

**Results:** The form of PA on which patients spent the greatest amount of time was sitting (av. 1494 min/week; median 1200 min/week), with 100 % of patients participating in this form of PA. The second form of PA, which was cultivated by 87.2 % was walking (av. 402 min/week; median 195 min/week). 62.8 % of patients after CR cultivated moderate activity (av. 260 min/week; median 60min/week) and 13.9 % of CR patients conducted vigorous activity (av. 47min/week). The only statistically significant association found during comparison of CR parameters and PA at follow-up, was the negative relation between increase of METs during CR and amount of moderate PA at follow-up ( $p=0.037$ ).

**Conclusion:** Majority of patients maintain physical activity long after CR, which is mostly walking and moderate PA. There is a negative relation between increase of METs and moderate PA at follow-up.

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### Indices of exhaled breath condensate in children with eosinophilic phenotype of bronchial asthma

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**Abstract Keywords:** bronchial asthma, children, phenotype

**Introduction:** It has been studied that under bronchial asthma considerable changes in exhaled breath condensate appeared, including its physical and chemical properties, accumulation both nitric oxide, hydrogen peroxide, aldehydes and cytokines.

**Aim:** To study the indices of the exhaled breath condensate in case of the eosinophilic phenotypes of bronchial asthma in school age children.

**Material and Methods:** To achieve the aim of the study a examination of 160 school age children with bronchial asthma. Patients with the presence of 3 % or more of eosinophils in the sputum were attributed to the eosinophilic phenotype of bronchial asthma (first (I) group, 84 children), but children with the number of eosinophils in the sputum less than 3 % were referred to the noneosinophilic asthma phenotype (second (II) comparison group, 76 patients), clinical groups were comparable on the basis of the main clinical characteristics.

**Results:** In children with the eosinophilic bronchial asthma it has been noted the following proteolytic activities based on the lysis of: azoalbumin ( $1.45 \pm 0.07$  ml/h), azocasein ( $1.25 \pm 0.06$  ml/h) and azocollagen -  $0.2 \pm 0.02$  ml/h. In the comparison group, these indices of proteolysis were accordingly:  $1.45 \pm 0.05$  ml/h ( $p>0.05$ );  $1.5 \pm 0.05$  ml/h ( $p<0.05$ ) and  $0.19 \pm 0.02$  ( $p>0.05$ ). The diagnostic value of that test' result in confirmation of the noneosinophilic phenotype of bronchial asthma ran up to: the odds ratio - 7.5, the positive post testing probability - 79.1 %.

**Conclusion:** The research results give reason to believe that the proteolytic activity by lysis of azocasein was significantly higher in patients with the noneosinophilic asthma, probably due to the greater degree of inflammation of the bronchi.

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**FEATURES OF STRUCTURAL AND FUNCTIONAL STATE OF THE HEART IN PATIENTS WITH ANKYLOSING SPONDYLITIS**

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**Abstract Keywords:** *Ankylosing spondylitis, left ventricular hypertrophy, reverse blood flow*

**Introduction:** Ankylosing spondylitis (AS) - a chronic systemic disease of connective tissue, mainly affecting the ligaments of the spine, peripheral and axial joints. However, the pathological changes are marked in organs, especially in the heart and aorta, which makes it relevant to further study the morpho-functional reorganization of the heart in these patients.

**Aim:** explore the features of morpho-functional state of the heart in patients with AS.

**Material and Methods:** We examined 87 patients with AS (73 men and 14 women, mean age  $46,0 \pm 1,5$  years) with an average length of AS  $17,6 \pm 1,2$  years. Patients with AS were separated by gender, X-ray stage, degree of activity. All patients received standard therapy. The control group consisted of 164 persons without cardio-vascular pathology (66 men and 98 women, mean age  $45,3 \pm 1,2$  years). All patients were performed measurement of blood pressure (BP), echocardiography and statistical analysis of data.

**Results:** By the levels of BP all groups were comparable. According to echocardiography results AS patients have left ventricular hypertrophy (LVH) more often than controls (41 % vs 21 %,  $P < 0.01$ ). Analyzing the structure of the heart in AS patients we noticed a significant increase in the diameter of the left atrium without changing of end-diastolic LV volume ( $3,97 \pm 0,05$ ,  $3,62 \pm 0,03$ cm,  $P < 0.05$ ). Also we have found an increase in the interventricular septum and LV posterior wall thickness, which may explain the significant increase in LV mass index ( $128,4 \pm 4,0$ ,  $100,0 \pm 1,9$ g/m<sup>2</sup>,  $P < 0.01$ ). Studying the state of heart valves we noticed that patients with AS have reverse blood flow on aortic, mitral and tricuspid valves (63,2 %, 83,9 %, 88.5 %), which may indicate involvement of endocardium, chordal apparatus and valves in pathological process.

**Conclusion:** "Hypertrophic" changes in myocardium are associated with involvement of valves and may be the result of genetic determination, duration of ankylosing spondylitis and its activity.

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**Thyroid volume, metformin and patients' weight**

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