SUBACUTE SCLEROSING PANENSEPHALITIS IN CHILDREN : MANIFESTATION OF COGNITIVE DISORDERS.

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Relevance of the topic Subacute sclerosing panencephalitis (SSPE) is a group of slowly developing infections of the central nervous system. It is a rare progressive degenerative disease of the nervous system that occurs after a long-term measles infection, characterized by mental retardation, movement disorders, epileptic seizures, myoclonus, ataxia, usually develops in children aged 5-15 years, and usually from the onset of the disease It leads to death within 1-3 years

The pathogenesis of the disease includes the formation of autoimmune mechanisms after the measles disease in the brain cells and the violation of the immunological mechanisms that are the basis for the persistence and reproduction of the measles virus as a result of an acquired or congenital defect of the immune system. Probably, during the first infection with measles, the measles virus enters the structures of the central nervous system and persists for a long time until pan encephalitis develops. It mainly affects neurons and oligodendrocytes, but it is not entirely clear how the virus enters them, because these cells do not have receptors known for the measles virus. Experimental models have shown that after entering the neurons, the virus can spread to neighboring structures by a trans neuronal pathway. Histologically, inflammation and demyelination processes in the brain parenchyma and membranes, numerous viral inclusions in neurons, oligodendrocytes and astrocytes, as well as neuronal loss and astrogliosis are observed. At the initial stages, these processes spread to the occipital region of the brain, and later, the changes spread to the anterior parts of the cortex, and finally to the subcortical and brainstem structures, as well as the spinal cord. In the last stages, the disintegration of the white and gray matter of the brain and signs of cortical atrophy can be observed.

The diagnosis of SSPE is complex and is based on the detection of high concentrations of MeV IgG antibodies in the cerebrospinal fluid in a clinically relevant context. Without clinical confirmation of the disease, the detection of MeV IgG only in the results of the serological test cannot be the basis for the diagnosis of the disease.

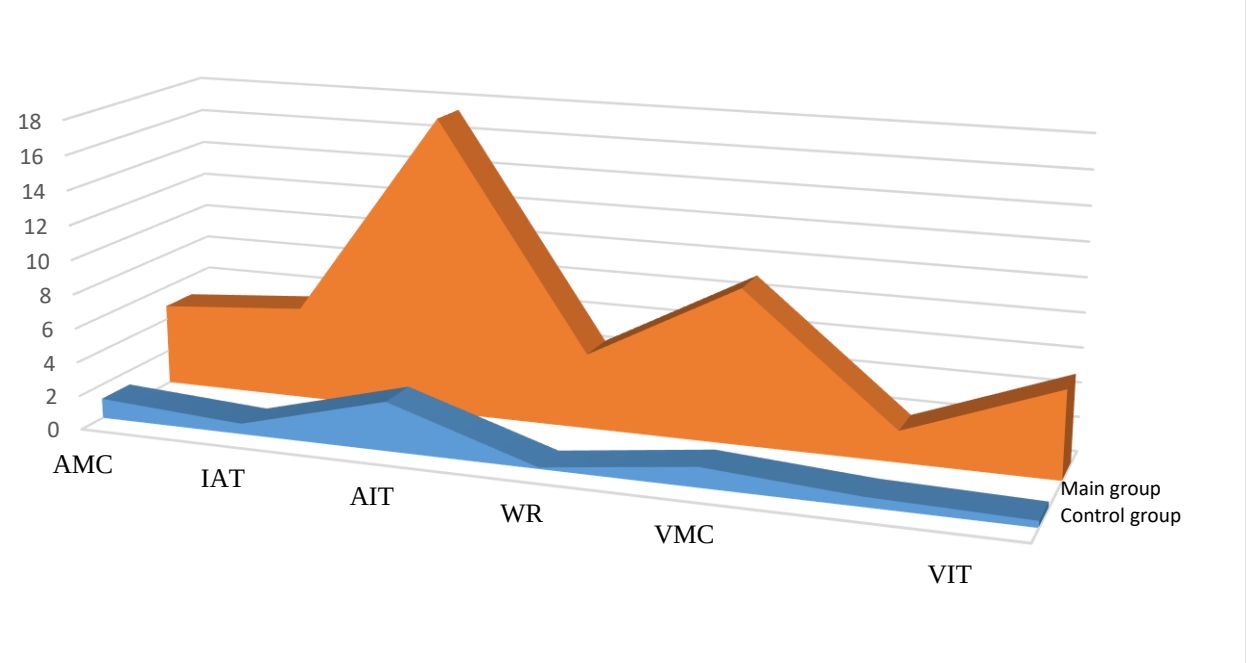
No specific therapy has been developed for the treatment of the disease. Even early treatment does not reduce the stage of the disease. In fact, patients who started treatment within weeks of diagnosis experienced higher levels of end-stage disease associated with higher disability and morbidity. Several authors have pointed out that early development of the disease in young children [sspe 2 57]. Proper patient care and prevention of infectious complications are of great importance. Careful care and symptomatic treatment can prolong the patient's life for a short time.

Scientific purpose we took the study of clinical and neurological manifestations of SSPE in children and cognitive disorders in it, how to detect the disease early.

Research materials and methods used. Examinations were carried out in 12 patients treated in the pediatric neurology department of the multidisciplinary clinic of the Tashkent Medical Academy. The age of the patient children was from 3 to 7 years, and the average age was 4.88 years. 9 of them were boys (75%) and 3 were girls (25%). The control group consisted of 10 children of the same age who did not have pathology in the neurological field (according to the results of anamnestic and neurological examination). To confirm the diagnosis, we used a serological IFA test to detect Anti-Measles Virus IgG - specific measles antibodies (normally 0-0.12 ME/ml) in blood serum. MRI and EEG examinations of the brain were also performed in all patients. Of the 12 patients who were monitored, 7 had the initial stage of the disease, 4 had the average stage, and one patient had the 3rd stage of the disease. We conducted a neuropsychological examination of children at the initial stage of the disease using Simernitskaya's "Luria-90" rapid diagnostic neuropsychological method. The "Luria-90" test is aimed at studying the

organization of memory processes and its internal structure, and the normative value is 0.

Research results. The results of the neuropsychological test were evaluated with scales of auditory and visual performance, each of which reflects one of the parameters of mental performance (Figure 1).



1-Figure.Comparative analysis of auditory-speech and visual memory indicators

Word recognition and pronunciation are considered by neurolinguists as functionally important links in verbal-mnestic activity. Therefore, in neuropsychology, the combined manifestation of word pronunciation and recognition disorders is considered a more specific sign of mnestic impairment.

Thus, the volume of auditory-speech memory (AMC) in children of the main group showed a significant decrease in indicators compared to the control group (in the main group - 4.82, in the control group - 1.16), which indicates a decrease in the efficiency of memorization and the stability of attention regulation.The reason for the higher auditory trace inhibition (IAT) scores in the examined children was the lower efficiency of word recall in the two groups presented.This was shown as a result of the negative impact of extraneous stimuli on short-term memory. The most

significant changes were observed in auditory trace integrity (AIT) scores in the baseline group (72.52) compared to the control group (2.88). This indicator reflects a decrease in the performance of memory traces in the children of the main group. Word recognition (WR) is not an active voluntary, but a passive involuntary mental activity, which indicates that the frontal areas of the brain, mainly the left hemisphere, are involved in the pathological process. In our study, this parameter had significant differences compared to the control group (4.41 in the main group and 0.09 in the control group, respectively).

Our observations in sick children made it possible to determine the dysfunction of optical-spatial activity. Thus, the visual memory capacity (VMC) in children with SSPE was damaged due to the violation of repetition of the given order of visual stimuli. It was found that the strength of visual traces (SVT), which indicates the productivity of delayed reproduction of letters and numbers, was significantly lower, which indicated a general decrease in the productivity of delayed and direct reproduction, and it showed an indicator of 0.38 in the control group, while this indicator in the main group was 5.14.

Regulation and management of visual and auditory memory ensures the conscious organization of mnestic activities aimed at voluntary memorization and execution of given information. Considering that auditory and visual activities are an important link in the complex hierarchy of functional brain systems, their disorders should be considered together. Based on the data of neuropsychological parameters, we performed statistical processing of the average of three indicators - hearing, vision and total scores (Table 1).

Table 1

Average values of "Luria-90" test in examined children

#	Test parameters	Control group (n=10)	Main group (n=7)
1	Hearing score	6,48	87,17
2	Vision score	3,24	19,12
3	Total score	9,42	95,27

As can be seen from the table, the auditory and visual scores were different in the main and control groups, which indicates the dysfunction of the functional structures of the brain responsible for the implementation of auditory-speech and visual activities in children with SSPE.

Conclusion

There are some difficulties in diagnosing this disease in the early stages of the disease. The diagnosis of SSPE is a very difficult matter, so laboratory examination to confirm any clinical condition is a prerequisite for early diagnosis. Our research has shown that cognitive impairment is significant even in the early stages of the disease. This patient indicates a decrease in the adaptability of functional brain systems in children.

In turn, identifying cognitive disorders and their adequate treatment also facilitates the course of the disease.

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