abdominal pain, and arthralgias can be observed in both disorders and this may lead to misdiagnosis.

Objectives: To investigate FD prevalence in mild and severe FMF patients.

Methods: A total of 66 FMF patients, according to the Tel-Hashomer criteria, were included in the study. Patients were grouped into mild (Group 1) and severe (Group 2) subsets according to the severity score. α -GLA enzyme activity and mutations in the GLA gene were performed. Demographic features, clinical findings, MEFV mutations and treatments were recorded.

Results: The clinical and demographic characteristics of the patients were given in Table 1. In severe form, 27 patients were using biological drug and 40.7% had amyloidosis. Symptoms related to FD including hypohidrosis, acroparesthesias, and painful neuropathies, were not different between the groups. Only one patient in group 1 had a low GLA enzyme activity (0.1 nmol/h/ml; Normal >2.5) which also had mutations in the GLA gene but MEFV mutation test was negative. (Table 2). This patient was a 39-year-old female with recurrent abdominal pain, distal extremity pain and the presence of fever during the attacks. She was heterozygous for R301Q. In detailed history, she reported mild acroparesthesias, hypohidrosis, and tinnitus.

Table 1. Demographic and clinical findings

	All patients n: 66	Group 1 n: 32	Group 2 n: 34	p-value
Age, median (min./max.)	34 (17/64)	27 (17/59)	36 (18/64)	0.192
Male, n (%)	36 (54.5)	14 (43.8)	22 (64.7)	0.137
Disease duration, median (min./max.)	20.5 (1/57)	12.5 (2/50)	25 (1/57)	0.006
Family history of FMF, n (%)	41 (62.1)	22 (68.8)	19 (57.6)	0.443
Alpha-galactosidase A (nmol/h/ml), median (min./max.)	5.9 (0.1/16)	5.6 (0.1/9.6)	6 (3.1/16)	0.330
Abdominal pain, n (%)	58 (87.9)	31 (96.9)	27 (79.4)	0.030
Fever, n (%)	54 (81.8)	25 (78.1)	29 (85.3)	0.532
Arthritis, n (%)	34 (51.5)	10 (31.3)	24 (70.6)	0.003
Pleuritis, n (%)	31 (47)	19 (59.4)	12 (35.3)	0.083
Painful neuropathy, n (%)	23 (34.8)	13 (40.6)	10 (29.4)	0.440
Acroparesthesias, n (%)	9 (13.6)	6 (18.8)	3 (8.8)	0.240
Angiokeratomas, n (%)	0 (0)	0 (0)	0 (0)	-
Cardiac abnormalities	1 (1.5)	1 (3.1)	0 (0)	0.485
Tinnitus, n (%)	4 (6.1)	3 (9.4)	1 (2.9)	0.274
Hearing loss, n (%)	2 (3)	2 (6.2)	0	0.086
Hypohidrosis, n (%)	2 (3)	1 (3.1)	1 (2.9)	0.965
Cornea verticillata, n (%)	0 (0)	0 (0)	0 (0)	-
Proteinuria, n (%)	13 (19.7)	2 (6.3)	11 (32.4)	0.012
Cochine dosing (mg/day), median (min./max.)	2 (1/3)	1 (1/2)	2 (1/3)	<0.001

Table 2. MEFV mutant alleles and GLA mutations

	All patients n: 66	Group 1 n: 32	Group 2 n: 34
Alpha -galactosidase A (GLA) gene mutations, n (%)	1 (1.5)	1 (3.1)	0 (0)
M694V mutations, n (%)	47 (35.6)	17 (26.5)	30 (44.1)
Non-M694V mutations, n (%)	36(27.2)	20 (31.2)	16 (23.5)

Conclusion: In this study, we showed the following: 1) the FD rate in the total FMF group was 1.5% (3.1% in group 1), 2) none of the patients in the severe FMF subset had abnormal enzyme activity or mutations related with FD, 3) symptoms related with FD such as hearing loss, hypohidrosis, acroparesthesias, and painful neuropathies also noted in FMF patients particularly in the milder group. Based on our results, FD should be considered in the differential diagnosis of FMF particularly in patients with atypical symptoms.

Disclosure of Interests: None declared

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SAT0544

USE OF BIOLOGICAL DMARDS IN PATIENTS WITH ADULT-ONSET STILL'S DISEASE: RESULTS FROM TURKBIO REGISTRY

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Background: Adult-onset Still's disease (AOSD) is a rare multisystemic inflammatory disorder, and is diagnosed by exclusion. AOSD is generally treated with nonsteroidal antiinflammatory drugs, corticosteroids, and conventional disease modifying antirheumatic drugs (cDMARDs). Biological disease modifying antirheumatic drug (bDMARD) therapy are recommended in AOSD patients who are

refractory to traditional therapy, and bDMARDs is becoming increasingly important in AOSD treatment.

Objectives: To evaluate the use of bDMARDs and drug survival in AOSD patients.

Methods: TURKBIO registry is the Turkish version of Danish DANBIO rheumatological database which has been established in 2011. All patients with AOSD who received biological agents registered in TURKBIO registry between dates of October 2011 and October 2019 were included in this study. The demographic data, response of therapy, frequency of using and switching biological agents were collected.

Results: As of October, 21 AOSD patients were recruited. Mean age of patients was 34.6±7.3 (min-max: 24-49) years, mean disease duration was 9.3±7.4 (min-max: 1-22) years, and 57.1% of patients was female. Mean duration from onset to start of bDMARDs was 7±6.1 (min-max: 0.5-21) years. It was observed that 13 patients (61.9%) received tocilizumab (TCZ), 6 patients (28.6%) received IL-1 inhibitors (5 anakinra and one canakinumab), 2 patients (9.5%) received certolizumab and one patient (4.8%) received etanercept as a first-line bDMARDs. The most frequently used biological agents in current treatment were as follows: 52.4% of patients received TCZ and 33.3% received IL-1 inhibitors (4 anakinra, 3 canakinumab), and the most frequently used concomitant drugs were methotrexate (47.6%) and hydroxychloroquine (14.3%). The switching rate was 33.3%, and in half of them the reason of switching was adverse events. The median drug survival for bDMARDs was 28.6 months (Table).

Table. Demographic, laboratory features and management of AOSD

(median;25-75)	n=21
Age (year)	34.7 (28.3-40.6)
Gender (Female) n(%)	12 (57.1)
Disease duration (year)	8 (2-17)
Duration from onset to start of bDMARDs (year)	6 (1.5-10)
ESR (on onset)	44 (21-66)
CRP (on onset)	65 (3.1-108)
Current bDMARDs n(%)	
Tocilizumab	11(52.4)
IL-1 inhibitors	7 (33.3)
Etanercept	1 (4.8)
Certolizumab	2 (9.5)
Concomitant cDMARD n(%)	
Methotrexate	10 (47.6)
Leflunomide	4 (19)
Sulfasalazine	1 (4.8)
Hydroxychloroquine	3 (14.3)
bDMARDs Survival (months)	28.6 (5.5-75)
Switching Rate n(%)	7 (33.3)
Adverse Event n(%)	3 (14.3)

Conclusion: This is the first evaluation of AOSD patients who used biological agents from TURKBIO registry. According our data, TCZ and anti-IL1 agents were the most frequent biological choices. The limitation of this study was the low number of the patients with AOSD who used biological agents.

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Diagnosics and imaging procedures

SAT0545

ULTRASONOGRAPHIC ENTHESEAL AND JOINT INVOLVEMENT IN PATIENTS WITH ACUTE ANTERIOR UVEITIS: A MONOCENTRIC CROSS-SECTIONAL STUDY.

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Background: Few studies have been investigating ultrasonographic (US) changes at peripheral entheses and joints in patients with anterior acute uveitis (AAU)¹ and none has been comparing non granulomatous uveitis (AAGU) with granulomatous uveitis (AAGU).

Objectives: To investigate prevalence of US entheses and joints abnormalities in a consecutive series of AAU patients and to compare US findings in AAGU HLA-B27 positive and HLA-B27 negative, with AAGU patients.

Table 1. US findings at the patient level

	Total n = 121	AAGU n = 20	AANGU n = 101	AANGU B27- n = 40	AANGU B27+ n = 61	AANGU vs AANGU	AAGU vs AANGU B27-	AAGU vs AANGU B27 +	AANGU B27- vs AANGU B27+
Entesophyte, n. (%)	109 (90.1%)	16 (80%)	93 (92.1%)	39 (97.5%)	54 (88.5%)	0.111	0.038	0.451	0.142
Enthesal erosion, n. (%)	12 (9.9%)	0	12 (11.9%)	5 (12.5%)	7 (11.5%)	0.213	0.159	0.184	1
Hypoechoogenicity, n. (%)	5 (5.1%)	0	5 (5%)	3 (7.5%)	2 (3.3%)	0.589	0.544	1	0.382
Thickened enthesis, n. (%)	118 (97.5%)	19 (95%)	96 (98%)	37 (97.4%)	59 (97.3%)	0.440	1	0.440	1
Doppler signal at enthesis, n. (%)	32 (26.4%)	1 (5%)	31 (30.7%)	13 (32.5%)	18 (29.5%)	0.024	0.023	0.032	0.750
Active enthesitis, n. (%)	10 (8.3%)	0	10 (9.9%)	5 (12.5%)	5 (8.2%)	0.211	0.159	0.326	0.512
Structural damage, n. (%)	109 (90.1%)	16 (80%)	93 (92.1%)	39 (97.5%)	54 (88.5%)	0.111	0.038	0.451	0.142

Results are presented as number and percentage of patients having at least 1 enthesal abnormality, with significance

Methods: 121 consecutive patients diagnosed with AAU [91 AANGU (40 B27-, 61 B27+) and 20 AAGU, M/F 32/29, mean age 45.4±12.8 y, mean disease duration 44±84 m] from the Immunology Eye Unit (AUSL-IRCCS Reggio Emilia, Italy) entered the study. Patients with Fuchs uveitis were enrolled as controls (AAGU group). A complete rheumatological examination, including 68/66 peripheral joint count, entheses and bone spine mobility evaluation, was conducted. Using an Esaote MyLabClass, 18-6MHz linear multifrequency transducer both in B-mode and PD-mode, 6 entheses were evaluated bilaterally for the presence of any elementary lesion, structural damage and active enthesitis, according to OMER-ACT definitions². The following sites were studied: lateral epicondyle of humerus, distal quadriceps insertion into the patella, proximal and distal patellar tendon insertions, calcaneal insertion of Achilles tendon and plantar fascia. Knee and ankle joints, were evaluated for synovial hypertrophy, effusion and PD signal. Extensor and flexor tendons of the foot and ankle were also examined for tendon sheath effusion, synovial hypertrophy and PD signal.

Results: Abnormal US findings, consisting in the presence of at least one enthesal abnormality, were detected in 110/121 patients (90.2%), the mean number of abnormal entheses per patient was 6.71±5.46. At the enthesitis level, structural damage was significantly higher in AANGU, as compared with AAGU (30.9% vs 21.7%, $p<0.001$) and in AANGU B27+ as compared with B27- (27% vs 36%, $p<0.001$). The presence of PD signal at enthesitis was significantly increased in AANGU vs AAGU (7.1% vs 0.4%, $p<0.001$) but also among AANGU B27+ vs AANGU B27- pts (5.9% vs 9%, $p=0.040$). Analysis based on patient-level data showed a significantly higher percentage of patient in AANGU group having at least one enthesitis exhibiting PD signal, when compared with AAGU (31% vs 5%, $p=0.023$) (Table 1). The prevalence of US joint and tendon sheath alterations was negligible in the entire AAU population (<1%) without any difference between groups.

Conclusion: US enthesal structural damage is frequent in AAU patients, whereas US active enthesitis has a low prevalence. At the patient level, the presence of PD signal at enthesitis seems to be associated with AANGU, without apparent influence of HLA-B27 positivity.

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SAT0546

COMPARISON OF SHEAR WAVE ELASTOGRAPHY AND CONVENTIONAL ULTRASONOGRAPHY OF SALIVARY GLANDS IN PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME: CAN SHEAR WAVE ELASTOGRAPHY CAPTURE LESIONS THAT ARE DIFFICULT TO DIAGNOSE WITH CONVENTIONAL ULTRASONOGRAPHY?

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Background: Sjögren's syndrome (SS) is a chronic inflammatory autoimmune disease characterized by lymphocyte infiltration in salivary and lacrimal glands. Recently, salivary gland ultrasonography (US) proved valuable for assessing salivary gland involvement in SS and seemed to exhibit good diagnostic properties. In the literature, studies conducted by the scoring of the structural changes according to B-Mode US of salivary glands showed a wide variability regarding sensitivity and specificity. Our previously study demonstrated that although conventional B-mode US findings were useful for the diagnosis of SS with low salivary flow they were not for subclinical SS with normal salivary flow (EULAR 2016). Recently, we reported that the tissue elasticity was decreased due to structural changes in the submandibular glands (SG) at the advanced stage

of the disease and the shear wave elastography (SWE) is useful to distinguish pathological changes of the SG in patients with SS (EULAR2018).

Objectives: The aim of this study was to compare the usefulness of SG conventional B-mode US and SWE findings in non-SS and SS patients classified by salivary flow.

Methods: Twenty-two non-SS patients and 99 SS patients who fulfilled the American College of Rheumatology (ACR) / European League Against Rheumatism (EULAR) classification criteria for SS were studied. SS patients were divided into three groups according to salivary flow using gum test (VL/SS <5mL/10min. (n=38), L/SS 5-10mL/10min. (n=41) and N/SS >10mL/10min. (n=20)). All patients were examined SGUS by a single investigator who was blinded to device (TUS-A300; Canon Medical Systems, Tokyo, Japan) with a linear transducer (7.5-10MHz). The examination consisted of conventional B-mode US (US staging score), pulsed wave Doppler US (PD grading score) and SWE with quantitative assessment. US staging scores were assessed by glandular size, inhomogeneity and contrast of diaphragmatic muscle (stage 0 to 3). PD grading scores were graded by pulsed wave pattern in pulsed wave Doppler US at the internal SG facial arteries (grade 0 to 2). With the region-of-interest (ROI) placed over the stiffest areas of the lesion on SWE, the quantitative means of the elasticity values were measured by shear wave velocity (Vs; m/s) and elasticity (E; kPa) for each lesion.

Results: The US staging score, the PD grading score, the values of Vs and E were significantly higher in patients with SS than in non-SS group (SS vs non-SS; US staging score 2.10±1.07 vs 0.86±0.99, $p<0.0001$, PD grading score 1.17±0.83 vs 0.23±0.61, $p<0.0001$, Vs 1.75±0.34 vs 1.57±0.29m/s, $p=0.02$, E 9.64±4.02 vs 7.81±2.27kPa, $p=0.04$). However, there was no significant difference between non-SS and N/SS in early-stage SS by US staging score (N/SS vs non-SS; 0.95±0.89 vs 0.86±0.99) and PD grading score (N/SS vs non-SS; 0.40±0.15 vs 0.23±0.61). In contrast, the values of Vs and E were highest in N/SS as compared with all groups, and were significantly higher in N/SS than in non-SS (N/SS vs non-SS; Vs 2.02±0.24 vs 1.57±0.29m/s, $p<0.01$, E 12.58±3.16 vs 7.81±2.27kPa, $p<0.01$).

Conclusion: The present study demonstrated that although the tissue elasticity was decreased due to structural changes at the advanced stage, it increased due to inflammation and high viscosity in the SG at the subclinical SS with normal salivary flow comparing that in non-SS patients. The SWE may be a useful tool for the differential diagnosis between patients with non-SS and subclinical SS with normal salivary flow, which is difficult to distinguish by conventional B-mode US.

Disclosure of Interests: None declared

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SAT0547

RADIOGRAPHIC IMAGING IN ASSESSMENT OF FLUOROSCOPIC GUIDED INJECTION OF RHEUMATOID ATLANTOAXIAL JOINT INFLAMMATION

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Background: Rheumatoid spondylitis is a feature of long-lasting Rheumatoid arthritis (RA) that is presented by neck pain, headache and sleep disturbance. Atlantoaxial joint (AAJ) is the commonest cervical spine joint that affected in patients with RA. When it is involved, it can be associated with dangerous complications. Magnetic Resonance Imaging (MRI) can be used for assessing the disease activity, the amount of cartilage destruction, associated cervical myelopathy and differentiating synovial fluid from inflammatory pannus (Taniguchi D, et al., 2008).

Objectives: This study aimed to evaluate the efficacy of intra-articular steroid injection of inflamed AAJ in RA patients, regarding neck pain, headache and sleep quality using pre and post-interventions MRI.

Methods: A prospective case control study. Patients with inflamed AAJ were recruited. Group 1 (AAJ group, n = 30), received intraarticular AAJ steroid injection, guided by fluoroscopy and Group 2 (control group, n = 30), received systemic steroids. Both groups were assessed with: Visual Analogue scale (VAS) for