At diagnosis, median ESR and CRP were 44 mm/hour [2-100] and 24 mg/l [2-86] respectively. Median JADAS10 score was 4 [0-21]. Median BASDAI score was 6.2 [2-9.4]. At follow-up, five patients (10.4%) had atlantoaxial subluxation and 17 had coxitis (43.8%). At bone densitometry, 45% of patients had osteoporosis and 27.5% had osteopenia.

An agreement was assessed between a long diagnosis delay and the following parameters: male gender (p=0.04) and osteoporosis (p=0.018). A significant positive correlation was found between delay in JIA diagnosis and BASDAI score (p=0.047, r=0.63). No association was found between JIA diagnosis delay and JADAS score (p=0.56). Neither ESR (p=0.19) nor CRP (p=0.42) was associated with JIA diagnosis delay. Finally, no link was observed with the occurrence of hip arthritis (p=0.281) or atlantoaxial subluxation (p=0.137).

Conclusion: In our study, the prevalence of AAI was 10.4%. Prolonged corticosteroid use and elevated inflammatory markers were the major factors associated with an increased risk of upper cervical spine involvement. Hence, targeted treatments are required to preserve cervical spine instability.

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AB0742
PREVALENCE AND RISK FACTORS OF OSTEOPOROSIS IN PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS
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Background: Childhood rheumatic diseases are associated with reduced bone mass and increased risk of fractures (1). Several factors may interact to determine osteoporosis other than direct bone detrimental effects of the disease or its treatment.

Objectives: In this work, we aimed to investigate the prevalence of bone loss in patients with JIA and to determine the relative factors associated with osteoporosis during this chronic disease.

Methods: A retrospective monocentric study was carried out on JIA patients (ILAR criteria). Dual-energy x-ray absorptiometry (DEXA) was used to determine bone status. Disease activity was evaluated by JADAS10 (Juvenile Arthritis Disease Activity Score) in poly and oligoarticular subtypes and by BASDAI (Bath Ankylosing Spondylitis Disease Activity Index) in arthritis related enthesitis form. Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were noted. The data were analyzed using the SPSS statistical package. A p value < 0.05 was considered significant.

Results: The sample included 40 JIA (25 male and 15 female) with a mean age at disease onset of 11.3 ± 3.6 years. The median disease duration was 90 months [7-408]. The median JIA diagnosis delay was 8 months [1-108]. The JIA subgroups were in decreasing order of frequency: Enthesitis-related Arthritis (n=27), Polyarticular RF- (n=4), Polyarticular RF+ (n=1), Oligoarticular (n=4), Systemic (n=2), Psoriatic Arthritis (n=1) and Undifferentiated (n=1). Median ESR and CRP were 29 mm/hour [2-98] and 14.5 mg/l [0-70] respectively. Median BASDAI score was 4.3 [1-9.7]. Median JADAS10 score was 1.1 [2-71]. Overall, 45% of patients had osteoporosis, 27.5% had osteopenia, and 27.5% had normal bone densitometry. None of the patients had a history of vertebral or peripheral fractures.

Thirty per cent of patients (n=12) were on long term corticosteroid therapy with a mean dose of 6.6 ± 2.8 mg/day. Only 12.5% (n=5) of them had a regular physical activity. Osteoporosis was associated with age at JIA onset (p=0.005), disease duration (p=0.001), ESR (p=0.08), CRP (p=0.04), BASDAI score (p=0.017) and sedentarily (p=0.026). Osteopenia was only associated with corticosteroid therapy (p=0.01). Neither osteoporosis (p=0.37) nor Osteopenia (p=0.25) was associated with disease activity score.

Conclusion: In our study, osteoporosis was a common feature during JIA. A long term corticosteroid therapy and sedentarily seem to be correlated with more impaired bone abnormalities. Hence, targeted interventions are urgently required to preserve bone health during JIA.

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AB0743
SINGLE CENTER EXPERIENCE OF BIOLOGICAL THERAPY IN PATIENTS WITH JUVENILE SYSTEMIC SCLERODERMA
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Background: Juvenile systemic scleroderma (JSSC) is a rare multisystem disease with a poor prognosis. The current therapy is imperfect. Biologics, as a modern efficient option for treatment of rheumatic diseases don’t have official indication for JSSC, but it seems to be useful in severe cases, especially lung and heart damage.

Objectives: To analyze the existing experience of Biologics therapy in children with JSSC in single center in order to improve the understanding of the indications for use and the results of using these drugs.

Methods: The retrospective study include 9 patients with JSSC with severe course of disease, 7 of them were girls.

Results: Among this group of patients the age at disease onset was 9.1 years (min-max 1.1-15.1). Clinical manifestations: Raynaud’s syndrome (n = 9), ulcers (n = 3), skin changes (n = 9), joints (n = 8), muscles (n = 4), interstitial lungs disease (n = 6), heart (n = 3), esophagus (n = 5), calcification (n = 3). The main therapy prior to the use of biological agents: glucocorticoids (GC) (n = 9), cyclophosphamide (CF) (n = 2), hydroxychloroquine (HC) (n = 5), therapy for the microcirculation improvement. Biologics were used in the case of insufficient effectiveness of previously conducted therapy, primarily in relation to lung damage (interstitial disease) and heart (with reduced contractility, arrhythmia), as well as changes in the skin and musculoskeletal system. In addition, the possibility to reduce the dose of GC (n=6), withdrawal of CF (n=2) was taken into account. Our experience consist of follows: rituximab (RTM) (n=7) at a dose of 375 mg/m2 interval 3-6 months, abatacept i.v.(ABT) (n=2) 10 mg/kg every 4 weeks, tocilizumab i.v.(TCZ) (n=2) 8 mg/kg. In all cases Biologics was prescribed not earlier than 1.5 year after disease onset (4.6 years in average). By present most patients continued to use biological therapy; of them - RTM was used for 2.2 (0.5-6.0) years, in 1 patient – was canceled after 6 years due to the loss of efficacy; ABT is used in 2 children for 0.5 and 3.6 years, TCZ - in 2 children for 0.3 (withdrawal) and 2.0 years (continues to use). TCZ was prescribed in 1 patient after 6 years of RTM use. In 1 patient TCZ was withdrawn due to an infusion reaction, and ABT was prescribed. As a result of the therapy, it has been found to improve habitus, quality of life and well-being, reduce skin tightening, improve joint function; no progression of changes in the lungs according to CT and functional tests (FVC, DLCO), improvement in cardiac lesions. It seems that disease improvement became notable at least 3-6 months after the Biologics start. In most patients there were no serious adverse events (AE). No significant infections have been reported. But we met an unexpected case of substantial increasing of neutrophil’s count just after each TCZ infusions up to 21,000 and reversed by following infusions for a one year of treatment from 2 years of total duration of using.

Conclusion: Our data shown that Biologics could be efficient and well-tolerated option for severe and resistant to «traditional» therapy course of JSSC. Because this kind of condition is extremely rare further multicenter study is needed.

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AB0744
HOW JUVENILE IDIOPATHIC ARTHRITIS PATIENTS PERCEIVE THEIR ILLNESS?
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Background: Juvenile idiopathic arthritis (JIA) represents the most common inflammatory rheumatism of childhood. Because of a prolonged course of active disease, many patients experience physical and psychosocial limitations. Illness perceptions involve the personal beliefs that patients have about their illness and may influence health behaviors considerably.

Objectives: The present study aimed to investigate the illness perception of patients with JIA.

Methods: We conducted a cross-sectional study including children with JIA (according to the International League of Associations for Rheumatology (ILARI)). We recorded sociodemographic data and the subtype of the JIA. To assess a child’s perception of how arthritis affects their life, the Brief Illness Perception Questionnaire (IPQ) was completed by the parent (child age ≤10 years) or by
the child (age ≥11 years). The Brief IPO is a nine-item questionnaire rated using a 0-10 response scale that assesses cognitive illness representations: consequences (item 1), timeline (item 2), personal control (item 3), treatment control (item 4), and identity (item 5). Two of the items assess emotional representations: concern (item 6) and emotions (item 8). One item assesses illness comprehensibility (item 7).

Results: The study included 22 patients. The mean age was 15 ± 7 years [4-35], and the mean age at diagnosis was 9 ± 3 years [3-14]. There was a female predominance (sex ratio: 2:1). The frequency of each JIA subset was as follows: polyarticular with rheumatoid factor (n= 1), polyarticular without rheumatoid factor (n=3), systemic (n= 2), enthesitis-related arthritis (n=9), oligoarthritis (n= 7), undifferentiated (n=1). Non-steroidal anti-inflammatory drugs were prescribed in 72% of cases, and Cs-DMARDs in 59% of patients. The most-reported causal factor in their illness was a history of traumatism (22%). Perceiving symptoms (identity) were significantly related to being affected by the disease (emotional response) (r= 0.01). Conversely, patients who had personal and treatment control expressed less emotional response (r = 0.2; respectively). Moreover, those who were concerned about the disease perceived more the consequences of their illness (p=0.09) and understood it more (p=0.029). We also noted significant correlations between personal control and treatment control (p = 0.033). A positive correlation was found between identity as well as consequences and timeline (p=0.011, p=0.024), showing that the perception of chronicity was associated with pain and the burden of the disease.

Conclusion: Our study highlighted the importance of assessing illness perception in JIA patients. Patient education programs should be implemented since diagnosis for better disease management.

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ABO745

BONE STATUS IN CHILDREN WITH JUVENILE IDIOPATHIC ARTHRITIS (JIA) ON TZT THERAPY

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Background: In recent years approaches to both the diagnosis and treatment of JIA have changed. Among it key positions for bone health are reducing the time to make a diagnosis and initiation of basic therapy, as well as reducing the timing and doses of corticosteroids. The interdependence of osteopenia in children with JIA have established impairment of vitamin D status, the prevalence of active joints (n=3; p<0.05). ANA (n=0.34; p<0.03). In children with osteopenia it was correlated with the duration of the disease (r=-0.67; p<0.05), the number of active joints (r=-0.62; p<0.05), blood phosphorus level (r=-0.74; p<0.05) and JADAS scale results (n=0.35; p<0.05). In children with preserved BMD correlations was supplemented by 25(OH)D status (r=-0.33; p<0.05) and BMI (r= -0.40; p<0.05). Analysis of the interdependence of the formation of osteopenia and clinical manifestations signs established the total significance of the main parameters of the disease with the highest coefficient of determination in the polyarticular variant: -112.65 ±0.09 (patient’s age, mo)+4.33 (patient’s sex)- 3.74 (ANA, units)-1.80 (RF; units)+0.01 (age of onset, months)-0.34 (number of affected joints)-0.18 (number of active joints)-0.18 (ESR, mm/h)+7.158 (ionized calcium, mmol)/5.19 (phosphorus, mmol)/0.01 (PTH, ng/ml)+0.18 (25(OH)D, ng/ml)/0.9999; p<0.001).

Conclusion: With modern JIA management a quarter of children have osteopenia. The state of the bone tissue is more associated with the prevalence, intensity and duration of inflammatory activity of preserved calcium-phosphorus homeostasis and vitamin D deficiency, and is not associated with the present therapy.

Disclosure of Interests: None declared

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ABO746

THE ASSOCIATION BETWEEN PRESARCOPENIA AND BONE MINERAL DENSITY IN ADULT PATIENTS WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: The importance of presarcopenia (low lean mass) in clinical practice is accompanied by a high risk of adverse effects such as early disability, reduced quality of life, and increased mortality.

Objectives: The aim of the study was to assess the link between bone mineral density (BMD) and the state of the muscular system in adult patients with juvenile idiopathic arthritis (JIA).

Methods: The study was performed in Oleksandrivska Clinical Hospital of Kyiv, Ukraine, where adult patients were transferred from pediatric rheumatologists. Inclusion criteria: patients aged 18-44 years at the time of signing the informed consent; diagnosis of JIA in childhood, verified according to ILAR criteria, duration of JIA >3 years. According to the European Working Group on Sarcopenia in the Elderly (EWGSOP) 2019, patients with a decrease in muscle mass alone were diagnosed with presarcopenia. The BMD and muscle tissue were determined in standard localizations using dual X-ray absorptiometry (DXA).

Results: The study included 26 adult patients with JIA, including 10 male patients and 16 female patients. The mean age at the time of examination was 22.3 ± 8.15 years; the mean age at the onset of the disease was 9.04 ± 4.9 years. According to the ILAR classification, patients had the following variants of JIA: 3 patients with RF-negative polyarticular variant, 8 patients with persistent oligoarthritis, 4 patients with extended oligoarthritis, 6 patients with RF-positive polyarticular variant, and 5 patients with systemic JIA. According to the EWGSOP 2019 reduced muscle mass was calculated by skeletal muscle index (SMI); the cut-off points were considered by SMI <7 kg/m2 for male, <6 kg/m2 for female. Patients were divided into two groups depending on the presence or absence of presarcopenia. The first group (1-st group) included 16 patients with reduced muscle mass (SMI – 5.22 ± 0.72 kg/m2), and the second group (2-nd group) included 10 patients without reduced muscle mass (SMI – 8.05 ± 0.94 kg/m2).

It was found that the height and weight of patients in the group of presarcopenia was lower than in the group without a low lean mass (height 1,65±0.07 m vs 1,75±0.09 m, t=2.53; p=0.01; weight 55,06±3.8 kg, 70,0±10.8 kg, t=3.36; p=0.0007, respectively). The age of patients (25,3±10.1 and 21,3±5.9 years for 1-st and 2-nd groups respectively) and the duration of the disease (17,1±9.9 and 10,6±6.1 for 1-st and 2-nd groups respectively) did not differ statistically between the groups. The age of the onset of JIA in both groups also did not differ (7,8±4.5 and 11,5±4,1 for the 1-st and 2-nd group respectively). The following data were obtained by DXA. The patients of 1-st group had statistically reduced BMD in the region of femoral neck - 0.927±0,15/cm2 vs 1,179±0,13/cm2, t=-3,18; p=0.006; total hip - 0.977±0,16/cm2 vs 1,184±0,05/cm2, t=-3,05; p=0,009; total body - 1,080±0,1/cm2 vs 1,193±0,15/cm2, t=-2,19; p=0,03; and ultra-distal radius - 0,286±0,06/cm2 vs 0,482±0,11/cm2, t=-2,56; p=0,007. The BMD in the region of lumbar spine did not differ in two groups - 1,152±0,16/cm2 vs 1,137±0,17/cm2, t=0,21; p=0.8. In the group of presarcopenia there was a visible decrease in the level of the metabolite of vitamin 25(OH)D3, but not statistically significant: 15,5±7,73 nmol/l vs 19,7±6,8 nmol/l. The study has strengths such as first described presarcopenia in young adults with JIA and potential applications such as in-mover-center study and a small number of patients.