyclosporin A seems to be associated with recovery of neurons which undergo apoptosis and are functionally inactive. Correlation of the curative effect of the discussed method for treating AD with normalization of the immune status and regression of the inflammatory changes (normalization of CD20, IgA and M) in administering antiviral preparation Famvir demonstrates the viral nature of the inflammatory process in the AD patient's brain.

- In our clinic we have developed a new protocol of using surplus pressure in a pressure chamber for the treatment of consequences of cerebral stroke and neurodegenerative diseases. It has been shown that optimal excessive pressure in a pressure chamber promotes activation of tissue respiration in the ischemic brain area along with restoration of microcirculatory control mechanisms. Contrary to hyperbaric oxygenation (HBO), the method was called normoxic curative compression (NLC) because it did not lead to blood plasma hyperoxygenation. Combination of normoxic compression with a reversible immunosuppressant cyclosporine A significantly increases the curative effect of the method in neurodegenerations, and consequences of stroke.
- Slow-virus like herpes simplex may play an important role in the autoimmune inflammation in the brain in AD.
- We investigated the effect of Famvir on the results of combined use of Cyclosporine A and normoxic curative compression in pressure chamber in AD.

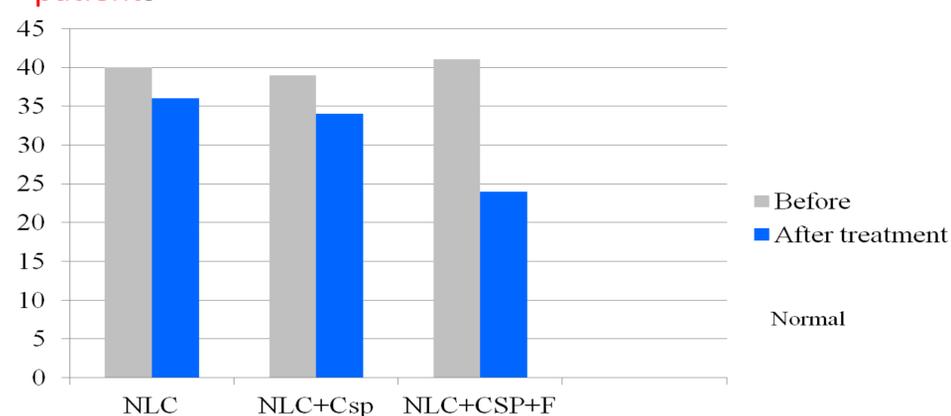
**Materials and methods.** We observed 16 patients with AD, who received treatment sessions with air at 1.1 ATA in a pressure chamber (12 and more sessions up to 20 minutes). Twelve of these patients were also administrated Cyclosporine A (2-3 mg/kg). Six patients received the Famvir in combination with Cyclosporine A and NLC.

Complex investigations included: the score estimations of the MMSE, EEG, the immunological status, monitoring of external respiration, acid base state.

## Dinamic of CD 95 after applying NLC with Ciclosporine A and with Famvir in AD



## Dinamic of CD 20 after NLC with Cyclosporine A and Famvir in AD patients



### Conclusion.

1. A complex method of treating Alzheimer's disease (AD) in human patients has been developed, the method comprising active antiviral therapy and an NLC method directed toward restoring tissue respiration and microcirculation in the brain, wherein the method is used in combination with Cyclosporin A inhibiting apoptosis.

2. A considerable curative effect of the antiviral therapy used in combination with the method directed toward restoring tissue respiration and inhibiting apoptosis may be indicative of the viral nature of inflammatory process in AD.