[1]. The 3D-DXA and DXA measurements were compared using Student's *t* test. Categorical variables were compared using Chi-squared test. All hypothesis tests with *p* value lower than 5% were considered significant.

Results: Forty-six patients and 46 age and sex-matched controls were evaluated. The mean time of disease's duration was 7.37 years, and the most frequent JIA subtype was Oligoarticular ANA positive. More than 21% of the patients had an active disease. OP was present in 5 patients and 1 control. Despite not finding significant differences in the prevalence of osteoporosis, JIA patients had lower aBMD at total hip by DXA and lower cortical sBMD by 3D-DXA than controls (Table 1).

Table 1. Comparison of DXA and 3D-DXA measurements between JIA and healthy controls

Variable	JIA patients (n=46)	Healthy controls (n=46)	<i>P</i> value
DXA			
Lumbar aBMD (g/cm ²), mean ± sd	1.097 ± 0.02	1.155 ± 0.02	0.042
Right femoral neck aBMD (g/cm ²), mean ± sd	0.930 ± 0.02	1.014 ± 0.01	0.041
Right total hip aBMD (g/cm ²), mean ± sd	0.932 ± 0.02	1.001 ± 0.01	0.008
Lumbar T-score, mean ± sd	-0.716 ± 0.16	-0.212 ± 0.16	0.037
Right femoral neck T-score, mean ± sd	-0.563 ± 0.17	0.087 ± 0.12	0.036
Right total hip T-score, mean ± sd	-0.721 ± 0.18	-0.12 ± 0.13	0.008
3D-DXA			
Trabecular vBMD (mg/cm ³), mean ± sd	180.44 ± 5.54	194.57 ± 5.11	0.064
Cortical sBMD (mg/cm ³), mean ± sd	147.23 ± 3.41	161.52 ± 2.89	0.002
Osteoporosis (WHO definition)			
Yes, n (%)	5 (10.87)	1 (2.17)	0.091
No, n (%)	41 (89.13)	45 (97.83)	

DXA dual-energy X-ray absorptiometry, *sd* standard deviation, *aBMD* areal bone mineral density, 3D-DXA three-dimensional dual-energy X-ray absorptiometry, *vBMD* volumetric bone mineral density, *sBMD* superficial cortical bone mineral density

Conclusion: JIA patients do not have more OP than controls in our cohort but there are differences in BMD in the different locations and greater involvement of the cortical bone in JIA.

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POS1297

HOW HLA B27 PREVALENCE IN THE POPULATION INFLUENCE ON FEATURES OF JUVENILE IDIOPATHIC ARTHRITIS: DATA FROM SAKHA REPUBLIC (YAKUTIA)

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Background: Sakha Republic (Yakutia) - SR(Y) is a bid arctic region of Russia with high proportion of aboriginals - Yakutians (50%), intra-national marriages, increased level of inbreeding and high distribution of HLAB27 among aboriginals - 33%, according the epidemiological studies. The main type of arthritis is ankylosing spondylitis in adults and enthesitis-related arthritis (ERA) of juvenile idiopathic arthritis (JIA) in children. The pattern of arthritis distribution in adults and children in SR(Y) is differ from Caucasians and similar to Native Americans.

Objectives: Our study aimed to evaluate the features of JIA in aboriginals of SR(Y), associated with high prevalence of HLAB27 antigen.

Methods: In the retrospective study we included 144 Yakutians who were admitted in the rheumatology department of Yakutsk in 2007-2016 years and 753 JIA patients Caucasian origin in Saint-Petersburg in the same years. We evaluated routine clinical and laboratorial features. HLA B27 was evaluated according the clinical judgement of the attending physicians.

Results: ERA is a main JIA category in Yakutians. The main features the male predominance, higher onset age, high inflammatory activity, lower number of active joints, high incidence of hip and sacroiliac joints involvement, lower levels of psoriasis and uveitis. Yakutians have rare the involvement of cervical spine (6% vs 14%, *p*=0.0000001), TMJ (1% vs 6%, *p*=0.027), elbow (8% vs 16%, *p*=0.012), wrist (18% vs 28%, *p*=0.017), MCP (7% vs 21%, *p*=0.00005), PIP (8% vs 25%, *p*=0.00005). The treatment rates of methotrexate and biologics were similar between groups, but

in Yakutians the biologics were administered earlier, because methotrexate failed and often was ineffective. The cumulative probability to receive biologics was higher in Yakutians compare to Caucasians: HR=3.4 [2.6; 4.4], *p*=0.000001 (Figure 1). The main biologic in Yakutians was etanercept (49/70; 70%). Yakutians received corticosteroids and cyclosporine A rarely, due to low incidence of systemic onset JIA and oligoarthritis with uveitis. It was observed, that the HLA B27 as a risk factors had different significance in Yakutians and Caucasians. HLA B27 presence increased the risk of ERA OR=2.72 (1.3; 5.6) *p*=0.01 in Yakutians and OR=69.2 (29.5; 162.3), *p*=0.00001 for Caucasians; for biologic administration: 0.86 (0.4; 1.8), *p*=0.529 and 2.45 (1.5; 4.0), *p*=0.0003, respectively.

Figure 1. Cumulative probability to leave without biologics between Yakutian and Caucasian JIA patients.

Conclusion: High distribution of HLA B27 antigene in Yakutians, lead to different pattern of JIA categories distributions and patient's management.

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Table 1. Differences between Yakutian and Caucasian JIA patients.

JIA features	Yakutians, n=144 (%)	Caucasians, n=723 (%)	<i>p</i>
Gender, boys, n (%)	85 (59.0)	279 (38.6)	0.000006
Onset age, years	10.6 (6.0; 13.4)	6.0 (3.0; 10.3)	0.0000001
JIA categories, n (%)			
Oligoarthritis	36 (25.0)	188 (26.0)	0.0000001
Poly, RF (-)	21 (14.6)	248 (34.3)	
Poly, RF (+)	1 (0.7)	22 (3.0)	
Systemic onset	4 (2.8)	53 (7.3)	
ERA	76 (52.8)	171 (23.7)	
Psoriatic arthritis	6 (4.2)	41 (5.7)	
Active joints	4.0 (3.0; 6.0)	6.0 (3.0; 12.0)	0.0000001
Uveitis, n (%)	16 (11.1)	114/503 (22.7)	0.002
Psoriasis, n (%)	3/143 (2.1)	46/719 (6.4)	0.043
Hip involvement	50 (34.7)	146 (20.2)	0.0001
Sacroiliitis	46 (31.9)	69 (9.6)	0.0000001
HLA B27, n (%)	76/131 (58.0)	105/301 (34.8)	0.00001
ANA, n (%)	4/46 (8.7)	204/444 (46.0)	0.00001
RF, n (%)	3/141 (2.1)	22/403 (5.5)	0.104
Biologics, primary, n (%)	70/144 (48.6)	347 (48.0)	0.892
Time before first biologics, years	0.6 (0.3; 1.4)	2.6 (1.0; 5.4)	0.0000001

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POS1298

COMPARISON OF FMF CLINICAL FEATURES BETWEEN TURKISH AND CRIMEAN TATAR CHILDREN

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Background: Crimean Tatars is an ethnic group in Russia. The presence of familial Mediterranean fever (FMF) has been recognized since 2016.

Objectives: The study aimed to evaluate the prevalence and clinical features as well as genetic aspects of FMF in children of Crimean Tatar (CT) origin and compare them with a cohort from Turkey.

Methods: This retrospective study included all FMF cases in patients of CT origin (n=18) diagnosed in Children's Regional Hospital in Simferopol since 2016. We included 40 consecutive FMF cases between February-March 2020, diagnosed and followed at Hacettepe University, Ankara, Turkey. All children were less than 18 years old at the time of inclusion. The diagnosis of FMF was based on the EULAR criteria (2019). We excluded other autoinflammatory diseases and any doubtful cases. For assessment of MEFV alleles prevalence 127 healthy unrelated CT adults from different parts of Crimea peninsula were included. Sanger sequencing of MEFV exons 2 and 10 was performed in all the patients and controls.

Results: FMF in CT was diagnosed with nearly 5 year-delay, despite the earlier age at onset. CT children had more frequent and prolonged fever, joint involvement (arthritis and arthralgia) and erysiploid rash compared to Turkish, who had more attacks with chest pain and abdominal pain which last longer. (Table 1) CT had higher white blood cell count, C-reactive protein, erythrocyte sedimentation rate and lower hemoglobin. It might be explained by the fact that the majority of Crimean Tatars were admitted to the clinic during an attack, which was not always the case with Turkish children. Distribution of MEFV pathogenic alleles p.M694V, p.M680I, p.V726A in CT children was 81%, 9.5% and 9.5%, respectively, while in Turks it was 68.6%, 14.3% and 12.9%. Among the CT patients, proportion of homozygotes, compound-heterozygotes and heterozygotes were 11%, 6% and 83%, and among Turkish patients were 45%; 30%; and 25%, respectively. MEFV pathogenic variants were detected in 10.2% of healthy CT donors: 7.1% individuals had p.M694V, 1.6% - p.M680I, 1.6% - p.V726A. Comorbid diseases including IgA vasculitis, sacroiliitis, JIA, autoimmune hepatitis and inflammatory bowel disease were reported in 5.6% of CT and 10% of Turks. The colchicine treatment rate and regimen were similar, but CT received biologics more frequently (44%) than Turks (22.5%).

Conclusion: CT is an ethnic group with a significant number of MEFV mutation carriers assuming the expected prevalence of FMF to be as high as 1:385. Thus, any periodic fever in CT patients should be considered as a sign of possible FMF. The clinical course of FMF has some peculiarities in CT patients.

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Table 1. Comparative data of FMF patients with Turkish and Crimean Tatar origin

FMF features	Turkish (n=40)	Crimean Tatars (n=18)	p
Family history of FMF, n (%)	16 (40)	9 (50)	0.477
Consanguinity, n (%)	8 (20)	6 (33)	0.272
Onset age, years	3.3 (2; 5)	1.3 (0; 4)	0.040
Age at FMF diagnosis, years	4.7 (3; 8)	9.6 (4; 14)	0.005
Diagnosis delay, years	0.9 (0; 2)	5.5 (2; 10)	0.00001
Fever, n (%)	33 (83)	18 (100)	0.058
Episode duration, days	2.0 (2; 3)	3.0 (3; 6)	0.000003
Fever duration, hours	48.0 (48; 72)	72.0 (72; 120)	0.000002
Chest pain, n (%)	12 (30)	1 (6)	0.039
Chest pain duration, hours	48.0 (24; 72)	0.0 (0; 0)	0.000001
Abdominal pain, n (%)	30 (75)	9 (50)	0.061
Abdominal pain duration, hours	48.0 (24; 48)	24.0 (24; 24)	0.043
Arthritis, n (%)	10 (25)	16 (89)	0.000006
Arthralgia, n (%)	19 (48)	17 (94)	0.0007
Erysiploid rash, n (%)	0 (0)	9 (50)	0.000001

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POS1299 RISK FACTORS OF TOTAL HIP ARTHROPLASTY IN JUVENILE ARTHRITIS WITH HIP INVOLVEMENT

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Background: Hip osteoarthritis (HOA) is a severe outcome of juvenile idiopathic arthritis (JIA) itself and also can be result of corticosteroid (CS) treatment, if it

was used. Total hip arthroplasty (THA) is the last step in JIA treatment and indicates ineffectiveness of conservative treatment.

Objectives: We aimed to evaluate risk factors which lead to THA in JIA patients with HOA.

Methods: 753 patients aged 2-17 years were included in our retrospective study during the last 10 years. Diagnosis was made according to ILAR criteria. Clinical, laboratory and radiol examinations were evaluated. Diagnosis of HOA was made on MRI, CT and planar radiographs and confirmed by morphological examination of removed femoral heads.

Results: Total 153/753 (20.3%) patients with JIA had hip involvement. HOA developed in 48/153 (31.4%) of JIA patients and 16/48 (33.3%) of them had THA was undergone. Prevalence of HOA and THA (%) in JIA subtypes: in polyarticular (5/32 (15.6%) and 8/16 (50%), systemic (6/32 (18.7%) and 5/16 (31.2%)), enthesitis-related (19/32 (59.4%) and 3/16 (18.8%)) and psoriatic (2/32 (6.7%) and 0/16) subtypes respectively, p=0.0000001. Patients who underwent THA initially had higher level of inflammation: elevated ESR (33 vs 5 mm/h, p=0.002) and CRP (14.7 vs 1.9 mg/l, p=0.03), more active joint, and especially involvement of joints of upper limbs: elbows (p=0.004) and proximal interphalangeal joints (p=0.001), arthritis of subtalar joint (p=0.02). Delayed biologic treatment (7.5 vs 3.4 years, p=0.043) and delayed achievement of remission (9.2 vs 5.6 years, p=0.047) were main predictors of THA. Patients with HOA without biologics had increased cumulative probability of THA: HR=1.99 (1.01; 3.98), p=0.049 (Figure 1). Patients with THA received corticosteroids (93.7 vs 50%, p=0.003) more often including high dose pulse-therapy regimens, but differences in the cumulative doses were not observed (5000 vs 4500 mg, p=0.54) between groups, CS administration was independent risk factor of HOA and THA.

Figure 1. Cumulative probability of THA in JIA patients with hip osteoarthritis.

Conclusion: the main risk factors of THA are systemic and polyarticular course because of their activity, systemic CS and delayed biologic treatment. Corticosteroids should be avoided in those group of patients because of risk of avascular pathway HOA formation.

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Table 1. The features of JIA patients with hip osteoarthritis depending on

JIA features	THA, (n=16)	HOA without THA, (n=32)	p
Time to THA, years	5.2 (3.6; 10.2)	4.6 (2.2; 8.7)	0.4
Onset age, years	7.95 (3.5; 11.1)	8.3 (4.3; 13.1)	0.5
JIA duration, years	8.5 (6.5; 13.2)	5.43 (2.8; 11.1)	0.07
Polyarticular JIA, n (%)	8 (50.0)	5 (15.6)	0.037
Systemic JIA, n (%)	5 (31.3)	6 (70)	0.037
ANA, n (%)	3/8 (37.5)	5/16 (31.3)	0.760
HLA B27, n (%)	3/6 (50)	9/19 (47.4)	0.911
RF, n (%)	0/9 (0)	1/15 (6.7)	0.429
Uveitis, n (%)	1/16 (6.3)	3/24 (12.5)	0.519
ESR, mm/h	33 (13; 54)	5 (3; 27)	0.002
CRP, mg/l	14.7 (2.9; 72.3)	1.9 (0.3; 12.7)	0.03
Active joints, n	21.5 (8.5; 52.5)	9 (5; 16)	0.02
Elbows, n (%)	11 (68.7)	8 (25.0)	0.004
Proximal interphalangeal joints, n (%)	10 (62.5)	5 (15.6)	0.001
Subtalar, n(%)	4 (25.0)	1 (3.1)	0.02
Pulse-therapy GCS, n(%)	11 (68.7)	10 (31.3)	0.014
Cumulative GCS dose, mg	5000 (3000; 14000)	4500 (500; 20000)	0.54
Time to biologic, years	7.6 (4.3; 11.4)	3.4 (1.9; 8.6)	0.04
Achievement of remission, years	9.2 (6.6; 15.4)	5.6 (3.3; 11.4)	0.047