

The Role of Comorbidity in the Development of Affective Respiratory Paroxysms in Children

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Abstract: Non-epileptic paroxysmal states (NEPS) are clinical disorders that usually occur suddenly, short-term brain dysfunction for various reasons with a general non-epileptic character. Non-epileptic paroxysmal states are more common than epileptic ones. NEPS can be confused with epileptic seizures. These states manifest themselves through trembling, stereotypical movements in wakefulness, or difficult-to-explain states in sleep. These phenomena are difficult to diagnose unambiguously as normal, pathological or adaptive. These conditions are currently defined as paroxysms (Paroxysm, (special and book). Sudden and severe attack (illness, feelings). (Explanatory dictionary edited by S.I.Ojegova and N.Yu.Shvedova).

Keywords: non-epileptic paroxysms affective-respiratory paroxysm, obstetric and gynecological factors perinatal CNS lesion.

Modern epidemiological studies show that in the first year of life epilepsy occurs in 50-200 cases out of 100,000 children, non-epileptic phenomena in this cohort reach 60-70% [2].

Non-epileptic paroxysms are very difficult to distinguish from epileptic seizures. Because clinical and neurological signs of NEPS are also observed in epileptic seizures. At the first assessment, it is impossible to differentiate an epileptic phenomenon from a non-epileptic one. It is also possible that individual children will have more than one phenomenon. The correct approach to diagnosis is a thorough anamnesis and examination, and this will give the result in most cases an accurate solution to the problem. Periodic monitoring will give the clinician enough opportunities to collect extensive clinical data about the object in question. Due to differences in age and maturity, or the presence of additional underlying neurological disorders, there is often a lack of additional information or descriptive embellishments. In some ways, this allows you to observe what is happening more clearly. However, in these circumstances, much of what we are trying to answer during a conversation with the patient and an individual description of symptoms may remain unanswered or misinterpreted. The recognition of an erroneous diagnosis, especially of epilepsy, in these population groups (infants, young children and children with neurological disorders) may be significant [1;3]. An even more important concept is that there may be ambiguity and clinical uncertainty for any particular diagnosis of epilepsy or non-epileptic seizure [4;5;8]. An erroneous diagnosis of epilepsy is recognized all over the world and may be more problematic if it was made by non-specialists. In some population studies, it was found that the ratio of erroneous diagnosis to correct diagnosis reaches 3:1.28. It is reported that the "uncertain" diagnostic category ranges from 0% to 24% [5].

At least seven major studies have been conducted in which these problems have been identified [1]. The initial diagnosis of epilepsy, after referral to specialists, specific non-epileptic paroxysmal disorders were detected in 16-33% of the subjects studied [6].

Several population-based studies have made it possible to better understand the frequency of misdiagnosis of epilepsy and data on the prevalence of non-epileptic paroxysmal phenomena [7]. The general condition of the patient is the main category of clinical medicine. The founder of the "Development of Neurology" H.F. R. Precht (2017) believes that the determination of the state of the

nervous system in accordance with the requirements of the sequence of neurological examinations is an important component of the examination. This is especially true of the developing child's body, and assessing their condition in such children is not an easy task due to the presence of poorly differentiable and difficult to interpret phenomena in children of this age [8].

Often observed non-epileptic paroxysmal states in young children are affective respiratory paroxysms (ARP), manifested by involuntary apnea with a short-term violation of consciousness and motor activity on the provoking factor. In modern practice, ARP leads to an incorrect diagnosis of epilepsy due to similar paroxysmal conditions (loss of consciousness, apnea, cyanosis, sometimes the presence of tonic and convulsive spasms). It should be noted that ARPS occur not only in healthy children, they can occur with organic lesions of the central nervous system or with epilepsy, which presents certain difficulties in differential diagnosis [8].

The purpose of the study to identify the role of premorbid factors in the development of affective-respiratory paroxysms in young children.

Research methods. Based on the objectives of the study, a clinical examination of 103 sick children with affective-respiratory paroxysms aged from three months to three years was conducted. All patients underwent inpatient and outpatient treatment at the clinic of the Tashkent Pediatric Medical Institute in 2019-2022.

Children were included in the main group according to the following criteria; children under the age of 3, paroxysmal disorders of consciousness, the presence of a non-epileptic seizure, parental consent to continue the examination and conduct a psychological test.

The following criteria were not included in the examination; congenital brain defects; hereditary metabolic disorders (cystic fibrosis), chromosomal and autoimmune diseases.

The control group consisted of 20 "conditionally healthy" children. The children of the control group were examined by a pediatrician as part of a standard examination during outpatient follow-up.

Among the necessary conditions for the inclusion of children in the control group is the absence of a delay in the physical and psychomotor development of the child (PMR), the absence of registration with a neurologist with neurological diseases in the first year of life, the successful course of pregnancy and childbirth in anamnesis, satisfactory condition at birth, the child's assessment on the Apgar scale should be at least 7-9 points, nervous-the mental state and physical development should correspond to the age and during the examination parents should not complain about the pathology of the nervous system

The age characteristics in the compared groups were comparable.

The average age of the main group of children was 13.3 ± 7.2 months, in the control group 20.9 ± 6.4 months, of which 54 children under the age of 12 months; 30 children under the age of 13-24 months; children under the age of 25-36 months - 19 children. In the main group, boys 69 (66.9%) prevailed over girls 34 (33.0%) (sex ratio 2:1).

The study examined in detail the anamnesis data of each child, regardless of his group, and also analyzed in detail the hereditary, family and social anamnesis transmitted by the parents and relatives of patients.

We divided risk factors into 3 subgroups to assess the impact on the development of ARP: 1) obstetric and gynecological anamnesis data; 2) neonatal period data; 3) sociobiological factors.

The results of a study. To achieve the goals set in the research work, 103 children with ARP were examined. By gender, they were distributed as follows: 66.9% boys and 33.0% girls.

As part of the study, an "Individual Patient card" was developed containing a retrospective clinical part (including the antenatal period, the newborn period, information about preventive vaccinations, past illnesses and social history) and a prospective clinical part for assessing and studying risk factors for the development of the disease in children, as well as the clinical picture of the disease.

A detailed study of obstetric and gynecological anamnesis, neonatal period data and socio-biological factors affecting the development of ARP was carried out.

When analyzing the data of obstetric and gynecological anamnesis, pregnancy in women in 85.4% of cases occurred against the background of genital and extragenital pathology. Of the most common pathologies, iron deficiency anemia during pregnancy (85.4%), toxicosis during pregnancy (56.3%), risk of termination of pregnancy (25.2%), pathological course of pregnancy (44.6%), spontaneous abortion in the anamnesis (34.9%), infectious and inflammatory diseases of the mother during pregnancy (28.1%), maternal cardiovascular disease (7.8%) and exacerbation of chronic nasopharyngeal infection (14.5%). A percentage study of obstetric and gynecological anamnesis in the study shows that ideal pregnancy and childbirth were very rare.

When analyzing the birth status of the examined children with the help of individual medical records, the following clinical cases were identified: 44 (42.7%) children were born in a satisfactory condition, 51 (49.5%) children were born in a moderate condition and 5 (4.9%) children were born in a serious condition. When analyzing the gestational age of children, the following was revealed: 73 (71%) children were full-term, 27 (26.2) children were premature and 3 (2.9%) children were transferred.

In the development of ARP, the role of indicators evaluated on the Apgar scale in the first 5 minutes was analyzed. At the same time, in 49 children of the main group, the Apgar scale was 7-8 points, in 47 children 5-6 points (mild asphyxia), and in 4 children - 3-4 points (average level of asphyxia), which reflected the degree to which hypoxia of the infants' brain was in the first minutes.

When studying the neonatal period (the condition of the child during the newborn period), 85% of children had perinatal CNS damage of hypoxic genesis (in the form of cerebral excitability syndrome, cerebral depression syndrome, motor dystonia syndrome, vegeto-visceral disorders syndrome and cerebrovascular distension syndrome), 25% had intrauterine dystrophy (hypotrophy), 28% had perinatal (intrauterine) infection and 8% had jaundice before 1 month.

Conclusions. Revealed premorbid factors (obstetric and gynecological burden (85.4%), the consequence of perinatal CNS lesion (85%) in the pathogenesis of affective respiratory paroxysms. Transferred perinatal hypoxia in combination with burdened heredity predisposes to an earlier onset of the disease. The task of practical healthcare is the prevention of perinatal pathology, timely diagnosis, treatment and prevention of possible long-term consequences.

Reference list

1. Carman KB, Ekici A, Yimenicioglu S, Arslantas D, Yakut A. Breath holding spells: point prevalence and associated factors among Turkish children. //Pediatr Int. 2013 Jun;55(3):328-31. doi: 10.1111/ped.12090.
2. Dai AI, Demiryürek AT. Effectiveness Oral Theophylline, Piracetam, and Iron Treatments in Children With Simple Breath-Holding Spells. J Child Neurol. 2020 Jan;35(1):25-30. doi: 10.1177/0883073819871854.
3. Di Mario F. Prospective study of children with cyanotic and pallid breath-holding spells //Pediatrics. -2001.-Vol.107.- P.265-269.
4. Donma M. Clinical efficacy of piracetam in treatment of breath-holding spells //Pediatric neurology. – 1998. - Vol.18. - P. 41-45.
5. FRANCIS J. DIMARIO, JR., MD. Non-Epileptic Childhood Paroxysmal Disorders. Oxford University Press, Inc., publishes works that further Oxford University's objective of excellence in research, scholarship, and education. 2009; 39-40.
6. Gonzalez Corcia MC, Bottosso A, Loeckx I, Mascart F, Dembour G, François G. Efficacy of treatment with belladonna in children with severe pallid breath-holding spells Cardiol Young. 2018 Jul;28(7):922-927. doi: 10.1017/S1047951118000458.

7. Huang LL, Wang YY, Liu LY, Tang HP, Zhang MN, Ma SF, Zou LP. Home Videos as a Cost-Effective Tool for the Diagnosis of Paroxysmal Events in Infants:Prospective Study. *JMIR Mhealth Uhealth*. 2019 Sep 12;7(9):e11229. doi:10.2196/11229.
8. Madjidova Yakuthon Nabievna, Babadjanova Umida Tadjimuratovna, Abdullayeva Vasila Karimovna, Yunusova Rano Tulkinovna , Khushmurodova Mehrgiyo Allayarovna.// Erythrocyte And Plasma Markers Of The Oxidative System In Children With Affective Respiratory Paroxysms. (2022). *Journal of Pharmaceutical Negative Results*, 4182-4185.