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THE SOFTWARE SCORING OF THE PULMONARY ARTERY THROMBOEMBOLISM RISK IN ONCOLOGY

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Abstract The problem of the thromboembolism of the pulmonary artery (TEPA) is still not solved and quite urgent especially for patients with malignant tumors. The risk of TEPA at this patients' rank is about 10-40% and 10% with lethal outcome without adequate prophylaxis. The TEPA prophylaxis is based on the stratification of the risk level that is subsequently depends on quality and quantity of the risk factors for every case personally.

Key words: thromboembolism of the pulmonary artery, risk, oncology, colorectal cancer, software

Objective To optimize the program of the thromboembolic complications for the patients with oncological disease of colorectal localization.

Materials and methods To gain the purpose we created and registered the software for TEPA risk calculation (The certificate of Russian state software registration for IBM N2015619184, 26.08.2015). This software gives us ability to calculate the risk factors of the TEPA for every patient personally and after all to get standard scheme of the TEPA prophylaxis and treatment personally with considering of patient's weight and age.

Results and discussion The retrospective analysis of the colorectal cancer cases (n=41) were made. We found these TEPA risk factors: the age of 61-80 years in 67%, obesity – 45%, heart diseases – 33%, the surgical intervention duration more than 1 hour – 75%, varicose disease of the legs – 45%. The combination of the 2 risk factors was found in 20% and 3 risk factors in more than 62,5%. Thus, the high risk of TEPA (IIC, IIIA, B, C by Samama, 1999) was no less than in 17,5% cases with the risk of TEPA in 5 – 10%, and lethal TEPA in 1 – 5%. The patients with high risk of TEPA must pass through active methods of TEPA prophylaxis such as pharmocotherapy.

Thus, our software gives ability to doctors of every specialty to calculate the risk of the thromboembolic complications with mathematical accuracy and objectively get personified program of TEPA prophylaxis and treatment by actual national recommendations with considering the patients' weight and age. This is especially actual for the medical institutions without cardiovascular surgeons in stuff who are responsible for TEPA stratification in routine conditions.

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RESULTS OF IMMUNOFERMAL ANALYSIS IN CHILDREN RELATING TO THE GROUP OF FREQUENT PATIENTS

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Key words: often ill children, TORCH infections, enzyme immunoassay.

Summary: Children who are prone to frequent acute respiratory infections (ARI) are often called sick. Frequent ARI can lead to disruption of the physical and neuropsychological development of children. One of the reasons is the presence of a TORCH infection in a child. For the diagnosis of TORCH infections, the enzyme immunoassay is used to determine the levels of the Ig classes of IgM and IgG that appear at different stages of the immune response and are in the blood at different times. The article reflects the results of analysis of 50 case histories of children

receiving treatment in the day hospital department of the Blagoveshchensk State Children's Clinical Hospital.

Urgency: Children who are prone to frequent acute respiratory infections are often called sick (FBS), in different age groups they account for 20 45% of the total number of children. Frequent ORI can lead to disruption of the physical and neuro-psychological development of children, contribute to a decrease in immunity, the formation of chronic inflammatory processes in respiratory organs [1,3,4]. A child is entitled to be attributed to this group in cases when his increased susceptibility to respiratory infections is not associated with persistent congenital and hereditary pathological conditions.

There are many reasons for the development of frequent respiratory infections in children, and one of the reasons is the presence of a TORCH infection in a child. To diagnose TORCH infections, the enzyme immunoassay (IFA) method is used to determine the levels of antibodies (AT) of classes IgM and IgG that appear at different stages of the immune response and are in the blood at different times [2]. Detection of IgM titer testifies in favor of active infectious process, and the determination of IgG antibody titers is only a kind of marker of the previously transferred infectious pathology, which is included in the category of TORCH infections. The principle of the IFA method: the method for determining immunoglobulins of class M and G for antigens of viruses is a solid-phase IFA, during which the interaction of the studied serum samples in the strips of the strips with immobilized parasite antigens binds specific AT and the formation of the "antigen-antibody" complex on the surface of the wells . After the horseradish peroxidase conjugate is added, the enzyme label is included in the immune complex. The complexes "antigen-antibody-conjugate" are revealed by a color reaction. The intensity of staining is proportional to the concentration of IgG to the corresponding AH. The titre of the analyzed serum sample is the largest dilution of the analyzed sample, at which its optical density is greater, or equal to the value of the diagnostic value of the optical density. The CP reflects the number of times the optical density of the sample of the serum is greater than the value of the diagnostic value of the optical density. The higher this index, the more immunoglobulins are in the blood, in other words, the qualitative characteristic of the analysis, telling how many times the result is greater than the threshold value.

Objective: to analyze the IFA data for TORCH infection in frequently ill children.

Objectives: To determine the structure of children's complaints; to reveal features of objective inspection; features of a clinical blood test, analyze ELISA for TORCH infections in frequently ill children.

MATERIALS AND METHODS: 50 case histories of children treated in the department of the day hospital of the Blagoveshchensk city hospital were analyzed.

Among all BMS, children of preschool age (from 2 to 5 years) - 74% are most susceptible to diseases, the following are prevalent schoolchildren (6-12 years old) - 18%, and among infants (1month-1 year) - 8%. What corresponds to the criteria of BWA proposed by V.Y. Albitsky and A.A. Baranov (1986): at the age of 1 year - 4 or more ARI per year; from 1 year to 3 years - 6 or more, from 3 to 4 years - 5 or more, from 4 to 6 years - 4 or more, over 6 - 3 or more. In children older than 3 years, the infectious index is also used: the ratio of the sum of all ARI cases during the year to the child's age, years. In occasionally ill, the infectious index is 0.2-0.3, in the case of CBS it is 1.1-1.3.

We analyzed the main complaints: frequent colds are one of the main reasons for going to the doctor for a pediatrician and is 100%, rhinitis worries 88% of children, cough in 78% is the main cause of anxiety, as well as a 74% increase in temperature, otitis 32% of patients. On objective examination, such patients are found: hypertrophy of tonsils-61%, hyperemia of the arches-58%, nasal discharge-88%, wheezing (dry, wet)-48%, lymphadenitis-21%. On the basis of laboratory data, leukocytosis was detected in 12% of children, in 5% neutrophilia, in 4% lymphocytosis and in 14% was diagnosed with acceleration of ESR.

The study showed that according to IFA, 87% of children had elevated titers of IgG to cytomegalovirus (CMV), 22% of them had high IgM. On average, the GI for Ig G is -10.8%, the KP for IgM is 2.5%. This may indicate a possible persistence of the virus in the child's body. In 44% of the studies, high titers of immunoglobulins to the Epstein-Barr virus (EBV) were noted: IgG was increased in 90% (mean CP = 8.2), 13.6% of which increased the level of AT to VEB IgM = 1.5), which may also indicate persistence in the given virus in a sick child. Elevated antibody titers (AT) for chlamydia pneumonia were detected in 14% of children, 53% was Ig M (mean CP = 1.5), while IgG = 66% (mean CP = 1.05), these data indicate that the percentage of carriers of the disease with both acute and chronic course is high. In 22% of patients with mycoplasma, pneumonia is detected, IgM is quite high-75%, while IgG is somewhat less than-25%. The average CP is 1.68 and 2.9, respectively.

Thus, most children have elevated titers of AT to CMV, VEB, and also a combined increase in AT titers to several viruses. These children require additional examination (PCR), observation of the titers of AT in dynamics, observation by an immunologist, in some cases the appointment of antiviral drugs and immunomodulators.

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