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CLINIC - LABORATORY CORRELATION SYNDROME "PANDAS"

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ABSTRACT:

Early diagnosis of a number of autoimmune diseases, including those caused by β-hemolytic streptococcus group A and the development of differential diagnostic criteria for PANDAS syndrome, as well as the choice of treatment tactics and the prevention of complications in this pathology, is very relevant.

PANDAS syndrome, in contrast to minor chorea, is characterized by local, easily stopped tics, with debut disease from 5 years to 12 years. The developed differential diagnostic criteria and the algorithm for the diagnosis of PANDAS syndrome will allow timely diagnosis and application of the necessary treatment tactics.

Keywords: PANDAS syndrome, children, healthy, symptoms, Obsessive-compulsive disorders.

PURPOSE OF THE STUDY:

To evaluate the clinical manifestations and laboratory parameters of the PANDAS syndrome in a comparative aspect.

RESEARCH MATERIALS:

89 children aged 6 to 16 with tic hyperkinesis were examined.

The examined clinical groups included 37 children suffering from PANDAS syndrome, 27 children with CNS intoxication and 25 children with chorea minor (ChM). The control group consisted of 20 healthy children matched by sex and age. These children underwent targeted clinical, neurological, laboratory and instrumental examinations.

The diagnosis was made on the basis of the results of clinical and neurophysiological (EEG, computed and magnetic resonance imaging), biochemical and microbiological studies.

Assessment of obsessive-compulsive symptoms according to the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), (Goodman et al. 1989).

RESULTS OF THE STUDY:

Among the PANDAS group, patients with hyperkinesis of the Tourette type prevailed (40.5%), in turn, among children with ChM, patients with chronic simple motor tics predominated (32%), while with CNS intoxication, chronic simple motor tics prevailed. (63%) and chronic simple motor and vocal tics (37%).

According to the anamnesis of the group of children with MC, 52% had chronic infections of the upper respiratory tract and ENT organs, and in the patients of the PANDAS group in 97.3% of cases, in the group of children with CNS intoxication, infections of the upper respiratory tract and ENT organs were observed in 25.9% of cases (7 children). There was no significant difference in the relative

values of the incidence of a chronic focus of infection in the PANDAS and ChM groups.

Obsessive-compulsive disorders occurred in all patients of the PANDAS group (100%). The severity of the score for obsessive-compulsive disorder ranged from 22 (moderate OCD) to 37 (extremely severe obsessive-compulsive disorder); the mean scores of the overall assessment of the severity of OCD on the Y-BOCS scale were 32.4 ± 0.67 points, which corresponds to severe obsessive-compulsive disorder "(Table 1).

Table 1. Frequency of occurrence of "obsessive-compulsive" disorders

Parameters	«PANDAS» (n=37)	ChM (n=25)	CNS intoxication (n = 27)
Average score	32.4 ± 0.67 22-37 points	8.4 ± 2.1 * 8-12 points	0.56 ± 0.22 * ^ 0-3 points
Subclinical condition	0 (0,0%)	8 (36,0%)	0 (0,0%)
Mild OCD	0 (0,0%)	17 (68%)	0 (0,0%)
Moderate OCD	12 (32,4)	0 (0,0%)	0 (0,0%)
Severe OCD	25 (67,9%)	0 (0,0%)	0 (0,0%)

Note: * - reliability of the data for the indicators for "PANDAS"; ^ - reliability of data for indicators with MX (P <0.05)

Among the patients of the ChM group, OCD occurred in 36% of patients (8 children). The severity of the score for obsessive-compulsive disorder ranged from 4 (subclinical course of OCD) to 12 points (mild obsessive-compulsive disorder); the mean scores of the overall assessment of the severity of obsessive-compulsive disorders on the Y-BOCS scale were 8.4 ± 2.1 points, which corresponds to "mild obsessive-compulsive disorder."

Children with CNS intoxication did not have OCD, the average for the group was 0.56 ± 0.22, the variation range ranged from 0 to 3 points (no symptoms).

The severity of obsessive-compulsive disorders could affect the severity of tic hyperkinesis in the PANDAS group of patients (r = 0.578, p≤0.001, which corresponds to a moderate correlation) and, on the contrary, there was no correlation between the severity of tics and the severity of OCD in patients of the MCh group and intoxication CNS (r = 0.201 and r = 0.178, respectively).

As for attention deficit hyperactivity disorder (ADHD), it was diagnosed in 9 patients of the PANDAS group with a predominance of hyperactivity (24.3%), of which 7 were males and 2 were females. The average scores of the general assessment of ADHD according to the SNAP-IV questionnaire in patients of this group were 1.2 ± 0.3 points in terms of inattention, 1.0 ± 0.4 points for impulsivity, and 2.1 ± 0.5 points for hyperactivity. There was no significant correlation between the severity of ADHD and the severity of tics.

In patients with MC, ADHD occurred in 16% (4 children) of cases; of these, 50% had mixed type ADHD (the prevalence of values above the normal range in terms of inattention and hyperactivity - 1.93 points and 2.2 points, respectively) and in 50% of patients - ADHD with a predominance of hyperactivity (the prevalence of values above the normal range according to the indicator of hyperactivity - 1.6 points). Due to the rare occurrence of this comorbid disorder in patients of the ChM group in our study, we did not have the opportunity to assess the correlation between the severity of tics and the severity of ADHD.

In children with CNS intoxication, ADHD was found in 25.9% (7 children).

As mentioned earlier, the PANDAS patient group was formed on the basis of laboratory abnormalities. All children with PANDAS and MX showed an increase in ASL-O values from 400 to 800 IU / L, in children with CNS intoxication, ASL-O values remained normal (up to 200 IU / L) (Table 2).

ASL-O indicators among the surveyed groups:

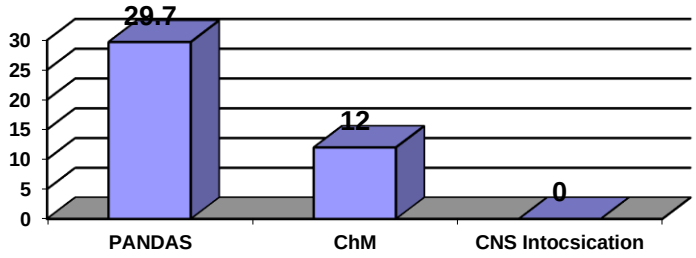

Fig. 1. Frequency of seeding β-hemolytic streptococcus

When interpreting the peripheral blood parameters of the examined children, it was revealed that many parameters had their own characteristics, depending on the examination group.

Children with "PANDAS" have a 3-fold increase in ASL-O indicators against the background of normative indicators of leukocytes, ESR, CRP and RF. In children with ChM, along with 3-fold increased values of ASL-O, there is a significant increase in ESR, CRP and RF. Children with CNS intoxication are characterized by a twofold increase in leukocytes, ESR, CRP, but their ASL-O and RF indicators are within normal limits.

Based on the above mentioned comparative characteristics of the three groups, it can be assumed that the increased level of ASL-O, along with the presence of carriage of BGSHA, could play a "key" role in the development of neuropsychiatric disorders in PANDAS.

CONCLUSIONS:

1. The increased level of ASL-O, along with the presence of carriage of BGSGA, play an important role in the development of neuropsychiatric disorders in "PANDAS".
2. There was established a significant difference in the relative values of the prevalence of obsessive-compulsive disorders, so with "PANDAS" these disorders of varying severity were found in all children with "PANDAS" and varied from 22 (OCD - moderate severity) to 37 points (obsessive - compulsive disorder of extremely severe severity).
3. Attention deficit hyperactivity disorder is diagnosed in 24.3% with PANDAS with a predominance of hyperactivity, with minor chorea, this comorbid state was found in 16%, and with CNS intoxication - in 25.9%.

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