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FEATURES OF THE COURSE OF JUVENILE IDIOPATHIC ARTHRITIS IN CHILDREN IN ANDIZHAN

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Abstract. *Among minors living in Andijan with rheumatoid arthritis, the oligoarticular variant predominates (58.7%), the polyarticular RF-negative variant is in second place (41.3%), and the systemic variant is in third place (2.3%). and the last one is the polyarticular RF-positive variant (1.1%). By gender, there are one and a half times more sick girls than boys. The onset of articular syndrome occurs mainly in early school and adulthood. Articular syndrome mainly manifests itself in arthritis of the knees, feet, wrists, large joints and in the polyarticular variant, as well as small joints of the wrists, hands and feet.*

Key words*: juvenile idiopathic arthritis, oligoarticular variant, polyarticular variant.*

ОСОБЕННОСТИ ТЕЧЕНИЯ ЮВЕНИЛЬНОГО ИДИОПАТИЧЕСКОГО АРТРИТА У ДЕТЕЙ В АНДИЖАНЕ

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Аннотация. *Среди проживающих в г. Андижане несовершеннолетних с ревматоидным артритом преобладает олигоартикулярный вариант (58,7%), на втором месте полиартикулярный RF-негативный вариант (41,3%), на 3-м месте системный вариант (2,3%). и последний - полиартикулярный RF-позитивный вариант (1,1%). По полу болеющих девочек в полтора раза больше, чем мальчиков. Начало суставного синдрома приходится преимущественно в раннем школьном и взрослом возрасте. Суставной синдром преимущественно проявляется при артритах коленей, стоп, запястий, крупных суставов и при полиартикулярном варианте, а также мелких суставов запястий, кистей и стоп.*

Ключевые слова*: ювенильная идиопатический артрит, олигоартикулярный вариант, полиартикулярный вариант*

INTRODUCTION

One of the pressing problems of modern pediatrics and rheumatology is juvenile idiopathic arthritis (JIA). Among rheumatic diseases of childhood, this disease ranks first and is one of the most severe and socially significant forms of chronic pathology in children [2]. Juvenile arthritis or juvenile idiopathic arthritis (JIA) is arthritis lasting more than 6 weeks,

developing in children under 16 years of age with an unknown cause, excluding pathology of other joints [5, 6, 7]. JIA is a severe chronic destructive inflammatory disease of the joints, therefore it belongs to the category of the most important diseases from a social and medical point of view and is one of the main nosological forms of rheumatic diseases that cause childhood disabilities in the world [1,4,8].

In recent decades, there has been a tendency to an increase in the number of diagnosed systemic diseases, including JIA. This is due to changes in diagnostic criteria and the expansion of diagnostic capabilities, as well as an increase in systemic diseases [4,5,7].

Traditionally, the diagnosis of JIA is based on the clinical picture of the joint syndrome, radiological and laboratory data [3]. Currently, the generally accepted classification of JIA of the World League of Rheumatology Associations (ILAR 2017) distinguishes the following variants of the disease: - systemic juvenile idiopathic arthritis; - oligoarticular juvenile idiopathic arthritis; - polyarticular juvenile idiopathic arthritis, RF-negative; - polyarticular juvenile idiopathic arthritis, RF-positive; - juvenile psoriatic arthritis; - arthritis associated with enthesitis; - undifferentiated arthritis [2,6,8].

Purpose of the study. To study the structure (variants, age and gender characteristics) and manifestations of joint syndrome in children with JIA in the city of Andijan.

Materials and methods. In 2021-2022, the medical records of 45 patients with newly diagnosed JIA aged 2 to 15 years, who were examined and treated in the Cardiorheumatology Department of the Medical Center of Eastern Medicine in Andijan, were retrospectively analyzed. All children had joint syndrome lasting more than 7 weeks. At the diagnostic stage, diseases with similar clinical symptoms were excluded, for example: reactive arthritis (after infections - yersiniosis, salmonellosis, shigellosis, chlamydia, toxocariasis, toxoplasmosis, etc.), the onset of systemic connective tissue diseases, acute course. rheumatism, septic arthritis, hemorrhagic vasculitis, tuberculosis, viral hepatitis B and C, hemophilia, leukemia, tumor processes, etc.

When analyzing the data of a general clinical examination of organs and systems, it was necessary to evaluate the symptoms of joint syndrome: joint swelling, pain during palpation and movement of the joints, an increase in local temperature.

Laboratory diagnostic methods were studied: clinical blood test results, biochemical and immunological research data, C-reactive protein (CRP), rheumatoid factor (RF), antibodies to DNA and antibodies to cyclic citrullinated peptide (ACCP).

Data obtained by instrumental research methods were also analyzed: ultrasound examination of the affected joints (the presence of synovial fluid, the condition of the synovial membrane and articular cartilage), radiography (bone and cartilage of the joints to detect destructive changes). in tissues).To determine the presence of uveitis, the results of an ophthalmologist examination (with biomicroscopy of the eye) were analyzed.

Results and discussion. As a result of observation, the following variants of JIA were identified: oligoarticular (1-4 joints are affected) - in 31 patients (68.8%), polyarticular (5 or more joints are affected in the first 6 months of the disease) - in 12 patients (26.6%) and systemic - in 2 children (4.4%). Depending on the variant of the course of JIA, 2 groups were

formed in order to determine the characteristics by gender and age, as well as by the manifestation of joint syndrome.

The first group included 31 patients with the oligoarticular variant, the second - 12 patients with the polyarticular variant. Due to the small number of children with systemic onset of JIA, only 2 patients were not included in this study. But it should be noted that all of them were boys aged 4, 5 and 13. Their joint syndrome manifests itself as polyarthritis with damage to the knee, ankle, shoulder, wrist joints, as well as small joints of the hands. Far from extra-articular manifestations. Persistent febrile or high fever prevails, accompanied by repeated rises during the day, chills, myalgia and arthralgia. Also noted were: skin syndrome in the form of maculopapular or urticarial rashes, lymphadenopathy and hepatosplenomegaly. Among all children with JIA by gender, there are 1.5 times more girls than boys: 25 girls and 20 boys (55.5% and 44.4%, respectively). Within the groups, women also predominate (Fig. 1). In the first group, the ratio of girls:boys was 1.5:1 ($p<0.05$), and in the second - 2.4:1 ($p<0.05$). The average age of onset of the disease in all patients with JIA was 8.9±0.4 years.

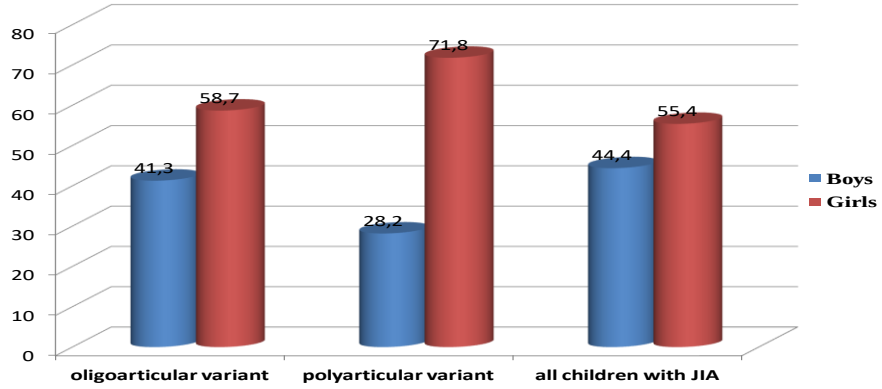

Fig. 1. Gender characteristics of children with JIA

In the group of children with the oligoarticular variant, the onset of the joint syndrome was observed at the age of 2-15 years, the average age was 9.6±0.5 years. In the group of children with the polyarticular variant, the onset of the disease was recorded at the age of 3-15 years, the average age was 7.4±0.4 years, which was significantly lower than in the first group ($p<0.05$). The average age of onset of the disease did not differ significantly between boys and girls in each group ($p>0.05$). A significant difference in the average age of onset of the disease in girls between the groups was revealed: in the second group this indicator was lower (Table 1).

Table 1

Indicators of the average age of children in groups depending on gender

Gender	Average age in years, M±m	
	1st group (n=31) (oligoarticular variant)	2nd group (n=12) (polyarticular variant)
Boys and girls	9,5±0,5	7,5±0,4
Boys	8,7±0,7	7,16±1,5
Girls	11,0±0,7	7,4±0,4

In children with oligoarticular JIA, the joint syndrome is expressed by arthritis of 1-4 joints. Swelling, pain, and dysfunction of the affected joints were noted. In addition, most children developed muscle atrophy proximal to the affected joint. The wrist, hip, knee, ankle joints, as well as small joints of the hands and feet were involved in the pathological process.

Damage to one joint (monoarthritis) was detected in 11.3% (7 children), and in all cases it was arthritis of the knee joint. In the remaining cases, 2-4 joints were affected within 6 months from the onset of the disease. The knee and ankle joints were most often involved in the process, less often the small joints of the fingers and toes, wrists and hip joints. It is noteworthy that in the first group, damage to small joints of the fingers and toes was observed mainly in women: out of 17 children, 15 were girls, which amounted to 82.2%. In the group of children with the polyarticular variant, the joint syndrome was characterized by damage to 5 or more joints during the first 6 months of the disease.

According to the classification, the polyarticular variant of JIA is divided into RF-negative and RF-positive (respectively, the rheumatoid factor is negative and positive in two cases over 3 months). In our study, among all children with the polyarticular variant, positive RF was detected only in 2 patients (8%). In children of the 2nd group, both large joints are involved in the pathological process - the elbow, wrist, hip, knee, ankle and small joints of the hands and feet (metacarpophalangeal, metatarsophalangeal, interphalangeal).At the onset of the disease, there was no damage to the cervical spine and temporomandibular joints. The affected joints were swollen, hot to the touch, painful to palpation and movement. Such a syndrome as morning stiffness was present in all children with the polyarticular variant. In the second group, knee, ankle, wrist joints and small joints of the hands and feet were more common. Laboratory diagnostic methods included clinical blood test results, biochemical and immunological studies.

In the group of children with the oligoarticular variant, the average values of total hemoglobin, the number of leukocytes, the percentage of neutrophils and ESR were within normal values. Among the children of the second group, neutrophilic leukocytosis and accelerated ESR were more often detected, which increased the average values of these indicators, compared to the first group.

The increase in positive CRP and DNA antibodies was higher in children in the group with the polyarticular variant and amounted to 91.2% and 22.7%, respectively (in the 1st group - 24% and 17%, respectively). The presence of ACCP is associated with erosive and destructive damage to cartilage tissue and the development of the disease. In our study, ACCP was detected only in 12% (3 patients) in the group with the polyarticular variant.

Ultrasound examination of the affected joints in both groups revealed the following changes: thickening of the synovial membrane, unclear contours of the articular surfaces, an increase in the amount of synovial fluid. The appearance of changes in joint radiographs depends on the duration of the disease - most often it appears 1-2 years after the appearance of the first symptoms. As a result of the analysis of the conclusions of joint radiography, the changes were in the form of narrowing of the joint space, erosions and erosions of the articular surfaces, osteoporosis and were detected in the early stages of the disease. only in 6.5. Oligoarticular variant in % of children and polyarticular variant in 16.7%. Among all

patients with JIA, radiographic changes were detected in 8%. At the diagnostic stage, it is very important that each patient is examined by an ophthalmologist using biomicroscopy of the eye.Among the patients in our study, uveitis in the early stages of the disease was not detected.

CONCLUSIONS

Thus, among patients with JIA, residents of the city of Andijan, the oligoarticular variant predominates (58.7%), in second place is the polyarticular RF-negative variant (41.3%), in third place is the systemic variant (2.3), in last place is the polyarticular RF-negative variant (1.1%). By gender, in all patients with JIA, girls were one and a half times more common than boys, and in patients with the polyarticular variant, women predominated almost 2.5 times.

The debut of the joint syndrome in patients with JIA usually occurs in early school age and adulthood. The joint syndrome was mainly manifested by arthritis of the knee, ankle joints and the polyarticular variant, as well as the wrist joints and small joints of the hands and feet. In patients with JIA, humoral activity and markers of immune inflammation were more characteristic of the polyarticular variant.

Among all patients with JIA, changes in the cartilaginous and bone tissue of the joints during X-ray examination were detected in only 8% at the onset of the disease.

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