somatic diseases pathogenesis, FSBSO Research Institute of Experimental and Clinical Medicine; 630117, Novosibirsk, Timakova 2; E-mail: mim07@mail.ru; Phone: mob. 89139104936.

Nikolaev Yuriy Alekseevich, MD, Chief scientist, acting deputy director for research and clinical work, leader of the laboratory of somatic diseases pathogenesis, FSBSO Research Institute of Experimental and Clinical Medicine, 630117, Novosibirsk, Timakova 2; E-mail: *nicol@centercem.ru;* Phone: +7 (383) 334-83-12. mob. 89039048746.

T.I. Ryabichenko, G.A. Skosyreva, E.P. Timofeeva, Yu.V. Kulakova, T.G. Kos'yanova, Yu.N. Patrusheva

FEATURES OF THE CENTRAL NERVOUS SYSTEM PATHOLOGY IN CHILDREN AND ADOLESCENTS OF THE MIRNYJ REGION THE REPUBLIC SAKHA (YAKUTIA)

ABSTRACT

We present results of an analysis of chronic diseases of the central nervous system in children and adolescents in the region of Mirnyj in Yakutia. The pathology of the nervous system of the underlying disease was 34.8%. A high percentage of CNS pathology in children from an early age indicates that it is a consequence of undergoing intrauterine hypoxia on the background of the pathological course of pregnancy.

Keywords: central nervous system, children, adolescents.

INTRODUCTION

The document " The national strategy of actions in the interests of children for years 2012 - 2017 " determines the measures on development of healthy way of life, realization of monitoring of the life's quality of children, including emotional, communicative and psychosomatic components, the warning of emergence and/or distribution of diseases, early detection, involving of the health care technologies, effective organizing and medical technologies, technologies of complex diagnosis and early medical-and-social help to the children with rejections in development and health [5]. The state of health of children's population today is one of main directions of social politics in our country. The importance of realization of this statue is determined by the following: the health of children largely is the integral indicator of the health quality, the fundamental basis for the formation of the health potential of adult members of society, because the number of population able to work is being reduced. The analysis of child morbidity according to the official statistics in 2006-2015 testifies that the children's health continues to deteriorate [1, 4]. During the last five years the frequency of the pathology of diseases of the nervous system is increased significantly [1, 2]. Depending on the number (specific weight in population) of children with damage of central nervous system, with disabilities in intellect and behavior, the intellectual potential of the future society is being defined [1,3,4].

Study purpose: to analyze the frequency of pathology of the Central nervous system being occurred at children and adolescents in region Mirnyj (Yakutia).

MATERIALS AND METHODS

In the special children's hospital departments in Novosibirsk 2875 children living in region Mirnyj (Yakutia) in age of 1 month up to 17 years are examined and treated. The research was performed in compliance with consent of children and their parents and with the permission of the Committee of Ethics, in accordance with the standards of ethics of the Helsinki Accord (adopted at the 59th WMA General Assembly, Seoul, 2008). The research was carried out under the contract with the Ltd Society "ALROSA" for the period from 1993 till 2015.

The complex examination of children included: complaints, data of anamnesis, date of survey of parents and children, the study of personal medical records, physical examination, results of EEG, REG, M-ECHO of brain, MRT of brain, X-ray of skulls in two projections , X-ray of cervical spine with functional tests, assessment of ocular fundus, ECG, ECHO - KG, ultrasound examination of abdominal organs, ultrasound examination of pelvic organs, assessment of the vegetative nervous system, assessment of the conjunctive tissue. Along with the above mentioned complex study the specific examinations were performed in compliance with the each type of pathology. The psychometric study included the questionnaires of children and their parents with the use of validated Russian versions of several questionnaires (assessment of personal, social, psychological, mental health and quality of life).

The verification of the clinical diagnosis was carried out on the base of the results of the patients' assessment. According to the standardized classification of ICD - X revision the primary and associated diseases were diagnosed to each child. The underlying disease was accepted as that one, which is characterized by the most serious changes of any system and might result in chronic illness and disability of the child. The statistical software package "Statistica 6" was used for the statistical processing of the study results.

RESULTS AND DISCUSSION

2 875 people in age of 1 month till 18 years were surveyed and treated in specialized departments of the children's clinics in Novosibirsk during the period of 1993-2015.

All the children were accepted after the selection at the place of residence. The children of town Mirnyj accounted for 72.2%, of the Mirnyj's villages (Udachny, Aikhal, Arylakh, Chernyshevsky, Almazny, Svetly, etc.) - for 27.8 percent. The analysis of the distribution of children as to the social status of parents showed that children of employees in the Mirnyj region is accounted for 58.9%, children of workmen 41.1, the majority of children living in the Mirnyj's villages – they are children of workmen

(66.4%).

According to the age aspect the vast majority are children of the first 7 years of life (57.3%). Basic information about development of child was stated, as well as his diseases and treatment of diseases. The dynamic analysis showed that more than 2/3 of children were previously treated at the place of residence, and 22% of children were examined and treated for the first time. Among the children who were placed into the hospitals in Novosibirsk boys prevailed (1579 boys and 1296 girls). Notable is the fact that, since 2000 the number of teenagers has increased till 38.6 % of the total number.

In the structure of diseases according to classification ICD-X for the period from 1993 till 2015 the following structure of diseases is noted: pathology of - CNS- 34,8%, pathology of blood - 1,9, diseases of endocrine system - 3.2, of the organs of vision – 1, diseases of the cardiovascular system - 8.9, of respiratory system - 17,1, of gastrointestinal tract 6.7, of urinary tract - 20,5%, etc.

The pathology of CNS as the underlying disease was frequently observed consistently in all the years of the contract. But beginning from 2007 till 2015 the percentage of children with the underlying CNS diseases declined slightly and remained stable in the range 21.6% -20.6 percent in 2015.

At the examination of children the high proportions make comorbidities. The analysis showed that most children, in addition to the underlying disease, had concomitant illnesses: without comorbidities - 17.3%, with 1 additional disease - 16,0, with 2 diseases 18.6, with 3-4 diseases 30.6, with 4 diseases or more 17.3% of children. It was revealed that more than half of children had 2 or more comorbidities. The analysis showed that at children with CNS pathology the most frequent concomitant diseases were: pathology of the digestive system, chronic infections of the nasopharynx, vascular dystonia and connective tissue dysplasia (in 50, 0 %, 25, 0, 25,0% of children respectively).

At children of early age (0 - 3 years) the CNS pathology was noted in 31.2 percent, the chronic forms were at 80 % of children. The data history shows that more than 84.2 percent of the cases the CNS pathology was a consequence of intrauterine hypoxia on the background of pathological course of pregnancy. Such adverse background of childbirth was also preceded with complication that together with hypoxia promoted the trauma in childbirth. The following syndromes are identified: cerebral palsy of shield (CP), hypertension&hydrocephalic syndrome, hyperosmolality, giovanbattista, minimal brain dysfunction, cerebrasthenic syndrome, delay in speech development. In addition, in 1 case we observed a giant cyst of the parietal-occipital region, as well as an arachnoid cyst in the left temporal region. We also identified 1 case of polyneuropathy, infectious-and-allergic genesis with a slight lower peripheral paresis.

Cerebral palsy is motor impairment at children with sequelae of perinatal brain lesions that include: dystonic attack, hyperkinesis, increased pastanesi reflexes. In the neurological status were observed: the increase or decrease of muscle tone, hyperreflexia, developmental delay, oculomotor symptoms. MRT revealed cortic-subcortical atrophy, periventricular leucomalacia [2, 4].

At children of 4-7 years the CNS disease was observed in 18,7% of children, the chronic diseases were observed in all children. We marked hypertension-hydrocephalic syndrome, delayed psycho-motor and neuro-psychological development, episyndrome, syndrome similar to autism, cerebral palsy, disorder of attention deficit and hyperactivity disorder (ADHD). Early brain damage in most cases manifests itself in future in varying degrees of impaired development. With age in the absence of adequate assistance gradually impairments will be fixed and the complex pathology will be formed.

The manifestations of ADHD can lead to family conflicts, poor relationships with peers, impaired social and school adaptation, difficulties in learning, reduced performance, accidents and injuries, smoking, substance abuse (drug addiction, drug abuse), delinquency, antisocial behavior, thereby exerting a negative impact on all spheres of life of the patient. Symptoms of ADHD can persist in adults, that leads to difficulties at work, low self-esteem, problems in family life, alcohol abuse, substance abuse, criminal behavior [2- 4].

Autism is a complex disorder of mental development, requiring interdisciplinary approach, interaction and understanding of doctors of various specialties. Formally, from the neurologist's point of view, such a child is truly neurologically healthy [2-4].

In 8-12 years children the CNS pathology was noted in 12,5% in the form of epilepsy, hypertension-and-hydrocephalic syndrome, cerebro-asthenic syndrome with cervical insufficiency, minimal brain dysfunction with cephalgias syndrome, hyperactivity syndrome, dyslexia, delayed behavioral development, bedwetting, asteno-neurotic syndrome , syndrome of vegetative-vascular dysfunction with paroxysmal states. There was revealed also a cyst in the temporal region, coarse organic lesion of CNS on the background of congenital abnormalities of the brain. Thus, CNS pathology is also characterized by chronic lesions.

In the age group of children of 13-17 years the CNS pathology was at 37.5%. These were children with vegetative-vascular dystonia of puberty period of the mixed type, asthenic-neurotic, cephalgias and cerebro-asthenic syndromes. In addition, idiopathic epilepsy, infantile autism, microadenoma of the pituitary gland, neuropathy, a variant of Charcot-Marie of the 3rd type, Wakea syndrome were diagnosed.

The CNS pathology in the form of a concomitant disease was noted in 46.6% of children. 15,6% of children are classified as having chronic disease in the form of residual manifestations of perinatal encephalopathy with hypertension-and-hydrocephalic syndrome, syndrome of hyperactivity. The CNS pathology in other children was attributed to the group of functional disorders (asthenic-neurotic syndrome, minimal brain dysfunction, increased neuro-reflex excitability).

All the children in the hospital received comprehensive therapy with nootropics, cerebrolysin, actovegin, symptomatic anticonvulsant therapy, vitamins B and other medications. In the treatment of children, where the CNS pathology was as comorbidity, the complex of treatment included all the therapeutics stated above. All children were discharged from hospital with improvement, and with recommendations for parents and for professionals at the place of residence.

CONCLUSION

High percentage of CNS pathology in children beginning from early age indicates that it is a consequence of the intrauterine hypoxia on the background of pathological course of pregnancy. At a such adverse background the childbirth is also proceeded with complication that contributed to the trauma of the child during his birth. Thus, hypoxic-traumatic perinatal encephalopathy is the main cause of pathology in children of all age groups. The data received by us are consistent with the results of other authors. This suggests that the basis of prevention from CNS pathology should be health improvement of women in their reproductive age. Timely detection and treatment of disease of children from the

newborn period will reduce the number of chronic forms and disability in older children.

REFERENCES

1. Galaktionova M.Ju. Osadciva E.A. Perinatal'nye porazhenija nervnoj sistemy u detej i ih posledstvija: podhody k terapii [Perinatal lesions of the nervous system in children and their implications: approaches to therapy] Voprosy prakticheskoj pediatrii [Questions of practical pediatrii]. 2013, №2, pp. 23-29.

2. Prihod'ko O.G. Perinatal'naja patologija central'noj nervnoj sistemy u detej [Perinatal pathology of the central nervous system in children] Spec. Obrazovanie [Special. Education]. 2010, №1, pp.92-98.

3. Klimenko T.M. Tarasova I.V. Kasjan S.N. Perinatal'noe gipoksicheskoe porazhenie central'noj nervnoj sistemy: sovremennyj vzgljad na problemu [Perinatal hypoxic lesion of the central nervous system: a modern view on the problem] Voprosy prakticheskoj pediatrii [Problems of practical pediatrii]. 2013, №4, pp.40-45.

4. Sostojanie i problemy zdorov'ja podrostkov Rossii [Status and Problems of Health Russian teen] Baranov A.A. Namazova-Baranova L.S. Al'bickij V.Ju. Terleckaja R.N. Antonova E.V. Problemy soc.gigieny v zdravoohranenii i istorii mediciny [Sots.gigieny problems in health and medical history]. 2014, № 6, pp.10-14.

5. Ukaz Prezidenta Rossijskoj Federacii ot 1 ijunja 2012 g. № 761[Presidential Decree of Russian Federation] June 1, 2012, № 761.

Information about the authors:

1. Ryabichenko T. I. - doctor of Medical Sciences, Professor, a leading researcher at the laboratory of reproduction immunology Novosibirsk Center for Clinical and Experimental Medicine, Siberian Branch of Russian Academy of Medical Sciences ("NIIEM"), Professor of the Department of propaedeutics of children's diseases Novosibirsk State Medical University of Minzdrav of Russia.

630108, Novosibirsk. 1st lane Parkhomenko D str., 6, sq. 9, 2925871, e-mail:2925871@mail.ru

2. Skosyreva G. A. - doctor of Medical Sciences, a senior Research Laboratory of reproduction immunology Novosibirsk Center for Clinical and Experimental Medicine, Siberian Branch of Russian Academy of Medical Sciences, 630049, Novosibirsk, D. Kovalchuk str., 260/1, sq. 69, e-mail: skosyreva43@mail.ru

3. Timofeeva E.P. - candidat of Medical Sciences, assistant professor, Department of propaedeutics of children's diseases Novosibirsk State Medical University of Minzdrav of Russia, 630063, Novosibirsk, Chekhov str., 254, sq. 5, e-mail: timofeevae.p@mail.ru

4. Kulakova Y.V. - Director of the medical center of AK "ALROSA" (JSC), Mirnyj, Lenina str., 4. The Republic Sakha (Yakutia).

5. Kosyanova T. G. - Junior researcher "NIIEM", Novosibirsk, Petukhova str. 144, sq. 81, e-mail: 2925871@mail.ru

6. Patrusheva Y. N.- graduate student "NIIEM", Novosibirsk, D. Davidov str., 6, sq. 10, e-mail: 2925871@mail.ru.

E.N. Verkhoturova, A.S. Golderova

GASTROESOPHAGEAL REFLUX DISEASE COMPLICATED BY BARRETT'S ESOPHAGUS (AT THE EXAMPLE OF THE MEDICAL UNIT HEALTH OF THE MINISTRY OF INTERNAL AFFAIRS OF THE RF ON RS (Y))

ABSTRACT

The article presents the data of endoscopic examination of patients of the Medical unit the Health Ministry of Internal Affairs of the RF in the RS (Y) with a diagnosis gastroesophageal reflux disease and its complicated forms. We compared the chromoezophagoscopy data with the results of histological examination of biopsy samples. We analyzed risk factors frequency of patients with a verified diagnosis Barrett's esophagus.

Keywords: gastroesophageal reflux disease, Barrett's esophagus, chromoezophagoscopy.

INTRODUCTION

The gastroesophageal reflux disease (GERD) is the topical issue of the gastroenterology as well as the internal medicine. This disease is characterized by inflammatory processes in the mucosa of the distal part of the esophagus and/or specific clinical symptoms caused by frequent passage of gastric and/or duodenal contents into the esophagus.

The actual prevalence of GERD remains unestablished, that caused by big variety of clinical symptoms. According to the researches in Europe and the USA, 20-25% of the population has the clinical symptoms of GERD and 7% have these ones every day. In the presence of the general medical practice, 25-40% of the patients diagnosed with GERD have the esophagitis that based on endoscopic data, but most people with GERD don't have endoscopic symptoms.

The actual prevalence of GERD is notably higher than its statistics data, considering that among other things as few as 1/3 people with GERD seek medical advice. According to the data of the FGHI «Medical room of the Interior Ministry of the Russian Federation for the Novosibirsk region» among 630 officers, having visited the military-medical commission in 2002-2009, GERD was diagnosed among 256 officers (40,6%).

Some separate researches on clinical-morphofunctional characteristics of GERD in various age and ethnic groups of the population were done in Yakutia [1, 3, 9]. Meanwhile, the symptoms of the complicated forms of the GERDwere under-investigated among our population.