Table 1. Neurologic manifestation of 42 patients with refractory neurobehçet's disease treated with biologic therapy.

Parenchymal subtype, n (%)	34 (81.0)
-Hemiparesis	8 (19.1)
-Polineuropathy	8 (19.1)
-Encephalopathy	6 (14.3)
-Cognitive impairments	4 (9.5)
-Optic neuropathy	4 (9.5)
-Ophthalmoparesis	4 (9.5)
-Other cranial nerve involvement	3 (7.1)
-Hemihypoesthesia	3 (7.1)
-Cerebellar dysphasia	1 (2.4)
-Cerebellar involvement	1 (2.4)
-Non-steroidal psychosis	1 (2.4)
Non-parenchymal subtype, n (%)	17 (40.5)
-Aseptic meningitis	12 (28.6)
-Thrombosis	4 (9.5)
-Intracranial hypertension	1 (2.4)

Figure 1. Neurological clinical response to biological therapy.

Primary failure was observed in 16 (38.1%) patients due to inefficacy (n=11, 68.8%) or adverse effects (n=5, 31.3%). Similarly, causes of secondary failure (n=6, 14.3%) were inefficacy (n=5, 83.3%) and adverse effects (n=1, 16.7%). No serious adverse effects were observed.

Conclusion: BT, especially monoclonal anti-TNF drugs, seems to be effective and safe in refractory NBD.

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POS1372

EVALUATION OF E148Q AND CONCOMITANT AA AMYLOIDOSIS SECONDARY TO FAMILIAL MEDITERRANEAN FEVER AFTER ADJUSTED CLINICAL-DEMOGRAPHIC CHARACTERISTICS

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Background: Amyloid A (AA) amyloidosis, previously known as secondary or reactive amyloidosis, is a long-recognized severe complication of some chronic inflammatory diseases. The pathogenesis and risk factors for amyloidosis in Familial Mediterranean Fever (FMF) remain partially understood (1). The development of AA amyloidosis is dependent on ethnicity and country of residence (2). In the pre-colchicine era, renal AA-amyloidosis was largely reported patients of Turkish (67%) and Sephardic Jewish ancestry (26.5%) (2,3). Currently it's well known that the MEFV M694V variant associated with high risk of amyloidosis however, mutations on exon 2, specifically E148Q variant remained controversial.

Objectives: To evaluate the E148Q mutation variant and concomitant AA Amyloidosis secondary to FMF after adjusted clinical-demographic characteristics.

Methods: Patients were recruited from the renal unit at Epigenetic Health Center outpatient clinic in Turkey between September 2003 and February 2020. Patients who had biopsy confirmed FMF related AA amyloidosis were included the study. Tel-Hashomer criteria were applied in the diagnosis of FMF. The clinical characteristics of FMF patients and medication history were recorded by the physician at the time of registry entry. All patients had detailed baseline assessment of clinical features, renal functions, genetic testing, histopathological diagnosis of amyloidosis, and treatment received. We performed multiple comparisons according to the age of diagnosis, demographic features, disease phenotype, allele frequency, type of mutation and mortality. Statistical analysis was performed with Statistical Package of Social Science (SPSS) for Windows, version 15.0 (SPSS Inc, Chicago, IL).

Results: Our registry consists of 195 patients with a diagnosis of AA amyloidosis. Complete information on 169 patients (lost to follow up, n=26) were included. The median age was 36 (19-49) years; male/female ratio was 1.6 (104/65). The median follow-up duration was 15.0 years (4-17 years). There were 101 patients diagnosed with FMF <18 years of age and 68 patients diagnosed ≥18 years of age. All participants developed renal amyloidosis before the age of 32 years. Family history of FMF was documented in 56 patients (33.1%) and family history of amyloidosis was present in 41 patients (24.3%). The three most common clinical symptoms were fever (84.6%), abdominal pain (71.6%) and arthritis (66.9%). During the follow-up, 5 patients started dialysis treatment and 9 patients had kidney transplantation. The most common allele frequency across patients was M694V (60.6%), E148Q (21.4%) and M680I (10.3%). The most frequent mutations were M694V/M694V (63.3%), M694V/E148Q (20.8%) and E148Q/E148Q (15.8%). During the follow up period, 15 patients (10 male, 5 female) died. In those that died, the mutations in 14 had M694V/M694V and one demonstrated E148Q/E148Q.

Conclusion: Patients with FMF related AA amyloidosis have an increased risk for mortality. This study confirmed the association between M694V and FMF-associated AA amyloidosis, which has been reported in many studies. Close clinical follow-up and further evaluation of patients with the E148Q mutation is warranted specifically if residing in FMF endemic areas. The possible relationship between E148Q and AA amyloidosis need to be confirmed in other cohorts.

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POS1373

DEFINING EAR CHONDROITIS: DATA FROM 685 PATIENTS WITH RELAPSING POLYCHONDROITIS

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Background: Ear chondritis is often considered the pathognomonic feature of relapsing polychondritis (RP). Although painful redness and swelling of the pinna and a resultant cauliflower ear are universally recognized as chondritis, the complete spectrum of symptoms associated with ear chondritis have not been well described.

Objectives: The study objective was to seek patient input to help characterize ear chondritis. An online survey was administered in English or Spanish to participants with self-reported RP.

Methods: Participants were asked questions about their ear pain, including quality, location, duration, aggravating/alleviating factors, timing of onset and duration. Participants were included who reported age ≥ 18 years, a diagnosis of RP confirmed by a physician, and sufficient symptoms to meet McAdams or Damiani's diagnostic criteria. Participants were categorized as having "typical ear chondritis" if they reported ear pain localized to the pinna with associated redness and swelling. Atypical presentations of ear chondritis were also considered.

Results: A total of 685 participants from five continents completed the survey. Among them, 659 met inclusion criteria for subsequent analysis. Most participants were female ($n=574$; 87%), white ($n=548$; 83%) and from the United States ($n=484$; 74%). The median age was 50 years (interquartile range = 41-58). In total, 593 (90%) patients reported ear pain, 227 (38%) had "typical ear chondritis," and 98 (16%) had cauliflower ear.

Ear pain was most commonly described as burning ($n=334$, 56%) or throbbing ($n=295$, 50%). The most common location of pain was the pinna ($n=373$, 63%). Participants reported ear redness ($n=454$, 60%) and swelling ($n=405$, 62%). Some patients experienced only ear redness without swelling ($n=286$, 48%) or only ear swelling without redness ($n=71$, 12%). The most common aggravating factors were minor trauma ($n=371$, 62%) and stress ($n=358$, 60%). The most common alleviating factor was avoidance of touching the ear ($n=374$, 63%). Pain was most frequently reported during the daytime ($n=355$, 60%) and most likely to occur in either ear at different times ($n=310$, 52%). Onset could be gradual ($n=198$, 33%) or sudden ($n=155$, 26%). Pain typically lasted a few hours ($n=175$, 30%) or 2-3 days ($n=130$, 22%). The majority of patients who had pinna pain also had pain in other parts of the ear (e.g. mastoid process, inner ear, whole ear) at some point ($n=394$, 67%). In patients with cauliflower ear, the most common location of pain was the pinna ($n=57$, 58%) followed by pain inside the ear ($n=53$, 54%). Most participants reported at least two different types of pain ($n=420$, 64%).

Conclusion: Ear chondritis in patients with RP has a wide range of clinical presentations and characteristics beyond the typical triad of redness, swelling, and pain localized to the pinna. The description of pain often significantly varies within the same patient. Knowledge of the various distinct characteristics of ear involvement in RP may help physicians recognize and monitor the disease more effectively.

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POS1374 RHEUMATOLOGIC DISEASES AS PRESENTATIONS OF PRIMARY IMMUNODEFICIENCY DISEASES

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Background: Primary immunodeficiency diseases (PID) occur on average with a frequency of 1: 100 000 of the population. In accordance with the classification of PIDS of the International Union of Immunological Societies (IUIS) 9 different groups of innate errors of immunity are distinguished [1]. The polymorphism of the clinical picture, difficulties in recognizing PID cause their late diagnosis and the associated development of irreversible organ damage, complications and high mortality. According to the traditional view, the clinical marker of PID is an infectious syndrome. However, in some cases, PID is detected as a rheumatologic disease.

Objectives: The aim of the study is to analyze the frequency of rheumatologic diseases in adult patients with PID living in one of the subjects of Russia – Chuvashia.

Methods: The material of the study was patient data obtained during a retrospective analysis of 49 outpatient records included in the Republican Register of PID. Diagnosis of various forms of PIDS was carried out in accordance with the criteria developed by the IUIS [1].

Results: During the period from 1993 to January 2020, 49 cases of PID were registered in the adult population of Chuvashia. According to the frequency of PID, common variable immunodeficiency (CVID) is the most common in Chuvashia (26 people). In the second place there is selective IgA deficiency (10 people); in third place there are X-linked agammaglobulinemia (4 people) and hereditary angioedema (4 people). The remaining forms of PID account for 5 cases: 2 cases of Louis-Bar syndrome, 1 case of DiGeorge syndrome, 1 case of Wiskott-Aldrich syndrome and 1 case of Hyper IgE syndrome. The main symptom of PID in 35 (71.4%) patients was heightened susceptibility to infection. In 14 (28.6%) patients, the clinical picture was dominated by non-infectious presentations (autoimmune, lymphoproliferative and oncological diseases). In 9 patients

(18.3%), it was manifested by rheumatologic diseases (rheumatoid arthritis, psoriatic arthritis, scleroderma-like syndrome). These symptoms were more characteristic of CVID. With selective IgA deficiency and X-linked agammaglobulinemia, rheumatic symptoms were observed only in isolated cases. CVID debuted in 2 cases as rheumatoid arthritis, resulting in the delay in the diagnosis of an average of 5.2 years. Only the detailed immunological and genetic study made it possible to diagnose PID and prescribe adequate treatment – replacement immunoglobulin therapy. This treatment reduced the frequency of infectious manifestations of the disease and it did not significantly improve the course of rheumatological diseases. Therefore, the use of methotrexate and targeted therapy was continued.

Conclusion: In the clinical picture of PID, rheumatic symptoms predominate in 28.6% of cases, which requires a thorough immunological and genetic examination of patients with rheumatic diseases in order to diagnose PID in a timely manner.

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POS1375 THE EFFECT OF M694V HOMOZYGOSITY ON THE CAROTID INTIMA-MEDIA THICKNESS AND FLOW MEDIATED DILATATION IN PATIENTS WITH FMF RELATED AMYLOIDOSIS

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Background: There are limited data in FMF associated AA amyloidosis patients regarding the vascular abnormalities including atherosclerosis and endothelial dysfunction, all of which are contributors of cardiovascular disease (CVD) risk. And, this risk assessment for future CV events have not yet been evaluated between FMF amyloidosis patients with different genotypes.

Objectives: We aimed to compare early markers of endothelial dysfunction and atherosclerosis, mortality and other disease characteristics in FMF-related amyloidosis patients with a homozygous M694V genotype and in patients with other genotypes with this cross-sectional comparative study.

Methods: For this purpose, patients with FMF-related amyloidosis were assigned according to the *MEFV* gene mutation to one of the two groups. **Group 1:** Patients homozygous for M694V (which is the most common genotype associated with the most severe clinical phenotype in FMF) **Group 2:** Patients homozygous (other than M694V) or compound heterozygous (including M694V) for other *MEFV* variants. Potential confounders were controlled by excluding the patients with untreated hypertension, diabetes mellitus, obesity, smoking, previous history of CVD low glomerular filtration rate (eGFR <70 mL/min). Flow-mediated dilatation (FMD), pentraxin-3 (PTX3) as early markers of endothelial dysfunction and carotid intima-media thickness (cIMT), fibroblast Growth Factor 23 (FGF23) as an indicator of atherosclerotic vascular disease, all of which are non-invasive tests that are also used to identify subjects at increased risk for future CV events were measured in these 2 groups.

Results: We analyzed demographic, clinical, genetic, survival data and these non-invasive markers of endothelial dysfunction (FMD and PTX3) and atherosclerosis (cIMT and FGF23) in 76 FMF amyloidosis patients with homozygous M694V mutations (Group 1) and 93 FMF amyloidosis patients with two pathogenic mutations apart from M694V homozygosity (Group 2) (Table 1). Brachial artery FMD was significantly lower in Group 1 when compared with Group 2 subjects (6.0 vs. 6.5%, $p<0.001$). cIMT, FGF23 and PTX3 levels were higher in Group 1 when compared with Group 2 (cIMT: 0.84 vs. 0.67 mm, $p<0.001$; FGF23: 52.4 vs. 38.0 pg/dL, $p=0.01$; PTX3: 14.0 vs. 3.2 ng/mL, $p<0.001$). Time to develop amyloidosis was similar in patients homozygous for M694V (median 10.0 years, 95%CI: 8.99-11.0) and in Group 2 (median 10.0 years, 95%CI: 8.97-11.0) ($p>0.05$). Mortality rate was significantly higher in Group 1 compared to Group 2 (18.4% vs. 1.1%, $p<0.001$) over a median of 7.8 years of follow-up. FMF amyloidosis patients homozygous for M694V had reduced survival (mean survival: 97 months, 95%CI: 94.9 to 101.0 months) as compared to Group 2 (mean survival: 100.7 months, 95%CI: 100.0 to 101.3 months) ($p<0.001$) (Figure 1). The proportion of the clinical manifestations including fever, serositis, erysipelas-like