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OUTCOMES AND PROGNOSIS IN PATIENTS WITH VARIOUS VARIANTS OF JUVENILE ARTHRITIS AFTER 10 AND MORE YEARS FROM THE BEGINNING OF THE DISEASE

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Abstract. Currently, there are studies on the evolution and outcomes of juvenile arthritis (JA) in adults. As a rule, the outcome in the group of patients suffering from long-term JA, but not yet beyond the limits of childhood and adolescence, is assessed according to the same parameters as in adult patients, with the exception of filling out childhood-specific questionnaires on functional status.

Keywords: juvenile arthritis, rheumatoid factor, DMARDs

Introduction. At the present stage of development of pediatric rheumatology, one of the urgent problems, along with issues of early diagnosis, improvement of methods for the treatment of chronic inflammatory joint diseases in children, is the study of long-term outcomes and prognosis in patients with juvenile arthritis (JA). The generally accepted concept of outcome as the end of the disease (death or recovery) is not used in chronic diseases, because. they are infrequently the cause of death, and recovery is practically not observed [1]. Therefore, many authors under the term “outcome” in JA understand the patient’s condition after a certain period of time from the onset of the disease, usually at least 7–10 years [2–6]. In the absence of specific standards for describing the outcome of JA, most researchers use indicators such as clinical manifestations, functional status, laboratory parameters, and, in recent years, also indicators of quality of life [7–12, 13-25].

Currently, JA is considered as a heterogeneous group of diseases that have different clinical manifestations and a different course of the pathological process, therefore, the outcome of individual variants of the disease is not the same. A number of authors believe that differences in the outcome of the disease and prognosis directly depend on both the form of onset and age at the onset of the disease. According to others, the variant of the course of the pathological process, which changes in 1/3 of patients with JA, is more important.

Until now, the question of the activity of the disease and the possibility of forming remission in patients after 10 or more years from the onset is being discussed. Data on the state of the musculoskeletal system and the formation of serious functional disorders with a long duration of the disease are also ambiguous, although in recent years there has been a clear decrease in the number of disabled patients due to the introduction of early prescription tactics of basic anti-inflammatory drugs (DMARDs), as well as the emergence of new antirheumatic

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drugs. means, for example, biological agents, for the treatment of JA. In addition, studies on the outcomes of JA present disparate information regarding the general physical development of patients, extra-articular manifestations of the disease, radiographic changes in patients with long-term chronic inflammatory joint diseases.

Currently, there are studies on the evolution and outcomes of JA in individuals who have reached adulthood [12]. As a rule, the outcome in the group of patients suffering from long-term JA, but not yet beyond the limits of childhood and adolescence, is assessed according to the same parameters as in adult patients, with the exception of filling out childhood-specific questionnaires on functional status. However, in the literature of the last 10–20 years, studies reflecting the outcome of JA in childhood are few [2,12]. The authors, as a rule, track the evolution of JA in patients in different periods, without dividing them into categories of children or adults.

All of the above served as the basis for conducting a study on the evolution of JA with a long duration of the disease within the framework of childhood, as well as the characteristics of the course of its various variants.

Purpose of the study: To assess the evolution and outcomes of JA in patients with a disease duration of 10 years or more within childhood and adolescence.

Material and methods

The work was based on observations of 96 patients with JA who were hospitalized in the Ferghana Regional Multidisciplinary Medical Center in the period from 2020–2022.

The inclusion criteria for the study were: the presence of JA (juvenile rheumatoid arthritis or juvenile chronic arthritis), age under 18 years, disease duration of 10 years or more.

The age of the children ranged from 11 to 18 years (average 14.3±2.0 years), they were predominantly girls (83%). The duration of the disease ranged from 10 to 16 years (average 12.0±2.0 years). All patients applied to the State Institute of Rheumatology, Russian Academy of Medical Sciences, on average 2 years after the onset of the disease.

During the formation of groups, systemic, polyarticular (RF+ and RF–) and oligoarticular variants of JA were identified, the latter having two subtypes: persistent oligoarthritis (the number of joints involved in the process did not exceed 4 throughout the disease) and oligoarthritis, spreading (5 or more affected joints) after 6 or more months from the onset of the disease.

In all variants of the disease, girls predominated (68–88%). There were no significant differences between the selected groups in terms of age at the time of the examination and the duration of the disease. At an earlier age, the first signs of the

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disease appeared in children with oligoarthritis (1.8±1.0 years), especially compared with patients with RF-positive polyarthritis (5.1±2.8 years).

The patients included in the study were examined according to the scheme generally accepted in rheumatology. Clinical and laboratory parameters, the nature of the onset and course of the disease, the degree of activity of the process, the presence of remission, the functional and social status of patients with JA 10 years after the onset of the disease were assessed.

Results. In the majority of patients (95%), the disease manifested with arthritis from the first days. 3% of children complained of arthralgia, and subsequently developed arthritis. At the onset of the disease, almost half of the patients (41%) involved predominantly large joints in the process, and 1/3 had damage to the joints of the lower extremities. In 63% of patients, symmetrical arthritis developed at an early stage of the disease, to a greater extent this was characteristic of patients with systemic and polyarticular forms. In the same groups, the hip joints and cervical spine (CS) were involved rather early in the process (35 children).

An analysis of outcome parameters in children and adolescents suffering from JA for 10 years or more revealed that in the majority of patients who had oligoarthritis at the onset (50 children), the number of affected joints later exceeded 5 with the formation of polyarthritis (spread oligoarthritis), in the remaining children and adolescents, the articular syndrome recurred, but did not progress quantitatively (patients with persistent oligoarthritis). Polyarthritis already at an early stage of the disease had 25% of patients, among them seropositivity for the Russian Federation was noted only in 5 patients. In general, it was found that over time, all forms of JA (oligoarticular - in 82% of patients, polyarticular - in 58%, systemic - in 45%) tended to spread the articular syndrome and form a polyarticular variant of the lesion, which is consistent with the results of foreign studies. [26-40].

At the time of the examination, the majority (55%) of patients had no active arthritis, although there were functional disorders associated with previous arthritis. 43 children had signs of arthritis, but the number of inflamed joints did not exceed 4. The presence of active polyarthritis (more than 4 inflamed joints) was more typical for patients with advanced oligoarthritis and RF-positive polyarthritis.

Systemic manifestations of the disease at the onset of JA were observed in 22 children (23%). Subsequently, they recurred in 19 patients, and at the time of the study they were present only in 3 patients and were represented by individual manifestations or their combinations. Significantly more frequent were such systemic signs as fever, rash, polyadenia, hepatosplenomegaly, serositis was much less common. It should be noted that out of 76 patients with the articular form of JA, 6

had systemic signs, such as fever and polyadenia, that appeared during the course of the disease and reflected the activity of the pathological process [41-55].

Of other extra-articular manifestations, attention should be paid to the pathology of the organs of vision. During the course of the disease, eye damage was diagnosed by an ophthalmologist in 37% of patients (36 children), mainly in the form of uveitis (35 people) and was interpreted as a manifestation of the underlying disease. It occurred in oligoarthritis (persistent and spreading) and in RF seronegative polyarthritis (47–55% of patients). Eye damage appeared on average after 5.7±3.8 years from the onset of the disease. There were observations of the development of uveitis after a long period from the onset of arthritis (maximum after 11 years). It should be noted that uveitis was not detected in any patient with RF-positive polyarthritis or a systemic form of the disease. Uveitis was usually chronic and bilateral. At the time of examination, in most patients, the inflammatory process in the eyes was inactive or in remission. Complications (cataract, glaucoma, synechia, etc.) were registered in 28 people. Cataract in 8 patients with the systemic form of JA was associated with the use of GC drugs.

As for other extra-articular manifestations of the disease, there were no significant deviations from the internal organs in patients. The most serious complication of JA, secondary amyloidosis, was diagnosed in 2 adolescent boys with a systemic form.

Assessing the condition of patients 10 years after the onset of the disease, it should be noted that more than half of the patients still had disease activity. In 47% of patients, the pathological process recurred and progressed, 24% showed stabilization. About 1/3 of the children (29%) were in remission, with half of them continuing to receive antirheumatic drugs.

We drew attention to the fact that half of the children (55%) had remissions during the course of the disease, including 20 patients in the absence of any treatment. Remissions were at different times from the debut (from 1 year to 12 years), and their duration varied from 1 year to 6.5 years (average 4.0±3.0 years). Complete remission (in the absence of antirheumatic treatment) was significantly more often recorded in patients with persistent oligoarthritis (30.4%) than in patients with other forms of JA. Drug remission, which occurred in a third (34%) of children with JA, in most of them (89%) was associated with the intake of basic drugs (more often methotrexate) and occurred on average after 3.2 ± 2.8 years from the start of this type of therapy (from 6 months to 8.5 years). The average duration of remission during treatment was 3.0±2.0 years (from 1 to 7 years). There were no significant differences in the frequency of drug-induced remission in different types of JA.

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When examining patients 10 years after the onset of the disease, it was stated that the presence of persistent activity or its absence did not depend on either the form of the onset or the nature of the course of JA ($p>0.05$). In the group of patients with persistent activity at the time of the examination, patients with a low (I and II) degree of activity (84%) prevailed. Only in 16% of children the disease continued to be highly active. The minimum activity of the disease was significantly more often determined in patients with oligoarthritis compared with systemic and polyarticular forms of JA.

Positive RF at the time of examination was observed in 4 patients (4%) in titers 1/40–1/160. These were patients with spreading oligoarthritis - 2, polyarthritis - 1, systemic form - 1 patient. During the course of the disease RF was registered in 22 patients (23%). ANF during the course of the disease was detected in 55 children, and significantly more often in patients with advanced oligoarthritis (47%) and seronegative polyarthritis (22%). After 10 years or more from the onset of JA, ANF was detected in 16% of children (in titers from 1/20 to 1/160). At the same time, there was a significant relationship between its presence and eye damage, but there was no correlation with the form of JA.

An analysis of the x-ray picture showed that one third of the children (33%) had stage I or minimal x-ray changes in the joints, among which patients with persistent oligoarthritis predominated. Stage II was detected in almost a quarter of patients (25%). The most pronounced destructive process in the area of the joints (stages III and IV) was noted in 42% of patients, more often with a systemic form and RF-positive polyarthritis. Radiographically confirmed ankylosis, predominantly of the wrist and SHOP joints, was diagnosed in 17% of patients.

In 35% of patients with JA, the course of arthritis led to the development of aseptic necrosis. The most common localization in the vast majority of patients (91%) was the heads of the femur, mainly in patients with systemic JA.

When studying the x-ray picture of the disease with a long course of JA, attention was paid to the signs of osteoarthritis (narrowing of the joint space + the presence of osteophytes) in 68% of children. They were observed mainly in the most affected joints and were regarded by us as secondary against the background of a long-term ongoing inflammatory process. They were more often detected in patients with a systemic form and RF-positive polyarthritis. The presence of signs of secondary osteoarthritis in patients had a direct relationship with the severity of destructive changes in the joints ($p<0.02$), but did not correlate with the degree of functional disorders in them ($R=0.02$, $p=0.7$).

Assessment of the functional state of children and adolescents on the Steinbroker scale showed that the functional ability of most of them was preserved

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(FC I and II: 34% and 41.6%). In 23% of patients, it was only possible to perform normal activities or self-care (FC III), and only 1 child was limited to a wheelchair at the time of inclusion in the study. The most functionally intact patients were those with persistent oligoarthritis, and the most pronounced disorders were in patients with polyarticular and systemic forms of JA, but this was not statistically significant.

When filling out the Russian version of the CHAQ questionnaire, 20% of patients noted that they did not have functional disorders (CHAQ=0), and most of them were patients with persistent oligoarthritis. 19% of children had minimal impairments (CHAQ=0.1–0.5), a third had a moderate degree of PE (CHAQ=0.6–1.5). Significant functional limitations (CHAQ>1.5) were experienced by 28% of patients, among whom patients with systemic JA predominated. The data obtained indicate that among patients with the onset oligoarticular form, the most favorable course and outcome were in patients with persistent oligoarthritis (average CHAQ = 0.3 points), while the course and outcome of the disease in patients with advanced oligoarthritis (average CHAQ=0.8 points) approached polyarticular (mean CHAQ=1.0 points) and systemic (mean CHAQ=1.3 points) forms of JA, being more severe.

76% of children (73 patients) were recognized as disabled due to the disease. In the vast majority, this was due to severe destructive changes in the joints, which led to pronounced functional disorders (69 people). 4 children were disabled due to the state of the organs of vision.

Despite the duration of the disease, the physical development of more than half of the patients included in the study was age-appropriate. However, 48% of children lagged behind their peers or differed significantly from them in appearance due to disproportionate development. Lagging in physical development was more common in patients with polyarticular and systemic forms of the disease, but did not differ statistically from patients with other forms of JA. At the same time, with persistent oligoarthritis, the physical development of all patients significantly more often corresponded to age, in contrast to other groups.

73% of children studied in a regular school on a par with their peers, although some of them studied according to an individual program. 26% of children were forced to study at home or attend a special school, mostly suffering from a systemic form or seropositive polyarthritis.

Conclusion. Thus, as a result of the study, we found that after 10 years or more from the onset of JA, 71% of children and adolescents had inflammatory activity of the disease, but its severity was low (grades I and II), especially in patients with oligoarthritis. Over time, all forms of JA tended to spread the articular syndrome and form a polyarticular variant of the lesion. Polyarticular and systemic forms of JA on

debut were the most unfavorable in terms of prognosis (presence of disease activity, extra-articular manifestations, amyloidosis), radiological (stages III–IV) and functional (FC III–IV, CHAQ >1.5 points) outcomes. Among patients with the onset oligoarticular form, the most favorable course and outcome were those with a persistent variant, while the course and outcome of the disease in patients with advanced oligoarthritis approached polyarticular and systemic forms of JA. The foregoing indicates that certain categories of patients require careful monitoring and active treatment from the early stages of the disease in order to avoid serious disorders of the musculoskeletal system that affect the patient's physical and social adaptation in the future.

References

1. Guillaume S., Prieur A.M., Coste J. et al. Long–term outcome and prognosis in oligoarticular–onset juvenile idiopathic arthritis. Arthr. Rheum., 2010, 43(8), 1858–1865

2. Oen K., Malleson P.N., Cabral D.A. et al. Disease course and outcome of juvenile rheumatoid arthritis in a multicenter cohort. J. Rheumatol., 2012, 29(9), 1989–1999

3. Minden K., Niewerth M, Listing J, et al. Long–term outcome in patients with juvenile idiopathic arthritis. Arthr. Rheum., 2012, 46, 2392–2401

4. A.N. Aripov, O.A. Aripov, L.L. Akhundjanova, D.A. Nabieva Study the antifibrous efficacy of plant proanthocyanidin in rats with chronic heliotrine liver damage // Frontline medical sciences and pharmaceutical journal. 2022. Iss. 2 (5) P. 16-25

5. A.N. Aripov, O.A. Aripov, L.L. Akhundjanova, D.A. Nabieva Study the effect of yantacin on some indicators of cellular renewal and on the level of protein expression on rat hepatocytes in chronic heliotrine liver damage // International Journal of Medical Sciences And Clinical Research. 2022. Iss. 2 (5) P. 6-13

6. MM Tashpulatova, DA Nabiyeva, ER Djurayeva, NA Akhmedova Diagnostic Significance of 14-3-3 η (Eta) Protein and MRI of Joints in Early Stage of Rheumatoid Arthritis // American Journal of Medicine and Medical Sciences. 2021. 11(3). P. 165-169.

7. Shakhnoza Pulatova, Dildora Nabiyeva, Nargiza Abduazizova, Sevara Mukhammadiyeva, Gulnara Agzamova Clinical and pathogenetic values of disorders of mineral metabolism in ankylosing spondylitis // Tashkent medical academy repository. 2022/1/9

8. Nargiza Abduazizova Mashkura Rizamukhamedova, Dildora Nabiyeva, Elnora Dzhurayeva, Dilfuza Berdieva, Sevara Mukhammadieva "Granulomatosis with Polyangiitis: Diagnostic Difficulties and Treatment" // International Journal of Pharmaceutical Research. 2020. Iss. 2 (12) P. 745-752.

9. DA Nabieva, AN Aripov The detection of proteomic markers and immunologic profile and their relationship with metabolic parameters in patients with gout // Klinicheskaia Laboratornaia Diagnostika. 2017. Iss. 62 (8) P. 485-489.
10. DA Nabiyeva, KA Ilkhomova Renewed approach to the diagnosis and treatment of the rheumatoid arthritis in early stages // Tashkent medical academy repository. Jun-2022.
11. DA Nabieva Dyslipidaemia and cytokine profile in patients with gout: the role of il-6, il-18 and hyperuricemia in the development of metabolic disorders // Tashkent medical academy repository. 2017/1/10.
12. MZ Rizamukhamedova, DA Nabieva, NA Ganieva Efficiency of application of tutukon at patients with gouty nephropathy // O‘zbekiston terapiya axborotnomasi. P. 66
13. DA Nabieva, MZ Rizamukhamedova, CM Muhammadieva Characteristics of metabolic changes in patients with gout // Medical business. 2017. Iss. 62 (8) P. 485-489. (in Russian)
14. DA Nabieva, MZ Rizamukhamedova Relationships between hyperuricemia and hyperlipidemia in men with primary gout // Juvenis scientia. 2016. Iss. 3. P. 27-28. (in Russian)
15. GB Saidrasulova, CM Muhammadieva, RB Khuzhaev, Sh Ruzikulova Features of early clinical manifestations of ankylosing spondylitis // Botkin readings. 2018. P. 27-28. (in Russian)
16. CM Muhammadieva, DA Nabieva, GB Saidrasulova, XX Mirakhmedova Anti-inflammatory efficacy of veroxib in the treatment of ankylosing spondylitis // Botkin readings. 2020. P. 189. (in Russian)
17. DA Nabieva Immunological mechanisms of development of non-alcoholic fatty liver disease in patients with gout and pseudogout: a literature review // Scientific and practical rheumatology. 2017. Iss. 55 (5) P. 560-565. (in Russian)
18. NA Ne'matova, DR Sagatova, DA Nabieva Therapy with dolac (ketorolac tromethamine) for acute gouty arthritis // Postgraduate doctor. 2010. Iss. 39 (2) P. 91-95. (in Russian)
19. Shakhnoza Pulatova, Dildora Abdumalikovna Nabieva Evaluation of the clinical-pathogenetic significance of mineral metabolism disorders in patients with ankylosing spondyloarthritis // Journal of biomedicine and practice. 2022. Iss. 7 (5) P. 104-116. (in Russian)
20. Dildora Abdumalikovna Nabieva, Ilkhom Kobuljonovich Yusupov Informative and prognostic significance of risk factors for the development and progression of kidney damage and systemic scleroderma // Tashkent medical academy repository. 2022/10/14. (in Russian)
21. Dildora Abdumalikovna Nabieva, Ilkhom Kobuljonovich Yusupov Effect of urate-lowering therapy on quality of life in patients with gout // Tashkent medical academy repository. 2022/5/22 (in Russian)

22. AA Folatova, D Kushakov, DA Nabieva Risk factors for worsening kidney function in patients with gout // Tashkent medical academy repository. 2022/5/17 (in Russian)
23. CM Muhammadieva, DA Nabieva, MO Umbarov Atherosclerotic vascular lesions in patients with rheumatoid arthritis // Tashkent medical academy repository. 2022/5/17 (in Russian)
24. DA Nabieva, MM Tashpulatova Modern view on laboratory diagnosis of early rheumatoid arthritis // Botkin readings. 2020. P. 194. (in Russian)
25. MM Tashpulatova, DA Nabieva Clinical-immunological and instrumental changes in early rheumatoid arthritis // Days of rheumatology in saint petersburg-2021. P. 189-190. (in Russian)
26. DA Nabieva, NA Aripova, ER Juraeva, NA Ganieva To study the features of the course of reactive arthritis of yersinia etiology // Botkin readings. 2021. P. 195-196. (in Russian)
27. MM Tashpulatova, DA Nabieva Predictors of atherosclerosis in patients with early rheumatoid arthritis // Botkin readings. 2021. P. 273-274. (in Russian)
28. BS Abdullaev, DA Nabieva, MR Khidoyatova, BB Khakimov, FF Kuranbaev, UU Khoshimov Assessment of the quality of life of osteoarthritis patients after corona virus infection (COVID-19) // Botkin readings. 2021. P. 3-4. (in Russian)
29. MM Tashpulatova, DA Nabieva, ER Juraeva, KK Alieva Assessment of the functional state of the thyroid gland in patients with early rheumatoid arthritis on the background of pharmacotherapy // Botkin readings. 2021. P. 272-273. (in Russian)
30. DA Nabieva, NA Ganieva, NA Aripova, SS Rakhimov Studying the clinical features and course of erythema nodosum depending on the infectious agent // Botkin readings. 2020. P. 193. (in Russian)
31. DA Nabieva, DR Sagatova, NH Abduazizova Efficiency of the application of alendronic acid in the treatment of osteoporosis in rheumatoid arthritis // Botkin readings. 2020. P. 193-194. (in Russian)
32. KK Alieva, DA Nabieva, ShB Pulatova Clinical features of gout in women // Days of Rheumatology in St. Petersburg-2019. P. 21-22. (in Russian)
33. ShB Pulatova, DA Nabieva, ER Juraeva, MB Kasimova Prevalence of osteoopenic syndrome in ankylosing spondyloarthritis // Days of Rheumatology in St. Petersburg-2019. P. 214-215. (in Russian)
34. DA Nabieva, AN Aripov Proteomic profile of blood serum of patients with gout // Gastroenterology of St. Petersburg. 2018. Iss. 2. P. 81. (in Russian)
35. MK Rakhimova, DA Nabieva Features of liver damage in psoriatic arthritis // Days of Rheumatology in St. Petersburg-2018. P. 183-184. (in Russian)
36. NH Abduazizova, DR Sagatova, DA Nabieva Rheumatoid arthritis on the background of disturbance of the respiratory system function // Botkin readings. 2018. P. 3. (in Russian)

37. DA Nabieva, DR Sagatova Evaluation of the efficacy of tenicam in rheumatoid arthritis // Botkin readings. 2018. P. 265-266. (in Russian)
38. ShB Pulatova, DA Nabieva, MB Kasimova Frequency of heart damage in ankylosing spondylitis // Days of Rheumatology in St. Petersburg-2018. P. 178-178. (in Russian)
39. KA Utkurova, DA Nabieva Liver damage in tophus gout // Botkin readings. 2018. P. 397-398. (in Russian)
40. LA Ilkhomov, SM Muhammadieva, ShB Okhunova The problem of early diagnosis of systemic lupuus erytheis in men // Botkin readings. 2018. P. 160-161. (in Russian)
41. NKh Abduazizova, KH Nazarov, DR Sagatova, SM Muhammadieva Clinical and laboratory features of psoriasis therapy // Days of Rheumatology in St. Petersburg-2018. P. 4. (in Russian)
42. LI Ilkhomov, CM Muhammadieva, NH Abduazizova Systemic lupus erythematosus: challenges in early diagnosis // Days of Rheumatology in St. Petersburg-2018. P. 82-84. (in Russian)
43. Elnara Rustamovna Juraeva, Dildora Abdumalikovna Nabieva, Maktuba Muhamadalievna Tashpulatova Modern aspects of diagnostics and treatment of early rheumatoid arthritis // Innovative approaches in industries and areas. 2017. Iss. 2 (8). P. 2-18. (in Russian)
44. MZ Rizamukhamedova, DA Nabieva Targeted biomarkers for metabolic shifts in patients with gout and assymptom hyperuricemia // Days of Rheumatology in St. Petersburg-2017. P. 209-210. (in Russian)
45. DA Nabieva, DR Sagatova Comorbidity of gout and liver pathology // Days of Rheumatology in St. Petersburg-2017. P. 171. (in Russian)
46. Dildora Abdumalikovna Nabieva, Aripov Academy of Sciences Determination of proteomic markers and immunological profile and their relationship with metabolic parameters in patients with gout // Clinical laboratory diagnostics. 2017. Iss. 62 (8) P. 485-489. (in Russian)
47. MZ Rizamukhamedova, DA Nabieva Steatohepatosis in patients with gout and ways of its correction // Journal of Theoretical and Clinical Medicine 2017. Iss. 4 P. 51-54. (in Russian)
48. DA Nabieva, MZ Rizamukhamedov Metabolic syndrome depending on the nature of liver damage in gouty arthritis // Days of Rheumatology in St. Petersburg-2016. P. 154. (in Russian)
49. DR Sagatova, DA Nabieva Effectiveness and tolerability of the drug chondrogard in patients with osteoarthritis // Days of Rheumatology in St. Petersburg-2016. P. 207-208. (in Russian)
50. MZ Rizamukhamedova, DA Nabieva Clinical forms and features of the articular syndrome in gout, according to the republican rheumatological center (RRC) of the

republic of Uzbekistan // Days of Rheumatology in St. Petersburg-2016. P. 196-197. (in Russian)
51. U Sahibs, DA Nabieva, ShR Kurbonova Prediction of fracture risk in women with osteoarthritis // Days of Rheumatology in St. Petersburg-2016. P. 196-197. (in Russian)
52. DA Nabieva Pathology of the hepatobiliary system and gout // Issues of organization and informatization of healthcare. P. 2016. P. 240-243.
53. DA Nabieva, MZ Rizamukhamedov Clinical and functional features of the course of tofus gout // Journal of Theoretical and Clinical Medicine. 2016. Iss. 2 P. 23-27. (in Russian)
54. GB Rashidova, FA Burkhanova, DA Nabieva, ShS Abdullaev Evaluation of the effectiveness of synchronous intensive care in the complex treatment of patients with systemic lupus erythematosus in the conditions of the republican rheumatic center (Uzbekistan) // Scientific and practical rheumatology. 2006. Iss. 2 P. 107. (in Russian)
55. Kh T Mirakhmedova, DA Nabieva, KR Arifzhanov The role of haptoglobin phenotypes and blood groups in patients with seronegative spondyloarthritis. // Scientific and practical rheumatology. 2000. Iss. 38 (4). P. 125. (in Russian)