Methods: DNA was extracted from the patient's whole blood, saliva and hair root. The TNFRSF1A gene was analyzed by Sanger sequencing in all tissues, and next-generation sequencing in whole blood. In silico molecular modeling was performed to predict the structural and functional consequences of the tumor necrosis factor receptor (TNFR) type I protein mutation.

Results: Sanger sequencing and next-generation sequencing methods revealed differential tissue presence of a missense mutation at c.265 T>C p.Phe89Leu (F89L) Chr12(GRCh37):g.6442960A>G ex3 rs104895245. The mutant allele was present in whole blood and buccal mucosa and absent in hair root, supporting the presence of somatic TNFRSF1A mosaicism. In silico prediction modeling with SIFT and PolyPhen2 suggested that this mutation led to numerous structural rearrangements which resulted in changes in the protein surface profile. The patient had a complete response to treatment with canakinumab an interleukin-1 beta blocker, with resolution of symptoms and normalization of acute-phase protein levels.

ID71726983 Blood, mosaic sequence change at TNFRSF1A, c.265T>C

Conclusions: This is the second reported case of TNFRSF1A mosaicism in a patient with TRAPS, which was attributable to a de novo mosaic missense mutation in the TNFRSF1A gene. (c.265 T>C) p.Phe89Leu (F89L) The clinical picture in this patient, including the complete response to IL-1 blockade, was typical of that found in TRAPS. This case suggests that adult onset TRAPS phenocopies may be attributed to somatic (or postzygotic) mutations.

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FRI0595 **EPIDEMIOLOGY AND COMPLICATIONS OF HOSPITALIZED PATIENTS WITH ADULT ONSET STILL'S DISEASE IN UNITED STATES: A NATIONWIDE ESTIMATE**

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Background: There is a dearth of epidemiological studies in the US and worldwide on Adult Onset Still's Disease (AOSD). Currently, there is no consensus on its incidence and prevalence in different populations. Most studies report a majority of patients below the age of 35.[1]

Objectives: To describe the demographics, complications and mortality of hospitalized patients with AOSD in United States.

Methods: All adult (>18 years) hospitalized patients in 2013 from a nationwide

inpatient sample (NIS) database were captured. AOSD patients were identified using the ICD-9 code 714.2 that was in use in 2013. Patients also coded for Rheumatoid Arthritis, Lupus, Myositis, Polymyalgia Rheumatica, Ankylosing Spondylitis and Psoriatic Arthritis were excluded. This was done in order to truly capture patients with strictly AOSD. NIS is the largest all- payer inpatient care database in the United States with approximately 8 million hospitalizations each year. Discharge weights were used to enable nationwide estimates. Descriptive statistics were represented as means/medians for continuous and as frequencies and percentages for categorical variables.

Results: In 2013, 1410 US patients were coded with the ICD-9 code 714.2 and, after excluding concomitant rheumatic disease diagnoses as per protocol, 1265 AOSD patients were analyzed. AOSD patients had a mean age of 53.8 (SD - 18.1) years and a median age of 54 years. 70.4% were females. The racial/ethnic distribution showed that 61.6% white, 13.9% African American and 17.3% Hispanic patients were affected. 56.9% were hospitalized in urban teaching hospitals. The Mid-Atlantic census division had the highest number of patients – 240 (Figure). 35 (2.8%) of patients developed Macrophage Activating Syndrome (MAS). 30 (2.4%) patients had other severe complications of AOSD like disseminated intravascular coagulation (DIC) and thrombotic thrombocytopenic purpura (TTP). Median length of stay was 4 days and median hospital charges were \$31,400 (Table). There were 35 inpatient deaths (mortality 2.8%); 71.4% of deaths were in females, 50% in Asians, and 71.4% were in patients in the 54- 67 age group.

Variables	N=1265	Percentage
Age (mean age in years (standard deviation))	53.9 (18)	
Female Sex	890	70.4%
White	730	61.6%
Black	165	13.9%
Hispanic	205	17.3%
Asian	50	4.2%
Bed Size of the Hospital		
Small	140	13.7%
Medium	270	26.5%
Large	610	59.8%
Location/teaching status of hospital		
Rural	100	9.8%
Urban non-teaching	340	33.3%
Urban teaching	580	56.9%
Macrophage Activating Syndrome	35	2.8%
Other complications - (DIC and TTP)	30	2.4%
In-hospital death	35	2.8%
Length of stay (Median no of days)	4 days	
Total Hospital Charges (Median in dollars)	\$ 31,400

Conclusions: In hospitalized American AOSD patients, the average age was higher than previously thought. This may indicate an aging population with a higher number of comorbidities that justify hospitalization. Mortality increased with age and was higher among women and Asians. To our knowledge, this is the largest epidemiological study of AOSD today in the USA.

References:

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FRI0596 **ANAKINRA TREATMENT IN PATIENTS WITH FAMILIAL MEDITERRANEAN FEVER: A SINGLE-CENTER EXPERIENCE (CASE SERIES)**

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Background: Approximately in 5 to 10% of FMF patients there is insufficient response and/or intolerance to colchicine treatment. Several reports have pointed out the efficacy of IL-1 blockade in colchicine resistant FMF subgroup.

Objectives: To review the patients followed in our center with FMF who received Anakinra, an anti-IL-1 receptor antagonist, in terms of outcome and side effects.

Methods: 43 FMF patients who were treated with Anakinra were retrospectively

reviewed with regard to indication, effect on disease activity and acute phase response, adverse events and patient global assessment.

Results: There were 43 patients with FMF (20 M/ 23 F) who were treated with Anakinra for various indications (colchicine resistant recurrent febrile attacks in 39, colchicine related side effects in 3, both in 1). The mean age of the patients was 31.73±9.56 years. The mean duration of the disease was 19.90±10.52 years. There were various co-existing pathologies among this study group like Ankylosing Spondylitis (4), Psoriasis (1), Behçet's disease (1), Gout (1), Vasculitis (1), Adult-onset Still's disease (1), Polyarthritis Nodosa (1) and Celiac disease (1). The mean colchicine dose was 1.84±0.31 mg/d. As for the dosage, 35 patients were on 100 mg/day, 6 were 100 mg on alternate days, 2 were on 200 mg/day. The mean duration of anakinra treatment was 10.76±13.64 months. After the initiation of anakinra 29 patients became attack-free, 9 patients reported more than 50% decrease, 3 patients less than 50% decrease, and 2 patients no change in the frequency of the attacks. Mean patient global assessment decreased from 7.55±2.34 to 2.82±2.63 under Anakinra treatment ($p<0.001$).

As for the adverse events, eight patients (18%) had allergic reactions under Anakinra treatment (severe disseminated rash in 1 patient and severe injection site reaction in 4 patients and tolerable injection site reaction in 3) which necessitated termination of treatment in 5 patients. Anakinra was stopped because of genital warts and urinary tract infection in one other patient. Worsening of psoriatic lesions was observed in another patient. There were no adverse events in the remaining 41 patients during the course of treatment. On the other hand, treatment was terminated due to inadequate response in 11 (25%), remission in 2 and patient preference in 3 patients. Nineteen patients are still on Anakinra treatment for 10.09±14.51 months.

Conclusions: Anakinra is an effective and relatively safe alternative treatment in FMF patients with inadequate response or intolerance to colchicine, however approximately one fourth of the patients stop anakinra for insufficient response.

Disclosure of Interest: None declared

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FRI0597 FATIGUE IN FAMILIAL MEDITERRANEAN FEVER (FMF) AND ITS RELATIONS WITH OTHER CLINICAL PARAMETERS

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Background: Fatigue is a common problem in patients with rheumatic disease. It may cause disability and poor quality of life (1). Although fatigue and its determinants are studied in several rheumatic diseases, there is no study in Familial Mediterranean Fever (FMF).

Objectives: The aim of this study is to investigate fatigue in FMF patients as a disabling symptom and its associations with clinical and demographic variables.

Methods: FMF patients were recruited into the study according to FMF Tel Hashomer criteria (2). Control group composed of healthy individuals. Patients who were pregnant or who had concomitant medical illnesses such as cancer, fibromyalgia, or psychiatric conditions such as psychosis or bipolar disorder were excluded. Age, gender, disease duration, education, marital status were noted as demographic features. Number of attacks in the last year, type of attack, involvement of joints, dosage of colchicine, genotype, amyloidosis, and severity of FMF was assessed with PRAS score, visual analogue score of pain (VAS-pain) and VAS-fatigue were used as clinical parameters. Pittsburgh Sleep Quality Index (PSQI), Multidimensional Assessment of Fatigue (MAF), Nottingham Health Profile (NHP), Fatigue Severity Scale (FSS), Fatigue Impact Scale (FIS) and Hospital Anxiety and Depression Scale (HADS) were filled out by both control and study group. Assessment of normality was analyzed with Shapiro-Wilk test. Differences in the mean scores of control and study group were compared with independent samples Mann-Whitney U and Kruskal-Wallis test. Relationship between continuous variables was assessed with Spearman's correlation coefficient (rho).

Results: 61 FMF patients and 61 age, gender (44 female, 17 male in each group) matched controls were enrolled into the study. Mean age of FMF and control group were 35.5±11.8 and 35.8±11.7 years, respectively. The mean disease duration was 82.5±81.7 months. Difference between mean of VAS-pain, VAS-fatigue, PSQI total score, MAF, all subsets of NHP, FSS, FIS, HADS scores of FMF patients were significantly higher than control group ($p<0.0001$). The correlations between scales assessing fatigue and other outcome measures in FMF patients was shown in Table.

Spearman's Correlation (rho)	VAS.fatigue	MAF	FSS	FIS
PSQI.TotalScore	0.49***	0.53***	0.38**	0.50***
NHP.EnergyLevel	0.43***	0.65***	0.54***	0.55***
NHP.Pain	0.58***	0.66***	0.56***	0.67***
NHP.EmotionalReaction	0.40**	0.54***	0.48***	0.65***
NHP.Sleep	0.32*	0.24	0.12	0.31*
NHP.SocialIsolation	0.27*	0.39**	0.50***	0.54***
NHP.PhysicalAbilities	0.51***	0.64***	0.56***	0.69***
HADS.Anxiety	0.43***	0.55***	0.52***	0.75***
HADS.Depression	0.30*	0.42***	0.42***	0.57***

*** $p<0.001$; ** $p<0.01$; * $p<0.05$.

Conclusions: This study has shown that fatigue in FMF is associated with a

number of psychological, sleep, quality of life and disease related factors. FMF group had increased pain, fatigue, sleep disturbance and decreased quality of life compared to control group. FMF patients with fatigue may benefit from pharmacological and psychological interventions which target these factors.

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FRI0598 CHARACTERIZATION OF PATIENTS WITH AN INITIAL DIAGNOSIS OF UNDIFFERENTIATED CONNECTIVE TISSUE DISEASE. OBSERVATIONS FROM A LONGSTANDING MONOCENTRIC COHORT

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Background: Evolution from Undifferentiated Connective Tissue Disease (UCTD) to a defined Autoimmune Disease (AID) remains unexplained and usually occurs in the first 3 to 5 years.

Objectives: To determine the frequency and predictors of differentiation from UCTD to AID in a selected cohort of patients originally labelled as UCTD within the first 3 years of follow-up.

Methods: Demographic and clinical features were retrieved: (i) retrospectively, from the AID's Unit current database in December 2016 (n=195), including Systemic Lupus Erythematosus (SLE), incomplete SLE, Sjögren's Syndrome (SS), Systemic Sclerosis (SSc), VEDOSS and Mixed Connective Tissue Disease (MCTD); and (ii) from a prospectively UCTD database created in January 2012 (n=48). Inclusion criteria for the latter pertains to ANA positive patients, not fulfilling any of the existing classification criteria for AID and without severe organ involvement [1]. Patients with cutaneous lesions suggestive of lupus, inflammatory myopathies, erosive arthritis, systemic sclerosis and certain auto-antibody profiles were excluded *a priori* from the definition of UCTD as these are thought to herald defined conditions, as previously defined [2]. Definition of stable UCTD includes patients with at least one clinical manifestation of AID, positive ANA result and disease duration of at least 3 years [3]. Comparisons between stable UCTD and progressing patients were made using Wilcoxon Rank Sum and Chi square tests, p values of <0.05 were considered statistically significant.

Results: Each individual patient was analysed for differentiation into AID at yearly intervals. Overall, the main features of the prospective UCTD cohort were arthralgia (79%), rash (31%), arthritis (19%), sicca symptoms (19%), photosensitivity (17%) and Raynaud (13%). Prospective analysis in the UCTD cohort revealed differentiation in 4/48 patients (8.3%): into rheumatoid arthritis (n=2), psoriatic arthritis (n=1) and SLE (n=1). The main difference between stable UCTD and those that progressed to AID was the presence of arthritis (p=0.003). Median age of onset and symptom duration was similar between both groups. Retrospective analysis yielded very few patients presenting as UCTD (n=5/195): 2/106 SLE; 1/13 incomplete SLE; 1/43 SS; 1/19 SSc; 0/7 VEDOSS and 0/7 MCTD with no distinguishing features.

Conclusions: Very few patients differentiated in the UCTD cohort after 3 years of follow-up and in our retrospectively studied cohort, in accordance to a previous study [4]. Apart from arthritis, there were no other predicting factors for differentiation to AID. UCTD at disease onset seems to be a rare event.

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FRI0599 A RETROSPECTIVE OVERVIEW OF CLINICAL FEATURES, SEROLOGY AND HISTOLOGY OF IGG4 RELATED DISEASE IN HONG KONG: A DATASET OF 108 PATIENTS FROM FOUR REGIONAL HOSPITALS

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Background: IgG4 related disease (IgG4RD) is a spectrum of immune mediated disease with multiple organs involvement characterized by organ enlargement, function loss or obstructive symptoms (1, 2).

Objectives: In this retrospective study, clinical, serological and histological features of IgG4RD patients over the past ten years from four regional hospitals were reviewed.