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FEATURES OF ANKYLOSING SPONDYLITIS IN MEN AND WOMEN

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ABSTRACT: In recent years, the incidence of ankylosing spondylitis (AS) has increased, the proportion of women among patients with AS has increased significantly, which makes this work relevant.

The aim of the study was to study the clinical and laboratory parameters of inflammatory activity and functional status in men and women with AS at different stages of the disease.

Patients and methods. 119 patients (82 men and 37 women) with AS (average age 36.4±0.9 years) and 34 patients (24 men and 10 women) with non-pathogenic axial spondyloarthritis (Hp-axSpA; average age 27.0±1.6 years) were examined. Modified New York criteria (1984) and Hp-axSpA - ASAS criteria for axial spondyloarthritis (2009) were used to confirm the diagnosis of AS. Disease activity was determined by BASDAI, functional status – by BASFI and BASMI. The validated MASES enthesite index was used to calculate enthesites, and pain intensity over the past week was assessed on a visual analog scale (VAS). The laboratory examination included the determination of ESR and antigen HLA-B27. All patients underwent an overview scan of the pelvic bones, and magnetic resonance imaging (MRI) was performed for patients with Hp-axSpA to detect sacroiliitis.

Results and discussion. In both groups, men prevailed and axial lesion was more often detected (among patients with AS there were 68.9% of men with sacroiliac joint lesions and 53.7% with spinal involvement, among patients with Hp-axSpA – 80.0 and 67.6%, respectively; $p>0.05$). HLA-B27 antigen was detected in most patients (86.6% of men and 91.7% of women with AS, 91.6% and 80.0% respectively with Hp-ACSPA). Uveitis was more often observed in women with AS (32.4%), less often in men with AS (17.1%; $p<0.05$) and Hp–axSpA (8.3%); in women with Hp-axSpA, uveitis was not noted ($p<0.001$). The pain is YOURS In AS, it was more intense in women (48.1±3.4 mm; $p<0.01$), in the Hp-ACSPA group, its values in men and women were comparable ($p>0.05$). In women at all stages of the disease, similar data were obtained on the BASDAI and BASFI indices ($p>0.05$). Men with Hp-axSpA had a better functional status ($p<0.01$) with identical BASDAI activity ($p>0.05$) compared with men with AS. The BASMI index in patients with AS, regardless of gender, was higher than in Hp-axSpA ($p<0.01$). In women with AS and Hp-axSpA was significantly more often detected than in men with high BASDAI activity (64.9 and 60.0%, respectively; $p<0.01$).Low activity was not observed in any woman with Hp-axSpA. Enteritis in both AS and Hp-axSpA was more common in women (81.0 and 80.0%, respectively; $p<0.05$).

Conclusions. In women, AS and Hp-ACSPA are more severe, starting from an early stage, which is manifested by higher activity, functional insufficiency, and a higher frequency of non-axial manifestations.

Keywords: ankylosing spondylitis; non-pathogenic axial spondyloarthritis; features of the course; men; women.

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INTRODUCTION

Ankylosing spondylitis (AS) is a chronic inflammatory disease from the group of spondyloarthritis (SpA), characterized by mandatory damage to the sacroiliac joints (CPS) and/or spine with their potential outcome in ankylosis, with frequent involvement in the pathological process of entheses and peripheral joints. The peak incidence of AS occurs in the age range of 25-35 years. The disease debuts in 10-20% of cases before the age of 18, and no more than 5-7% of patients get sick over the age of 50. Outcomes in patients with AS are usually more favorable than in rheumatoid arthritis (RA), although the incidence of disability is approximately the same. In a significant proportion of patients, the disease is chronic and gradually progresses, leading to severe functional insufficiency and disability due to damage to the axial skeleton and, not least, hip joints (coxitis). The life expectancy of AU patients practically does not differ from that in the general population, with the exception of patients who have a severe course of the disease or develop complications from internal organs - the heart, kidneys and others. The severity of AS in women is explained not only by higher clinical and laboratory activity indicators, but also by a worse response to treatment. Thus, in the Swiss cohort of patients with AS who had not previously received genetically engineered biological drugs, 63% of men and women reached the ASAS20 response a year after their appointment. 52% of women (odds ratio, OR 0.63; 95% confidence interval, CI 0.37–1.07; p=0.09). Remission of the disease (ASDAS <1.3) was observed in 26% of men and 18% of women with AS (OR 0.65; 95% CI 0.32–1.27; p=0.22). These differences reached statistical significance in the refined analysis.

The aim of the study was to compare clinical and laboratory indicators of activity and functional status in men and women with AS at different stages of the disease.

MATERIALS AND METHODS OF RESEARCH

153 patients were examined, including 106 (69.2%) men and 47 (30.8%) women who met the criteria for inclusion in the study. Inclusion criteria: 1) diagnosis of AU, established according to the modified New York criteria (1984); 2) the diagnosis of Hp-ACSPA, established according to the ASAS criteria for axial SpA (ACSPA; duration of back pain ≥3 months in patients aged ≤45 years); 3) age over 18 years; 4) voluntarily signed informed consent to participate in the study. Exclusion criteria: 1) disability of group I in the presence of severe functional disorders that could interfere with the examination; 2) pregnancy; 3) refusal to participate in the study. An index was used to assess the activity of the disease

BASDAI (Bath Ankylosing Spondylitis Disease Activity Index), functional status – BASFI (Bath Ankylosing Spondylitis Functional Index) and BASMI (Bath Ankylosing Spondylitis Metrology Index). A validated enthesite index was used to calculate the number of enthesites MASES (Maastricht Ankylosing Spondylitis Enthesitis Score). Back and joint pain was assessed over the past week on a visual analog scale (VAS). ESR was studied by the Westergren method. The HLA-B27 antigen was determined in all patients, and pelvic bone radiography was performed. Signs of significant single- or bilateral sacroiliitis (SI) according to Kellgren–Lowrence (1987) were detected in 119 patients. In 34 patients with inflammatory back pain and other manifestations of SpA, radiological signs of SI were not detected, and an MRI of the CPS was performed to diagnose SI. T1 and T2 fat suppression regimens were used to detect acute inflammation (T2Fatsaturation) or T2 STIR. SI was

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considered reliable in the presence of one zone of bone marrow edema on two consecutive sections or several zones of inflammatory edema on one section. The study was performed on a SIGNAHDxt 3.0T device (USA). Of 153 patients, 119 (77.8%) met the criteria AS (average age 36.4±0.9 years), and 34 (22.2%) - according to the criteria of Hp-accSpA (average age 27.0± 1.6 years). General characteristics of patients with AS and Hp-ACSPA in both groups of men were more than women. There were no differences in the age of onset of the disease between men and women of the AS group. In the Hp-axSpA group, women were slightly older at the time of the first symptoms of the disease, but these differences were insignificant ($p>0.05$). There were no significant differences in the timing of diagnosis, although the disease was diagnosed later in women than in men ($p>0.05$). HLA-B27 antigen was detected in most patients of both groups. The processing of the obtained material was carried out using statistical software packages Statistica 10.0 (StatSoft, USA). Statistical analysis included standard methods of descriptive statistics. The data analysis was performed using the Student's criterion. Parametric and nonparametric estimation methods, the Fisher angular transformation method, single-factor analysis of variance and elements of multifactorial analysis of variance were used in statistical analysis. To compare the indicators of several independent groups, the Kraskel–Wallis criterion was calculated. The differences were considered statistically significant at $p<0.05$. The correlation coefficient was used to study the relationship of the features Pearson's.

THE RESULTS AND THEIR DISCUSSION

When comparing activity and functional status in men with AS and Hp-expa, significantly better values of BASI, BASI and MASES were obtained with Hp-axSpA. There were no significant differences in the activity of the disease, although it was lower in patients with Hp-axSpA. In women with AS and Hp-expa, indicators of activity and functional status according to BASFI as well as the number of enthesites were comparable. At the same time, women of both groups had higher BASDAI activity and a higher number of enthesites than men. The intensity of pain according to YOUR in women with AS (48.1±3.4 mm) It was significantly higher than in women with Hp-axSpA (29.0±2.3 mm; $p<0.01$). In men with AS, the pain level was slightly higher than in men with Hp-ACSPA (37.3±1.8 and 32.7±3.5 mm, respectively), but this difference is insignificant ($p>0.05$). With AS, the pain was slightly stronger in women, and with Hp-axSpA – in men, these differences are also insignificant ($p>0.05$). In women with AS and Hp-ACSPA, high disease activity was significantly more common (64.9 and 60.0, respectively) than in men. Low activity was not detected in any woman with Hp-axSpA. Among men of both groups and women with Hp-axSpA individuals with predominantly axial manifestations prevailed, whereas among women with AS – with peripheral arthritis.The function of the spine and hip joints, assessed by BASMI, in AS in women was significantly better than in men: in men with AS, rotation in the cervical spine was 63.9±2.3°, the tragus–wall distance was

14.7±0.3 cm, flexion in the lower back (modified test Shober) – 3.1± 0.1 cm, lateral flexion in the lower back – 13.7± 0.6 cm, the maximum distance between the medial ankles (MRML) – 97.1±0.6 cm; in women with AS – 72.2±3.5° ($p>0.05$), 11.8±0.4 cm ($p<0.05$), 3.81±0.2 cm ($p<0.05$), 14.6±0.7 cm ($p>0.05$), 94.3±1.5 cm ($p>0.05$), respectively. In men and women with Hp-axSpA, these parameters did not differ significantly and were: 80.4±2.1°; 11,9±0,3; 4,1±0,2; 20,4±0,7; 99,7±0,1 cm and 85.5±2.60°; 11,8±0,4; 4,4±0,2; 18,8±0,7; 100,0±0,0 see respectively ($p>0.05$ for all cases). When comparing the men of the two groups according to

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the parameters BASMI in patients with Hp-axSpA, all indicators were significantly it is better than in patients with AS. When comparing women with

Hp-axSpA significantly better parameters were such as rotation in the cervical spine, lateral flexion in the lower back and MRML ($p<0.05$). When measuring the tragus-wall distance and lower back flexion (modified Schober test), no significant differences were found in women at different stages of the disease ($p>0.05$). Among the extra-skeletal manifestations, anterior uveitis was more common in patients of both groups, while in the group AS its frequency was significantly higher than in the group Hp-ACSPA, and was 22.7% (n=27) and 17.6% (n=6), respectively ($p<0.01$). In the AS group, uveitis was detected in women more often than in men (32.4 and 17.1%, respectively; $p<0.05$). The reverse pattern was observed in the Hp-axSpA group: uveitis was present in 8.3% of men and did not occur in women ($p<0.001$). In two groups, 3 patients (1 male and 1 female with AS and 1 male with Hp-ACSPA with a disease duration of 9.4; 12.3 and 3.2 years, respectively), changes were determined according to echocardiography (EchoCG) in the form of thickening of the walls of the aortic valve, calcification of the valve, and aortic insufficiency. 1 patient with AS had fever and chest pain at the same time. To all patients A comprehensive examination was performed, including consultation with a cardiologist in order to clarify the causes of aortic valve damage. The changes detected in echocardiography were regarded as manifestations of aortitis within the framework of the main rheumatic disease.

ESR in the AS group was slightly higher than in patients with Hp-ACSPA (on average 25.5±1.3 versus 21.8±2.2 mm/h, respectively), but these differences are insignificant ($p>0.05$). Significant differences in ESR indicators between men and women with AS (26.2±1.7 and 23.9±1.7 mm/h) and with Hp-ACSPA (17.2±3.8 and 23.8±2.6 mm/h, respectively) were also not found. BASFI functional status indicators for women and men were comparable both in AS and in Hp-axSpA. More pronounced disorders were noted in patients with a longer duration of the disease. Our data are consistent with the results of the work of G. Kilic et al., in which women and men with acsSpA also had comparable results according to BASFI. U. Kiltz et al. showed that BASFI functional status was better in patients with Hp-ACSPA and AS with a shorter duration of the disease. Structural changes progress with increasing age of AS, which leads to limited mobility spine and joints. In a study by German authors, the BASMI value clearly increased with increasing duration of the disease: if it exceeded 5 years, then with AS BASMI was 2.0±1.8, with Hp-axSpA – 1.1±1.3 ($p<0.001$). The results of our study are consistent with the previously obtained data. Interestingly, enthesitis is observed in women much more often than in men. According to A. Shahlaee et al., enteritis was present in 82.1% of women and 68.8% of men ($p=0.032$). In our study, the MASES index in women of both groups was significantly higher than in men. At the same time, the In women with Hp-axSpA, enteritis was somewhat more common than in women with AS.

CONCLUSIONS

As the results of our study showed, the clinical picture of ACSP in women is characterized by a higher incidence of enteritis and uveitis compared with the opposite sex, a slightly later diagnosis of the disease, its high activity with pronounced functional disorders according to

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BASFI. The peculiarities of the course of AXSP in women should be taken into account when diagnosing the disease and selecting therapy.

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