Results: We observed 52 pts with RD and MAS: 31 (59.6%) with sJIA, 19 (36.5%) – SLE, 1 (1.9%) – juvenile dermatomyositis (JDM), 1 (1.9%) – overlap syndrome (JIA+JDM). Pts with MAS accounted of 26% of all pts with sJIA, 7.6% of all pts with SLE. The mean age of pts at onset of sJIA was 2.6 y [1.5; 5.75], at onset of SLE – 11.8 y [8.6; 13.95]. The patient with JDM was 6.5 years old, pts with overlap syndrome – 3.5 years old. Male to female ratio was 1:1.7. A total of 63 episodes of MAS was recorded (41 – in sJIA, 20 – SLE, 1 – JDM, 1 – overlap syndrome). 23 pts (44.2%) had MAS at onset, 26 pts (50%) – “classic” MAS (during the course of disease), 3 pts (5.8%) – recurrent MAS. The clinical manifestations of MAS included fever (90.4%), hepatomegaly (50%), pericarditis (46.2%), hemorrhagic rash (32.7%), neurologic involvement (42.3%), lung involvement (34.6%). We found hyperferritinemia in 98%, thrombocytopenia in 78.8%, increased transaminases in 88.5%, hypofibrinogenemia in 40.4%, hypertriglyceridemia in 42.3% of pts. Most severe course of MAS was established in pts with ferritin levels >1500 ng/ml and with hypertriglyceridemia more than 6.0 mmol/l at an early stage. Bone marrow investigation was performed in 21 pts, and the evidence of haemophagocytosis was confirmed in 8 pts (38%). First features of MAS were fever, sleepiness, lower platelet counts, high TA. Lesions of the skin and mucous were mainly represented by point hemorrhages at an early stage in pts with SLE and MAS, the development of a bright rash with itching was typical for pts with sJIA and MAS. There are no principal differences between course of MAS in sJIA and other RD in children, but mild “subclinical” cases of MAS were observed only in pts with sJIA on biologics. For treatment of MAS all pts were administered high dose of glucocorticoids (per os+iv). Pts with SLE received: cyclophosphamide iv - 5 (26.3%), cyclosporine per os 1 (5.2%), IVIGs - 6 (31.6%), rituximab - 2 pts (10.5%). Pts with sJIA received: cyclosporine per os - 20 (64.5%), IVIGs - 25 (80.6%), 1 etoposide - (3.2%). Patient with overlap syndrome received cyclosporine per os. 8 pts (15.4%) died from MAS (3 with sJIA, 5 – with SLE).

Conclusion: MAS can develop in various children's RD, but more often in pts with sJIA. In our observation more pts had MAS during the course of disease, not at onset. Rapid recognition of MAS can improve treatment outcomes and prognosis.

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AB0726

BIOLOGICS IN CHILDREN WITH IDIOPATHIC INFLAMMATORY MYOPATHIES: AN EXPERIENCE OF SINGLE CENTER

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Background: Juvenile dermatomyositis (JDM) is the most common idiopathic inflammatory myopathy (IIM) of childhood, but the involvement of muscle also can be complication of systemic lupus erythematosus (SLE), mixed connective tissue disease (MCTD) and different overlap syndromes. The presence of myopathy can significantly affect the prognosis of the disease and the quality of life. Despite of the absence of official indication for biological therapy for IIM, it's may be needed in severe course of disease.

Objectives: To analyze in retrospective study the efficacy and safety of Biologics (B) in patients (pts) with IIM in our pediatric rheumatology center.

Methods: The study included all pts with rheumatic diseases (RD), who had IIM and received B during past 10 years.

Results: A total of 17 pts (10 females) were identified: 23.5% with JDM, 11.8% - SLE, 35.3% - MCTD, 29.4% - overlap syndromes. The median age at the onset of RD was 9.75 years [interquartile range (IQR) 6.9; 13.5]. The median disease duration at the onset of myopathy was 7.0 months [3.0; 10.0], in all pts with JDM – at onset. All pts had myopathic syndrome. The rash typical for JDM was in 8 pts (47%). The lung involvement observed in 6 pts (35.3%). Levels of serum muscle enzymes (CK, ALT, AST and lactate dehydrogenase [LDH]) were elevated in 88.2% of pts: CK in 52.9% (mean ± std 624.35±1007.2 U/L), ALT – 82.4% (mean ± std 142.18±148.16 U/L), AST – 82.4% (mean ± std 159.6±201.1 U/L), LDH – 88.2% (mean ± std 492.5±229.2 U/L). Abnormal EMG findings were in 10 pts (59.4%). Nailfold capillaroscopic changes typical for IIM had 10 pts (59.4%). Before B 94.1% of pts received corticosteroids (CS), 58.8% - methotrexate, 29.4% - hydroxychloroquine, 17.6% - cyclophosphamide, 11.8% - cyclosporine, 5.9% - mycophenolate mofetil, 5.9% - azathioprine, 47% - IVIG. B therapy was started due to insufficient efficacy of previous therapy. The median age at start of B was 12.3 years [IQR 9.5; 15.0]. The median disease duration prior to treatment with B was 2.25 years [IQR 0.8; 3.6]. 58.8% of pts received rituximab (RTX), 41.2% - abatacept (ABA). The median time between each course of RTX was 182 days [IQR 156–315]. 80% of pts underwent more than one course of RTX therapy, with a maximum of 5 courses. The median duration of ABA therapy was

2.8 years [IQR 1.6; 5.0]. Discontinuation of B due to serious AE was observed in 1 patient with overlap syndrome (5.9%) – macrophage activation syndrome (MAS) 8 day after RTX infusion (5th course, 1st infusion). One patient (female, 12.3 yo) died from MAS (at onset of SLE, developed before B), the others achieved remission. B therapy allowed to reduce the dose of CS to maintenance in all pts, decrease of calcinosis in 2 pts and improve the quality of life.

Conclusion: Our study demonstrated that B is highly effective in children with IIM and have the acceptable safety. Early diagnosis and initiation of intensive therapy are important in reducing symptoms of myopathy in RD. It seems that the development of IIM in other RDs, not JDM, indicates the need for B and its good efficacy. The further extended studies are needed.

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AB0727

STUDY OF MEFV GENE MUTATIONS IN A COHORT OF CHILDREN: A SINGLE CENTER

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Background: Familial Mediterranean fever (FMF) is a monogenic autoinflammatory hereditary disease characterized by recurrent episodes of fever with sterile peritonitis, pleural inflammation, arthritis, and/or erysipelas-like rash. Among all variants of the MEFV gene, according to the literature, five pathogenic ones have been identified, which in 75% of cases lead to the development of a typical clinical presentation: V726A, M694V, M694I, M680I, and E148Q. Among them, the M694V variant is the most common and occurs in patients with FMF in 20-65% of cases. At the same time, approximately 10 to 20% of patients meeting the diagnostic criteria for FMF do not have pathogenic variants in the MEFV gene. Despite the fact that the molecular genetic, pathogenetic and clinical features of the disease have been studied detailed, the diagnosis remains difficult due to the lack of a clear correlation between the patient's clinical and genetic data.

Objectives: To analyze the obtained genetic data of patients with pathogenic variants in the MEFV gene.

Methods: The study included 103 patients who are mainly observed at the rheumatology department of the National Medical Research Center of Children's Health of Ministry of Health of the Russian Federation in Moscow. All patients underwent analysis of the MEFV gene using Sanger sequencing with further statistical processing of the data obtained.

Results: Of 103 patients, the pathogenic variant of the MEFV gene was found in 93 patients (90.3%), in 10 patients (9.7%) - the pathogenicity of the revealed variant was contradictory. Of 93 patients with the pathogenic variant of MEFV, the clinical presentation of the disease fits to FMF in 37 patients (39.6%). 11 (29.7%) of them had a mutation in M694V. Out of 37 children who met the criteria for FMF diagnosis, 15 (40.5%) children had a homozygous pathogenic variant of MEFV, and 22 (59.5%) children had two mutations in a heterozygous state. 57 patients who do not have a typical clinical presentation, which is specific for FMF are observed at the departments of rheumatology, cardiology and nephrology, 13 patients are on an outpatient observation, and 6 patients at the time of the study are over 18 years old. 8 (14%) of them had a mutation in M694V. Among 57 patients with pathogenic heterozygous variants in a, 22 patients (38.6%) are observed in the rheumatology department, among them:

- Enthesitis-related arthritis - 2 patients (9%);
- Systemic juvenile arthritis - 13 patients (59%);
- Oligoarthritis - 5 patients (23%);
- Polyarthritis - 2 patients (9%).

Conclusion: Analysis of the obtained data showed that FMF is characterized by a combination of the clinical presentation and the pathogenic variant in the MEFV gene. However, the disease manifests itself not only in the homozygous pathogenic variant, but also in the combination of two mutations in heterozygous. The presence of one heterozygous mutation, generally, does not lead to the development of FMF.

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