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ASSESSMENT OF THE INTERRELATION OF VARIOUS FACTORS OF INFLUENCE ON CLINICAL, NEUROLOGICAL, INSTRUMENTAL AND PSYCHOEMOTIONAL INDICATORS OF CHILDREN WITH BRONCHIAL ASTHMA

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Abstract:
Bronchial asthma occupies a rather high place among non-communicable diseases of children and adolescents. Thus, the statistical register for recent years has revealed that among children of Uzbekistan under 14 years of age, the prevalence of bronchial asthma is 18.3 and 64.2 (per 100000 children), and among adolescents 23.3 and 92.8 (per 100000 adolescents) respectively, with a tendency to increase by 10-30%.

Keywords: bronchial asthma, children, clinical and neurological indicators.

INTRODUCTION. Everyone knows that hereditary predisposition, environmental pollution, malnutrition, various microorganisms and allergens are the main factors of the causes of asthma. But there is a factor that provokes the disease in children (University of Queensland in Australia) persistent depression in parents, which is reflected by depression in children (14 years of analysis of medical data on more than 3,900 children with asthma), 77% of children and adolescents are more likely to experience asthma attacks, in dysfunctional families, in a family with a financial disadvantage The BA indicator is more 40% (11, 13, 16). According to Zokov B.To. et al. (2022), for the development of asthma, significant elements are (confidence interval greater than 1.0): burdened genealogical history of bronchial asthma, unfavorable course of pregnancy and childbirth (2, 6, 10), perinatal central nervous system damage, frequent bronchopulmonary diseases, the presence of atopic dermatitis (Khudoiberdieva Sh.I., 2023). In foreign scientific studies, emphasis is placed on the frequency and quality of central nervous system disorders and the level of symptoms of AD, the relationship with neuroimmune endocrine non-compliance is traced (Marinih V.V., 2016). Thus, according to the study, it is noted that neurological and psychopathological changes naturally form a vicious circle of the pathogenesis of AD (4, 8), thereby disrupting the adaptive capabilities of the body (3, 7, 9). Consequently, the study of clinical and neurological features and, in parallel, neuropsychiatric disorders in children with AD is very relevant.

The purpose of the study is to study, on the basis of clinical neurological, instrumental methods and neuropsychological testing, the features of the course of bronchial asthma in children.

RESEARCH MATERIALS AND METHODS, the study was conducted from 2022-2024 in the regional hospital of Surkhandarya region - in the children's department, departments of the Children's Multidisciplinary Hospital and the children's department of the Multidisciplinary Clinic of the Samarkand State Medical University. The initial material was children undergoing inpatient and outpatient treatment with a diagnosis of Bronchial asthma (BA), in the number of 63 patients who made up the main group. The patients were examined by a pediatrician, a neurologist and additionally: an ophthalmologist, an otolaryngologist, a dentist, an allergist, a psychologist, where a neuropsychological examination was analyzed separately. The control group included children identical in age and gender, healthy without asthma in the amount of 33. The age of the examined children ranged from 5 to 9 years old, there were fewer boys compared to girls, so boys made up 42, girls 21, respectively. The examination was carried out with the written consent of the parents; the diagnosis of BA was of moderate severity (it was made 1 year before the start of the study); The exclusion criterion was organic diseases of the central nervous system, systemic diseases, and congenital

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malformations. The questionnaire questions are drawn up arbitrarily, the most important of which is the presence of a hereditary predisposition to the disease. So, it turned out that allergies in the anamnesis were observed in parents, from the outside more often, in 25% of cases. In accordance with the tasks set, it was necessary to conduct a survey among parents, determine the quality of the marital status (presence of conflict situations, social conditions, incomplete family, etc.), in this regard, the main contingent of patients was divided into two categories: 1 subgroup (children with BA) 39, dysfunctional family, 2 subgroup (children with BA)24, prosperous family. The next stage in the study is the study of the analysis of clinical, instrumental, and psychological results. The instrumental study included electroencephalographic (EEG), transcranial dopplerography of cerebral vessels (TCDG); psychological testing using questionnaire scales. Statistical indicators were evaluated on an individual computer, with a standard package of deviation criteria used and the Spearman, Mann-Whitney correlation relationship, where p is 0.05.

The result of the study showed that the onset of the disease (the first episode of AD) in the examined children of the main group, it was observed on average at the age of 3 years, and in 1 subgroup it was 2 times more often registered by the second year of life (46% and 20%, respectively; $p<0.005$).Thus, children with early onset of asthma were identified in subgroup 1, who subsequently had a characteristic relapse. The result of the examination (according to anamnesis) showed the frequency of exacerbations in children of the main subgroups, where more than 50% of the exacerbation is associated with the common cold factor (ARVI), while in 1 subgroup the frequency was 17% higher compared with 2 subgroups. The next most important trigger factor was stress, against the background of conflict situations in the family (parental divorce, family conflicts), where 66% was in the 1st subgroup, and 2% in the 2nd subgroup. From the neurological status, functional abnormalities (without organic damage) were noted in children with BA, while partial changes on the part of (17.5%) coordination, minor deviations on the part of the PMN (16.9%, in the form of a violation of convergence, slight coherence of the nasolabial fold), in the majority (90%) had there is a violation on the part of the emotional and behavioral sphere. A frequent complaint made by children with asthma themselves for headache, weakness, dizziness, feelings of fear and anxiety. The result of the study of the instrumental indicator on electroencephalography, in 1 subgroup of examined children with asthma, revealed epileptiform (convulsive) activity in 0.5% of cases. Diffuse changes in the bioelectric activity of the brain of varying degrees of severity were revealed in the general sample of the main subgroups on the EEG. It should be noted that in cases of an increase (aggravation) of the severity of AD, it affected the EEG indicators, with the involvement of the mid-stem structures of the brain, in the form of a decrease in functional activity, and a sharpened background rhythm. The assessment of cerebral hemodynamics was carried out by the TCDG method, in children of subgroup 1, the value of hemodynamic parameters on average did not significantly differ from children of subgroup 2 in comparison. In both main subgroups, there was a decrease in peripheral vascular resistance in the posterior cerebral artery system, at the same time, the result of monitoring intracranial venous outflow revealed the presence of venous violation of venous outflow, only in 1 subgroup in 9%; $p= 0.05$. An important element of hemodynamic control is to take into account the presence of asymmetry of blood flow along the main cerebral arteries on both sides, where 20% is considered pronounced asymmetry according to SMA and PMA, and 15% according to ZMA. Thus, in children of subgroup 1, there was an asymmetry of cerebral blood flow in 5 children, more often in one, less often in several arteries, this fact was higher than in subgroup 2 (where $P <0.005$). A comparative analysis of cerebral arterial blood flow data between subgroups of children of the main group revealed the presence of an indicator of the middle cerebral artery: linearly systolic, diastolic and the average blood flow rate is higher in children in subgroup 1.

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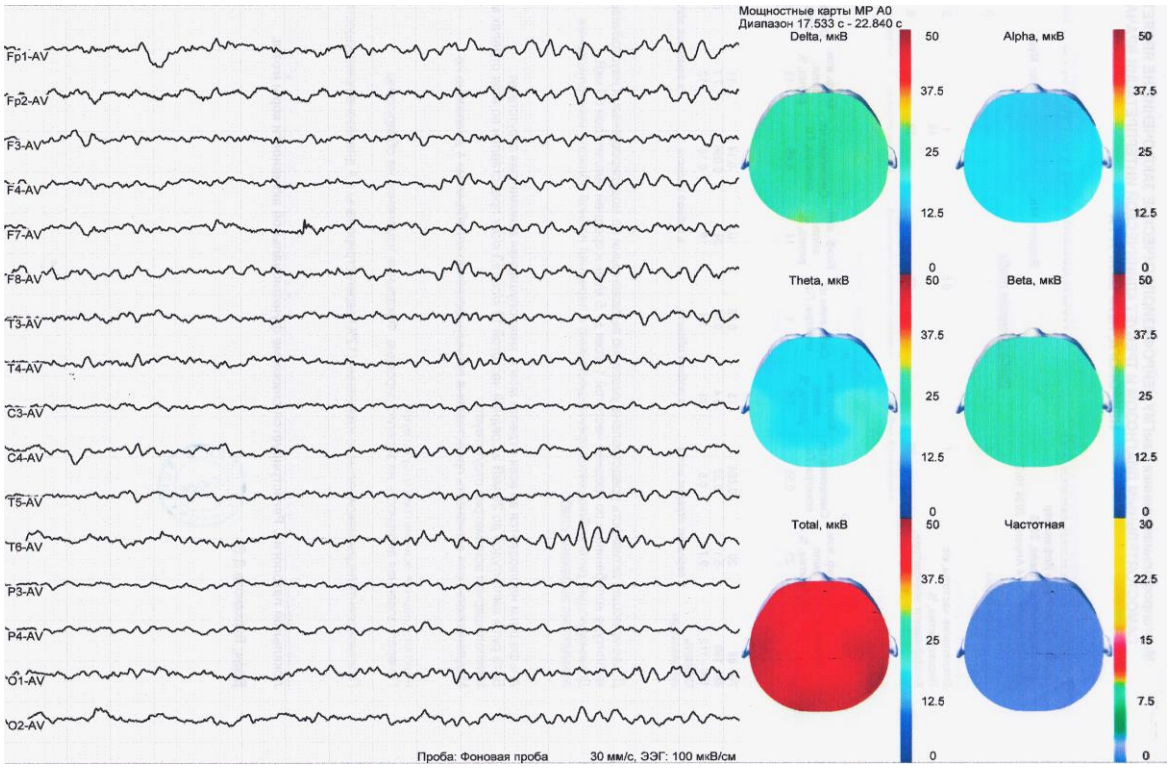

Fig. 1. Patient B., 9 years old. Moderate diffuse EEG changes without signs of local changes are registered. Decrease in functional activity of the cerebral cortex is registered.

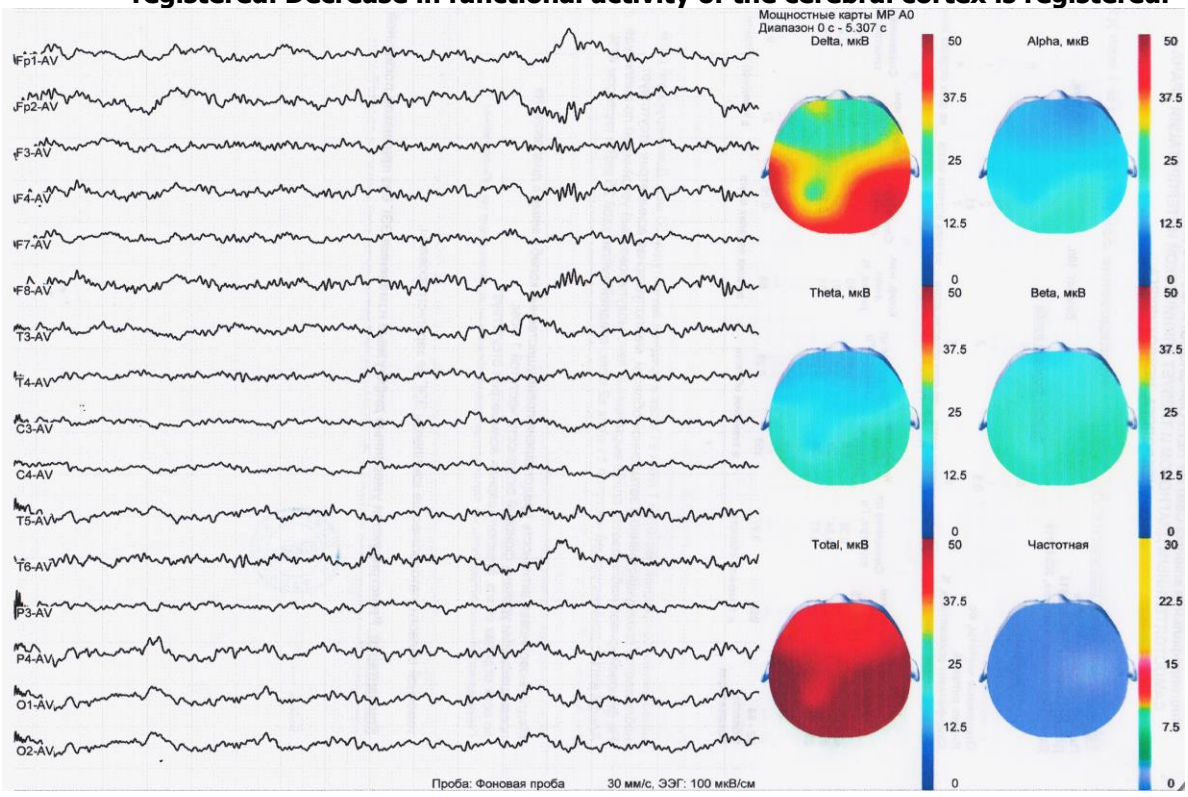

Fig. 2. Patient B., 7 years old, moderate diffuse EEG changes without signs of localisation are registered

As previously noted, the analysis of the psychoemotional state of patients was one of the objectives of the study. The result was evaluated using evaluation scales- questionnaires. In the general sample of patients of the entire main group, compared with the healthy control group, changes on the part of children with asthma were reflected in the form of a significant increase in the profile according to the

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following indicators: excitability, impatience, stubbornness, capriciousness, tearfulness, resentment. As a result, all these signs are parallel to an increase in anxiety levels, and this in turn leads to social maladaptation of patients. The result of the comparison between subgroups (1-2) indicates a significant difference in all psychoemotional situations, with a high level on the part of subgroup 1, this suggests that children living in families with instability have expressed behavioral disorders, this fact strengthens and creates a vicious circle for the progression of signs of AD. To determine personal and situational anxiety, the Spielberg - Khanin test was used to determine the "quality of life" using the scale (official Russian version) Pediatric Asthma Quality of Life Questionnaire (PAQLQ). It should be noted that with the general control of the children of the main group, the relationship between the results of personal and situational anxiety was revealed, and the correlation of the two indicators was noted. However, when comparing the results in the subgroups, in the 1st subgroup the level of personal anxiety was within 48.9± 3.0, at the same time in the 2nd subgroup 41.5± 2.5. The level of situational anxiety, when analyzing the questionnaire data, had indicators in 1 subgroup 38.0±3.0, and in 2 subgroups 28.0±2.0, respectively. The indicators of "quality of life" follow directly proportional to the indicators of the level of anxiety, and had a correspondence, so in the 1st subgroup on the PAQLQ scale, the level of indicators corresponded to 4.6 ± 0.05, in the 2nd subgroup it was within 5.5 ± 0.1.

Analysis of the result of the psycho-emotional state at the time of the initial examination of children of the main group

	Signs of psycho-emotional state	1 subgroup (n=39)	Subgroup 2 (n=24)	p
1	Excitability	3,0±0,1	1,5±0,5	0,001
2	Capriciousness	2,5±0,9	1,5±0,5	0,005
3	Weepiness	1,7±0,8	1,5±0,6	0,005
4	Offensiveness	2,9±0,6	1,7±0,5	0,001
5	Stubbornness	2,9±0,8	2,0±0,5	0,005
6	Rudeness	0,5±0,7	0,1±0,1	0,005
7	Narcissism	1,08±0,9	1,5±0,9	0,005
8	Aggression	1,3±0,1	0,5±0,5	0,005
9	Intolerance	3,0±0,9	2,0±0,5	0,005
10	Hostility	0,5±0,5	0,1±0,2	0,005

CONCLUSIONS: Thus, children with asthma have an individual psychological feature related to the nature of the disease, the severity of the disease, the specifics of the lifestyle, while the psychoemotional state may be aggravated by the fact that children are in what environment, and if the situation in the family is not stable, frequent conflicts, parents are depressed (divorce), the level of social indicator is low, then in children this fact is displayed in the form of special emotional changes, which in turn exacerbates the severity of the underlying disease as a vicious circle. Based on the indicators of the study, the role of conflict between parents is noted, which is reflected in the dynamics of the consequences for the health of children with asthma and quality of life, which reflects a deterioration, aggravation and decrease in improvement from the initial state compared with the same children with asthma who do not have a problem of conflicts in the family.

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