azathiopurine (AZA) in 6 patients (15.7%). In one patient, MTX was switched to AZA due to hepatotoxicity. Treatment regimens and responses of the patients are summarised in table 1. IGM lesions disappeared in 24 patients at the end of follow-up. In two patients who were on MTX and KS, surgical excision was required because of unresponsiveness. Among relapsed patients (n=5), 2 patients were on MTX and KS, 1 patient was on AZA and KS and 2 patients were on KS at the time of relapse. In one patient, relapse was observed 1 year after cessation of MTX and KS.

Abstract SAT0599 – Table 1. First line treatments and responses at last follow-up visit*

	MTX+CS (n=32)	AZA+CS (n=6)	CS (n=3)	Observation (n=3)
Age*, years	36.1 (25.6-50.3)	33.8 (28.2-39.9)	28.9 (24.3-57.2)	29.4 (29.4-37.1)
Follow-up duration*, months	8.3 (1.5-54.4)	26.0 (13.8-99.5)	9.6 (3.0-35.8)	8.6 (1.0-13.4)
Duration of immunosuppressive treatment*, months	7.3 (0.9-28.2)	12.9 (8.2-27.3)	-	-
Immunosuppressive dose**	15 (10-15)	150 (100-150)	-	-
Duration of CS treatment*, months	7.0 (0.9-25.8)	13.7 (1.9-99.5)	2.5 (2.0-9.6)	-
Initial CS dose*,mg	30 (10-40)	20 (10-30)	20 (10-30)	-
CS dose at last control visit*,mg	7.5 (0-30)	0 (0-10)	10 (10-15)	-
Patients who discontinued CS, n (%)	12 (37.5)	3 (50.0)	-	-
Response to treatment				
Unresponsive, n (%)	5 (17.2)	1 (16.7)	-	-
Partial response, n (%)	1 (3.4)	-	1 (33.3)	-
Complete response, n (%)	23 (79.2)	5 (83.3)	2 (66.7)	2 (66.7)

* Lesion size at last follow-up visit was available in 40 patients

*Values are given as median (min-max)

*Treatment doses are presented as mg/week for MTX and mg/day for AZA.

Conclusions: In a case series previously published by our study group, the efficacy of the combined use of KS and immunosuppressant's in IGM treatment was retrospectively studied.¹ In this study, the efficacy of immunosuppressive therapy has been demonstrated with prospective approach.

REFERENCE:

[1] Konan A, et al. Breast Care 2012;7:297–301.

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SAT0600 MULTICENTRIC RETICULOHISTIOCYTOSIS (1980–2017): CLINICAL CORRELATES, TREATMENT OUTCOMES & ASSOCIATION WITH AUTOIMMUNITY & MALIGNANCY

A.S. Sandhu, C.S. Crowson, D.A. Wetter, G.A. McKenzie, A. Makol. MAYO CLINIC, Rochester, USA

Background: Multicentric reticulohistiocytosis (MRH) is a rare systemic disease characterised by papulo-nodular skin eruptions and a rapidly progressive, deforming arthritis. It can mimic rheumatic disorders such as rheumatoid arthritis or dermatomyositis. Immunosuppression is often helpful, but challenging due to the association of MRH with malignancy.

Objectives: To examine the clinical correlates and outcomes of MRH and its association with malignancy and other autoimmune conditions

Methods: A retrospective review of all patients with MRH treated at our institution between 01/01/1980 and 04/30/2017 was performed. Demographics, clinical features, laboratory tests, imaging findings, histopathology, treatments and outcomes were abstracted. Data on autoimmune disorders and malignancies before and after MRH diagnosis were collected.

Results: We identified 24 patients with MRH (58% female, 75% Caucasian, mean age at diagnosis 52 y). Median length of follow up was 2.3 y. All patients had confirmed diagnosis by histopathology (23 skin, 7 synovial). All patients had cutaneous and articular involvement. Nodular skin lesions were noted in 96% patients (periungual area and dorsal hand in 87%, periarticular 61% [around DIP 42%, PIP 25%, MCP 8%], face 54%, arms 42%, back 29%, neck 21%, legs 21%, ears 12%, scalp 12%). Mucosal nodules were noted in 30%. Regarding articular involvement, 22 (92%) had arthralgia, 21 (88%) patients had joint swelling, and 13 (54%) had synovitis. Frequency of joint involvement was upper extremity PIP (29%) > upper extremity DIPs, MCPs, wrist > MTPs, Toes > Knees > Elbows. Radiographic erosions were noted in 67% patients. Constitutional symptoms included fatigue,¹⁵ unintentional weight loss,¹⁰ lymphadenopathy⁴ and pruritis.¹¹ Systemic features included dysphagia,⁵ photosensitivity,⁴ dry eyes,³ pericarditis² and pleuritis.¹ Several patients had positive autoimmune serologies: ANA,⁸ RF,⁵ Anti-CCP,³ SS-A,³ SS-B,² Anti-DsDNA.¹ A third of patients had concomitant autoimmune disorders: inflammatory arthritis,³ Sjögrens,¹ chronic focal granulomatous nephritis,¹ JRA,¹ psoriasis,¹ myasthenia gravis and ITP.¹ A third of patients (8/24) had malignancy: malignant melanoma,³ basal cell carcinoma,² and 1 each with ovarian carcinoma, squamous cell carcinoma lung, peritoneal

adenocarcinoma, and endometrial carcinoma. Most patients were treated with systemic glucocorticoids¹⁵ and oral DMARDs¹³: methotrexate,⁸ cyclophosphamide,¹⁰ chlorambucil² and cyclosporine.¹ Biologics were used in 4 patients (1 infliximab, 2 etanercept, 1 adalimumab). Only 2 patients had complete resolution of their symptoms, while majority showed only partial improvement. 10 (44%) patients developed joint deformities involving: wrist,⁴ MCP,⁴ PIP,⁷ DIP,⁴ knee² and MTP.³ None had arthritis mutilans. 75% patients were alive at last follow up.

Conclusions: To our knowledge, this is the largest series of MRH patients from a single institution, highlighting the rarity of the condition, and an unmet need for treatment options that can allow sustained disease remission. We emphasise the need for histopathology to distinguish it from mimicking rheumatic conditions and initiating early aggressive treatment to potentially prevent deforming joint disease. A high vigilance for malignancy and other autoimmune diseases is necessary.

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SAT0601 ANTI-IL6-RECEPTOR TOLICIZUMAB IN GRAVES' ORBITOPATHY. MULTICENTER STUDY OF 29 PATIENTS

B. Atienza-Mateo¹, V. Calvo-Río¹, J.L. Martín-Varillas¹, R. Demetrio-Pablo¹, E. Valls-Pascual², B. Valls-Espinosa², O. Maiz-Alonso³, A. Blanco³, I. Torre⁴, V. Rodríguez-Mendez⁴, Á. García-Aparicio⁵, R. Veroz González⁶, V. Jovani Casano⁷, D. Peiteado López⁸, M. Sanchez Orgaz⁸, S. Castañeda Sanz⁹, E. Tomero⁹, F.J. Toyos Sáenz¹⁰, M. Valvanera Pinillos¹¹, E. Aurrecoechea¹², Á. Mora¹², M. Á. González-Gay¹, R. Blanco¹. ¹Rheumatology and Ophthalmology, Hospital Universitario Marqués de Valdecilla. IDIVAL, Santander; ²Rheumatology, Hospital Peset, Valencia; ³Rheumatology and Ophthalmology, Hospital Universitario de Donostia, San Sebastián; ⁴Rheumatology and Ophthalmology, Hospital Universitario de Basurto, Bilbao; ⁵Rheumatology, Hospital Virgen de la Salud, Toledo; ⁶Rheumatology, Hospital de Mérida, Mérida; ⁷Rheumatology, Hospital General de Alicante, Alicante; ⁸Rheumatology and Ophthalmology, Hospital Universitario La Paz; ⁹Rheumatology, Hospital de La Princesa, Madrid; ¹⁰Rheumatology, Hospital Universitario Virgen Macarena, Sevilla; ¹¹Rheumatology, Hospital San Pedro, Logroño; ¹²Rheumatology and Ophthalmology, Hospital Sierrallana, Torrelavega, Spain

Objectives: To assess the efficacy of Tocilizumab (TCZ) in refractory thyroid associated orbitopathy (TAO) due to Grave's disease.

Methods: Multicenter study of 29 patients with TAO refractory to conventional immunosuppressive therapy.

Results: We studied 29 patients (58 eyes) (23 women/6 men); mean age at diagnosis 48.79±12.39 years. Besides oral corticosteroids and before the onset of TCZ, patients had been treated with pulses of intravenous methylprednisolone (n=24), methotrexate (n=2) and other drugs (methimazole in 4 cases, leflunomide in 1, selenium in 9). Urgent decompressive surgery had to be performed in 2 patients.

According to the classification of severity of the EUGOGO group (European Group on Graves' Orbitopathy) using the clinical activity score (CAS), before TCZ onset patients whose data were available had severe (n=14 eyes) or moderate

(n=22 eyes) disease. Moreover, patients presented exophthalmos (n=30 eyes), strabismus (n=17 eyes), muscle fibrosis (n=15 eyes) and dysthyroid optic neuropathy (n=1).

TCZ was used in monotherapy (n=27) or combined with methotrexate (n=2) at 8 mg/kg/iv/4 weeks (n=24) or 162 mg/sc/week (n=5). TCZ yielded rapid and maintained improvement in all ocular parameters (TABLE).

After a mean follow-up of 8.96±7.55 months using TCZ, all patients experienced ocular improvement, with TCZ withdrawal in 16 cases due to complete remission (n=5) or stability of ocular inflammation (n=11). Only 4 adverse effects were observed (neutropenia, external otitis, otitis media, costal osteitis).

TABLE. Improvement of ocular parameters with TCZ therapy. Data are expressed as mean ±SD or median[IQR].

	BASAL	1 WEEK	2 WEEKS	1 MONTH	3 MONTHS	6 MONTHS	1 YEAR
VA	0.7 [0.5–1]	0.7 [0.6–1]	0.8 [0.7–1]	0.85 [0.7–1]	1 [0.9–1]	1 [0.7–1]	1 [0.8–1]
IOP	19.22 ±4.20	17.25 ±1.90	16.75 ±2.31	18.23 ±5.00	17.39±3.51	16.52±3.56	16.00 ±3.41
CAS	4.97 ±1.72	4.85 ±2.95	-	3.40±2.28	2.34±1.71	1.29±1.12	1.11 ±0.85

VA=visual acuity; IOP=intraocular pressure; CAS=clinical activity score (0/7 at baseline, 0/10 in the rest of time measures).

Conclusions: TCZ appears to be useful in TAO treatment.

REFERENCE:

- [1] Bartalena L, Baldeschi L, Dickinson AJ, et al. Consensus statement of the European group on Graves' orbitopathy (EUGOGO) on management of Graves' orbitopathy. *Thyroid* 2008;18(3):333–346.

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SAT0602 CLINICAL SIGNIFICANCE OF AUTOANTIBODY POSITIVITY IN IDIOPATHIC PULMONARY FIBROSIS

B. Ghang¹, J. Lee¹, O.C. Kwon¹, J.S. Oh¹, W.J. Seo², S. Hong¹, Y.-G. Kim¹, B. Yoo¹, J.W. Song³, C.-K. Lee¹. ¹Rheumatology, ASAN MEDICAL CENTER; ²Rheumatology, Seoul Veterans Hospital; ³Division of Pulmonary and Critical Care Medicine, Asan Medical Center, Seoul, Korea, Republic Of

Background: Recently, the concept of interstitial pneumonia with autoimmune features (IPAF) was proposed by the American Thoracic Society.¹ The serologic domain of IPAF is composed of antibodies to extractable nuclear antigens, cyclic citrullinated peptide antibody, a high titer of rheumatoid factor, and a high titer of antinuclear antibody. However, the clinical significance of the serologic domain of IPAF has not yet been evaluated in idiopathic pulmonary fibrosis (IPF).

Objectives: To investigate the clinical significance of autoantibody positivity in IPF.

Methods: We retrospectively reviewed the records of 528 patients who met the ATS/ERS/JRS/ALAT diagnostic criteria for IPF at a tertiary hospital from January 2007 through March 2014. Patients treated with pirfenidone or nintedanib, an established IPF treatment regimen, were excluded. All patients were divided into the following 3 groups: autoimmune IPF (n=153), patients with autoantibodies that met the criteria for the IPAF serologic domain; incomplete autoimmune IPF (n=68), patients who did not completely meet the criteria for the IPAF serologic domain; lone IPF (n=307), patients without autoantibodies. Multivariate Cox proportional hazards models with backward elimination were used to investigate the risk factors for mortality.

Results: The 5 year mortality rates were as follows: autoimmune IPF group, 54.9% (n=84, 3.4 years after diagnosis [median; IQR=1.9–5.0]); incomplete autoimmune IPF group, 64.7%; lone IPF group, 58.6% (n=180, 2.9 years after diagnosis [median; IQR=1.6–4.9]). Independent risk factors for mortality on multivariable analysis in the overall IPF patient population included age at diagnosis (adjusted hazard ratio (HR) 1.028, p=0.002), autoimmune IPF (adjusted HR 0.747, p=0.050), baseline SaO₂ in the 6 min walking test (6MWT, adjusted HR 0.973, p=0.012), baseline distance in the 6MWT (adjusted HR 0.998, p=0.001), baseline forced vital capacity (adjusted HR 0.977, p<0.001), and diffusing capacity of the lungs for carbon monoxide (DLCO) (adjusted HR 0.979, p<0.001). In the autoimmune IPF group, use of glucocorticoid (not for management of acute exacerbation, adjusted HR 1.971, p=0.029), use of immunosuppressants (adjusted HR 0.343, p=0.002), baseline distance in 6MWT (adjusted HR 0.998, p=0.032), and baseline DLCO (adjusted HR 0.975, p=0.003) were independent risk factors for mortality on multivariable analysis.

Abstract SAT0602 – Table 1. Risk factors associated with mortality in autoimmune IPF patients

Characteristics	Hazard Ratios	Multivariable analysis		
		HR's 95% CI		P-value
		LB	UB	
Use of glucocorticoid (not for acute exacerbation management)	1.971	1.073	3.622	0.029
Use of immunosuppressants	0.343	0.175	0.674	0.002
Baseline distance in 6MWT	0.998	0.996	1.000	0.032
Baseline FVC	0.984	0.966	1.002	0.081
Baseline DLCO	0.975	0.959	0.991	0.003

6MWT = 6-minute walking test; FVC = forced vital capacity; DLCO = diffusing capacity of the lung for carbon monoxide.

Conclusions: Our results suggest that positive autoimmunity might be a favourable factor for 5 year mortality in IPF patients compared to those without autoimmunity, and the use of immunosuppressants could be associated with improved mortality in autoimmune IPF patients.

REFERENCE:

- [1] Fischer A, Antoniou KM, Brown KK, Cadranel J, Corte TJ, du Bois RM, et al. An official European Respiratory Society/American Thoracic Society research statement: interstitial pneumonia with autoimmune features. *The European respiratory journal* 2015;46(4):976–87.

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SAT0603 CAN HOMOZYGOUS OR HETEROZYGOUS MEFV MUTATIONS LEAD TO DIFFERENT PRESENTATION OF FAMILIAL MEDITERRANEAN FEVER?

A. Aktaş¹, M. Karadavut¹, D. Üsküdar Cansu², C. Korkmaz². ¹Internal Medicine; ²Internal Medicine, Rheumatology, Eskişehir Osmangazi University, Eskişehir, Turkey

Background: Although some patients with familial Mediterranean (FMF) have heterozygous mutations for MEFV gene, there is a debate about whether heterozygosity for MEFV mutations in FMF might be responsible for disease symptoms or not.

Objectives: To evaluate differences between the patients with FMF having homozygous (Hom) or heterozygous (Het) MEFV mutations in terms of clinical features and severity of the disease as well as concomitant disorders.

Methods: We included 259 unrelated patients (female: 143, male: 116; mean age: 33.5±12 years) who were clinically diagnosed as having FMF and who met the Tell-Hashomer's diagnostic criteria. The presence of MEFV mutations was investigated in exon 2,3,5 and 10 by multiplex-PCR reverse hybridization method. All clinical manifestations and their features were revised. All the patients were questioned for the presence of concurrent disorders, and the medical records of these patients were revised retrospectively. A previous diagnosis of a concomitant disease was taken into consideration if it met the relevant criteria.

Results: In 12 of 259 patient, MEFV mutation analysis was not performed. No mutation was not determined in 8 FMF patients (3.2%). Hom mutation was found in 79 patients with FMF (31.9%), Het plus compound heterozygotes (cHet) in 160 FMF patients (64.7%). Early onset and early diagnosis of FMF were found in Hom group compared to Het plus cHet group (8.4 years vs 13.6 years; 23.3 years vs 28.6 years, p<0.0001, respectively). The number of patients with a higher severity score was significantly higher in hom group than Het plus cHet group (p<0.001). No significant difference was found between Hom and Het plus cHet group in terms of clinical features except for erysipelas like erythema (ELE) (p<0.0001). Concomitant disorders were as follows: ankylosing spondylitis (AS) 24 (9.3%), amyloidosis 13 (5%), Behcet's disease 8 (3%). Amyloidosis (9 vs 4) was significantly higher in Hom group than Het plus cHet group (p<0.01).

Conclusions: The presence of homozygous MEFV mutations in contrast to Het mutations creates a tendency for early onset of the disease, early diagnosis, frequent ELE and amyloidosis and severe disease phenotype.

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