34.5% was detected compared with the same indicator in the control group of patients (55.22±4.83% and 84.31±4.45%, respectively). The intensity of bone resorptive processes in patients with this comorbid pathology was in 1.9 times higher compared to the same indicator in practically healthy patients (the values of TRKF were 1.84±0.46 and 0.97±0.12 U/L, respectively). In case of uncontrolled hyperglycemia, the values of BIAF were significantly lower in comparison with the same indicator in a subgroup of patients with compensated type 2 diabetes combined with osteoarthritis (P<0.05). The values of the indicator of bone resorption in the subgroups of patients with combined pathology did not differ.

Comparing the intensity of the two main processes of bone metabolism in patients with type 2 diabetes combined with osteoarthritis, it can be concluded that there is a negative balance of bone homeostasis. Normally, the intensity of these two processes in adults is balanced, and their disconnection leads to the development of osteodeficiency.

In patients with type 2 diabetes in combination with osteoarthritis, there is a violation of bone remodeling - bone deficiency due to a moderate slowdown in the formation of new bone tissue and an increase in bone resorption activity. The activity of the process of bone formation is affected by the level of glycemia, the maximum inhibition of bone formation occurs at decompensated carbohydrate metabolism. The revealed changes in bone metabolism result in insufficient mineralization of the bone matrix and a violation of bone microarchitectonics, which explains the mechanism of formation of secondary systemic osteoporosis in this category of patients.

Prospects for further research - the study of the structural-functional state of bone tissue, as well as the evaluation of the probability of osteoporotic fractures in these patients.

References.

Key words: bone formation, bone resorption, diabetes mellitus type 2, osteoarthritis.

DOI: 10.29256/v.03.01.2019.escbm06

RELEVANCE OF APPLICATION OF THE ELISA METHOD IN RESPIRATORY CHLAMIDIOSIS

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In school-age children with chronic and recurrent lung diseases, respiratory chlamydia is poorly diagnosed, despite its widespread prevalence [1]. The high affinity for the epithelial membrane of the respiratory tract makes Chlamydia pneumoniae one of the commonest etiological agent of respiratory tract infections [2, 4].

For laboratory diagnosis of Chl. Pneumoniae morphological, cultural, immunological, and also molecular biological methods can be used. Immunological methods are the most widely used [1, 3]. In molecular diagnostics, serotyping is important, that is the identification of specific IgM and IgG antibodies to Chl. pneumoniae. The most commonly used is enzyme-linked immunosorbent assay (ELISA).

Materials and Methods. Determination of the frequency of occurrence of specific immunoglobulins M and G to chlamydia by the method of ELISA in blood serum in children who were admitted to the hospital from 2017 to the first half of 2019 in the
In the regional children’s infectious diseases hospital in Gomel, Between 2017 and the first half of 2019, samples from 140 children were analyzed in the laboratory of the Institution «Gomel Regional Children’s Clinical Hospital» in order to detect immunoglobulins M and G for chlamydia by ELISA (production of Vector-Best, Novosibirsk, Russia, 2010). Statistical processing of the results was carried out using the program Statistica 10.0. The statistical significance of the differences was judged by the level of p<0.05.

**Results:** Among the examined there were 63 patients (45%) under the age of 6 years (children of preschool age; average age - 3.63 ± 0.14) and 77 patients (55%) aged 7-17 years (schoolchildren; average age - 11.29 ± 0.31). According to a survey of preschool children, IgM antibodies to chlamydia were detected in 48 cases (34.3%), and IgG in 16 cases (11.43%). Among the examined schoolchildren, in 63 cases (45%) IgM antibodies to chlamydia were detected, in 17 cases (17.35%) – IgG.

20 children (14.3%) had a combination of positive antibodies simultaneously to two classes of immunoglobulins (M and G). Chlamydia IgM antibodies were detected much more often (111 cases, 79.3%) than IgG antibodies (33 cases, 33.7%), $\chi^2 = 6.95$, p<0.001.

Thus, antibodies of the IgM class to chlamydia were detected much more often (111 cases, 79.3%) than IgG antibodies (33 cases, 33.7%); $\chi^2 = 6.95$, p<0.001. In 50.8% of children in the group of preschool children, IgM antibodies are noted at the age of 3-4 years, IgG antibodies in the group of schoolchildren (23.4%) – at the age of 13-14 years ($\chi^2 = 3.19$, p<0.002).

The average age of the examined patients was 7.83 ± 0.37 years. The diagnosis of respiratory chlamydial infection is based on laboratory tests (ELISA).

According to a serological tests presence of both immunoglobulins M and G was determined in 14.3% of cases from the total number of subjects. Chlamydia IgM antibodies were detected statistically significantly more often during hospitalization (79.3%) than IgG antibodies (34 cases, 23.6%), $\chi^2 = 9.2$, p<0.001. In children aged 7 to 17 years, IgM is more common than in children of preschool age (up to 6 years), $\chi^2 = 3.83$, p<0.001. In 50.8% of children in the group of preschool children, IgM antibodies are noted at the age of 3-4 years, IgG antibodies in the group of schoolchildren (23.4%) - at the age of 13-14 years ($\chi^2 = 3.19$, p<0.002).

Prospects for further research: screening study is planned to determine specific immunoglobulins M and G in children aged 3 to 14 years with recurrent upper respiratory tract infections in all hospitals of the Republic of Belarus by ELISA.

**References:**


**Key words:** Chlamydia pneumoniae, recurrent infections, ELISA.