Sanatorium treatment is the primary component in rehabilitation of children with cerebral palsy (CP). In this context, interruption of rehabilitation treatment at the resort gets significant damage in individual rehabilitation programs of disabled children. Recent years, cases of interruption in sanatorium treatment of children with cerebral palsy became more frequent on account of development in these children acute respiratory disease or exacerbations of chronic inflammatory illnesses. Investigation of the changes occurring in children with cerebral palsy during the sanatorium rehabilitation has been insufficiently studied. In this connection, we have set the task to investigate the prevalence of acute respiratory infections and chronic inflammatory diseases in children with cerebral palsy, especially immune adaptive responses in children with cerebral palsy in the sanatorium rehabilitation.

Methods: Subjects: 54 children with cerebral palsy who have come from different regions in the resort treatment in Evpatoria.

We also study the medical records of 32 children observed in the Pediatric Clinic of Evpatoria with cerebral palsy and congenital malformations in the central nervous system.

Clinical examination included determination of the form of the disease, assessment of motor function by GMFCS, the ability to self-service, the presence of epilepsy, the frequency of acute respiratory infections during the last year, the presence of comorbid somatic diseases, the frequency of exacerbations of chronic somatic diseases.

Functional state of the central nervous system was assessed by electroencephalography.

Condition immunity was evaluated using laboratory tests lymphocyte CD3, CD4, CD8, CD4/CD8, CD16, CD20, CD95.

Children with cerebral palsy in sanatorium prepared complex treatment, which included a mud baths, mineral baths, electrical stimulation of the muscle groups, exercise and massage.

Results: The first year of life for all children with cerebral palsy observed episodes of acute infectious diseases. In 3 (9.3%) children – once in the year, in 4 (12.5 %) patients twice, in 5 (15.6 %) children three times during the year, 9 people (28.1 %) 4 episodes in one year of age, 11 (34.3%) five and more episodes. The average duration of a single episode of acute infectious disease was 13,8 ± 3,2 days, the total duration of episodes during the year ranged from 1 to 10 months, which amounted to an average of 5.3 months or 160 days a year. Among the acute infectious diseases according to medical records dominated infection of the respiratory system - 32 (100%) patients, otolaryngology infections in 17 (53.1%) patients, acute bronchitis in 9 (28.1%), pneumonia in 4 (12.5%) children with cerebral palsy.
In accordance with GMFCS the examined children with cerebral palsy was dominated by 3 and 4 level. According EEG epileptic activity reported in 45 children (83.3%). After sanatorium treatment epileptic activity became greater in all children with cerebral palsy.

Acute respiratory infection and exacerbation of chronic infections developed in 31 (57%) children. Dominated exacerbation of chronic respiratory tract infections - in 18 (58% of cases). Acute bronchitis developed in 5 patients (16% of cases). Most of the children were ill for 4-5 days stay at the resort.

The study classes of lymphocytes CD3, CD4, CD8, CD4/CD8, CD16, CD20, CD95 showed a reduction in the amount of almost all subpopulations of lymphocytes with an increase in the number of lymphocytes CD95, indicates an increase in apoptotic activity of the examinees. After a course of treatment the amount of T and B- lymphocytes increased, which can be regarded as adaptive response, as well as immune activation induced by the infectious process in diseased at the resort.

However, the number of CD95 lymphocytes also increased. Increased apoptotic activity may be associated with increasing demand for elimination of waste in connection with lymphocytes infectious stimulation of the immune response. On the other hand, the continued increase in apoptotic activity even against the activation of immune responses, likely indicative of their lack of efficacy or impaired regulation of immune functions.

**Conclusions:**

3. In children with cerebral palsy violated protective mechanisms of immune reactions due to organic damage to the central immune regulatory structures of the brain, early likely activation of immature fetal immune reactions against the background of intrauterine infections, weakness of secondary immune mechanisms caused by frequent infectious diseases.

4. Adaptation of children with cerebral palsy during sanatorium rehabilitation cause tension of regulatory systems (central nervous and immune). Relationship changes in the central nervous system and immune responses in the course of rehabilitation treatment requires further study.