Figure 1. Age specific incidence rate of AOSD

Conclusion: AOSD is rare in our population, with an average annual incidence rate of 2.4 cases per 10⁶ adults.

References:

- [1] Yamaguchi M, Ohta A, Tsunematsu T, Kasukawa R, Mizushima Y, Kashiwagi H, et al. Preliminary criteria for classification of adult Still's disease. *J Rheumatol*. 1992;19(3):424-30.

Acknowledgments -

Disclosure of Interests: ALOJZIJA HOCEVAR: None declared, Ziga Rotar Consultant of: Speaker and consulting fees from Abbvie, Amgen, Biogen, Eli Lilly, Medis, MSD, Novartis, Pfizer, Roche, Sanofi., Speakers bureau: Speaker and consulting fees from Abbvie, Amgen, Biogen, Eli Lilly, Medis, MSD, Novartis, Pfizer, Roche, Sanofi., Monika Krosel: None declared, Martina Plešivčnik Novljan: None declared, Sonja Praprotnik: None declared, Matija Tomsic: None declared
DOI: 10.1136/annrheumdis-2020-eular.1738

SAT0525 EFFICACY AND SAFETY OF MZR FOR IGG4-RELATED DISEASE.

S. Kawaai¹, S. Fukui¹, T. Nakai¹, G. Kidoguchi¹, H. Ozawa¹, Y. Ikeda¹, A. Koido¹, Y. Ohara¹, H. Shimizu¹, H. Tamaki¹, K. Yamaguchi¹, M. Okada¹. ¹St. Luke's International Hospital, Tokyo, Japan

Background: IgG4-Related Disease (IgG4RD) is known to cause multiple organ lesions with infiltration of IgG4-positive plasma cells, and patients often have relapses with tapering treatments despite an initial good response to glucocorticoids therapy. Mizoribine (MZR) is an immunosuppressant working as an inhibitor of purine synthesis, which mechanism of action is similar to mycophenolate mofetil. Data regarding the efficacy and safety of MZR on IgG4RD is limited although some previous case reports¹ showed effectiveness for IgG4RD.

Objectives: This study aims to assess the efficacy and safety of MZR in patients with IgG4RD.

Methods: We retrospectively reviewed charts of IgG4RD patients who used MZR between January 2004 and December 2019 at Immuno-Rheumatology Center in St. Luke's International Hospital, Tokyo, Japan. We investigated basic demographics, involved organs, results of blood tests including IgG and IgG4 titer, and medications used including glucocorticoid and other immunosuppressants (IS). We followed IgG titer, dose of glucocorticoid, flare of disease and retention of MZR at the beginning, 6 and 12 months after starting MZR. We compared changes in PSL (prednisolone) doses and IgG4 titers over time using Friedman test with Bonferroni correction. We also checked adverse events during follow up.

Results: Twenty-two patients with IgG4RD who used MZR were included. Median age was 62 years old, and 15 (68.2%) patients are male. Lacrimal and salivary glands, pancreatitis and retroperitoneal fibrosis were common lesions. All patients were initially treated with glucocorticoids. Flare was observed in 5 (22.7%) patients before initiation of MZR. The number of patients who continued MZR without flare was 19 (86.4%) at 6 months, and 14 (73.7%) at 12 months. IgG4 titer significantly declined at 6 and 12 months from baseline although significant consecutive decrease in PSL dose (Figure 1, 2). Liver dysfunctions are commonest adverse events (n=16, 72.7%) but mild (grade1; n=15, 68.2%) and most cases are apparently due to other reasons. Serious infection (SI) occurred in 3 (13.6%) patients in total follow up, however no SI were observed during 1 year after MZR treatment.

Conclusion: MZR can be safely used in patients of IgG4RD with high retention rate, and seemed to have steroid-sparing effect. Prospective comparative studies are needed.

References:

- [1] Nanke Y, Kobashigawa T, Yago T, Kamatani N, Kotake S. A case of Mikulicz's disease, IgG4-related plasmacytic syndrome, successfully treated by corticosteroid and mizoribine, and then by mizoribine alone. *Intern Med* 49: 1449-1453, 2010.

Table 1. Patient characteristics

Factor	Overall (n=22)
Age	62 [60-69]
Male (%)	15 (68.2)
Biopsy proven (%)	14 (63.6)
Follow up after treatment (days)	1425.5 [589.0-2519.8]
Days to MZR treatment from initial treatment	68.5 [14.0-178.3]
Days to MZR treatment from flare up or initial treatment	22.0 [13.0-107.0]
Follow up after initiation of MZR treatment (days)	1159.0 [365.5-2387.5]
Number of flare before MZR treatment(%)	5 (22.7)
with Methotrexate (%)	1 (4.5)
Initial MZR dose (mg/day)	150 [150-150]
Last MZR dose (mg/day)	200 [150-300]
Involved organs	
Number of involved organs	3.0 [2.0-3.0]
Multiple lesion(%)	15 (68.2)
Lacrimal gland (%)	11 (50.0)
Salivary gland (%)	11 (50.0)
Sinus (%)	2 (9.1)
Thyroid gland (%)	1 (4.5)
Lung (%)	4 (18.2)
Pancreatitis (%)	9 (40.9)
Biliary duct(%)	0 (0.0)
Retroperitoneal fibrosis (%)	8 (36.4)
Kidney (%)	1 (4.5)
Orbital lesion(%)	0 (0.0)
Periaortitis (%)	3 (13.6)
Arteritis (%)	4 (18.2)
Prostatitis (%)	1 (4.5)
Joint (%)	1 (4.5)
Skin (%)	0 (0.0)
Lymphadenopathy (%)	7 (31.8)
IgG (mg/dL)	1722.0 [1354.0-3429.0]
IgG4 (mg/dL)	184.5 [164.0-665.3]
Concomitant immunosuppressants	
Until 12 months after MZR treatment	6 (27.3)
Azathioprin (%)	1 (4.5)
Methotrexate (%)	4 (18.2)
Tacrolimus (%)	2 (9.1)
Over all	
Azathioprin (%)	1 (4.5)
Methotrexate (%)	8 (36.4)
Tacrolimus (%)	2 (9.1)

Table 2. Disease and treatment status before and after initiation of MZR

	At PSL treatment initiation	At MZR initiation	At 1 month after MZR treatment	At 6 months after MZR treatment	At 12 months after MZR treatment	At latest visit
Number of followed-up patients (%)	-	22 (100.0)	22 (100.0)	19 (86.4)	14 (63.6)	9 (40.9)
No flare and retention of MZR (%)	-	22 (100.0)	19 (86.4)	14 (73.7)	9 (40.9)	9 (40.9)
Flare after treatment with MZR (%)	-	0 (0.0)	3 (13.6)	5 (26.3)	8 (36.4)	8 (36.4)
Retention of MZR (%)	-	22 (100.0)	22 (100.0)	19 (100.0)	15 (68.2)	15 (68.2)
PSL dose (mg/day)	35.0 [20.6-43.8]	12.5 [10.0-23.1]	10.0 [7.9-18.8]	5.6 [4.6-7.9]	3.0 [2.3-5.0]	2.0 [0.6-3.8]
IgG (mg/dL)	1722.0 [1354.0-3429.0]	1301.0 [1172.8-1560.5]	1213.0 [1108.0-1378.0]	1275.5 [1082.0-1573.8]	1381.0 [1195.5-1617.0]	1372.5 [1130.8-1510.0]
IgG4 (mg/dL)	184.5 [164.0-665.3]	122.0 [94.2-203.0]	102.0 [91.6-246.0]	92.2 [45.8-194.0]	147.0 [69.1-191.0]	122.5 [69.8-252.5]

Figure 1. Serum IgG4 level changes

Figure 2. Changes in the PSL dose over time

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2020-eular.1983

SAT0526 **COMPARISON OF INFLAMMATORY MARKERS AS DIAGNOSTIC TOOL IN PATIENTS WITH ADULT-ONSET STILL'S DISEASE**

J. W. Kim¹, J. Y. Jung¹, C. H. Suh¹, H. A. Kim¹. ¹Ajou University School of Medicine, Rheumatology, Suwon, Korea, Rep. of (South Korea)

Background: The diagnosis for adult-onset Still's disease (AOSD) is still based on nonspecific symptoms and laboratory data, and had necessity to rule out several infectious, autoimmune or malignant diseases.

Objectives: This study aimed to elucidate the efficiency of inflammatory markers, including systemic immune-inflammation index (SII); C-reactive protein (CRP)-to-albumin ratio (CAR), albumin-to- globulin ratio (AGR), prognostic nutritional index (PNI), and ferritin-to-ESR ratio (FER) for evaluation of diagnostic or prognostic factors in AOSD.

Methods: The medical records of patients with suspected AOSD between January 1999 and June 2019 were collected and retrospectively analyzed. Among 225 patients, 61 patients received another diagnosis, such as infection and malignancy, and 164 patients were newly diagnosed to AOSD. The values of SII, CAR, AGR, PNI, and FER were compared with AOSD and non-AOSD groups. Receiver operating characteristic (ROC) curve analysis was performed to evaluate the diagnostic significance of inflammatory markers. Correlations between inflammatory markers and disease activity index were analyzed.

Results: A total of 164 patients who diagnosed AOSD had higher values of SII, CAR, and FER as well as lower values of AGR and PNI. For AOSD diagnosis, the area under the curve (AUC) obtained from the ROC curve were 0.859 (95% CI=0.806-0.911) for SII, 0.769 (95% CI=0.702-0.837) for CAR, 0.749 (95% CI=0.615-0.782) for AGR, 0.699 (95% CI=0.675-0.823) for PNI, and 0.764 (95% CI=0.693-0.834) for FER with cut-off value of 2195.7, 1.80, 1.38, 48.8 and 17.0, respectively. The SII had the largest AUC, and FER and SII each had the highest sensitivity (70.9%) and specificity (91.5%). In correlation analysis, there were no strong correlations between inflammatory markers and disease activity indices except CAR and CRP.

Table 1. Demographic and baseline characteristics of patients with adult-onset Still's disease(AOSD)

	AOSD patients (N=164)	Initially suspected AOSD but not diagnosed (N=61)	P-value
Age, years	42.6 ± 15.7	42.1 ± 14.4	0.805
Fever	162 (98.8)	56 (91.8)	0.017
Sore throat	93 (56.7)	18 (29.5)	<0.001
Skin rash	131 (79.9)	26 (42.6)	<0.001
Lymphadenopathy	63 (38.4)	10 (16.4)	0.002
Hepatomegaly	25 (15.2)	1 (1.6)	0.004
Arthritis	79 (48.2)	22 (36.1)	0.132
SII	4601.7 ± 6406.8	1105.6 ± 970.0	<0.001
CAR	3.37 ± 2.82	1.22 ± 1.58	<0.001
AGR	1.15 ± 0.35	1.38 ± 0.39	<0.001
PNI	41.94 ± 6.70	48.85 ± 8.43	<0.001
FER	139.19 ± 372.12	28.39 ± 70.80	0.006

Table 2. Discriminatory ability of inflammatory markers for predicting AOSD diagnosis

Variables	AUC	P-value	Cut-off	Sensitivity	Specificity	+LR	-LR
SII	0.859	<0.001	2195.7	64.6%	91.5%	7.60	0.39
CAR	0.769	<0.001	1.80	65.2%	74.6%	2.57	0.47
AGR	0.700	<0.001	1.38	54.1%	82.3%	3.06	0.56
PNI	0.752	<0.001	48.8	52.5%	86.0%	3.75	0.55
FER	0.764	0.006	17.0	70.9%	74.6%	2.76	0.39

Figure 1. Receiver operating characteristic (ROC) curves for SII, CAR and FER in AOSD and non-AOSD patients (Initially suspected AOSD but not diagnosed).

Figure 2. Receiver operating characteristic (ROC) curves for AGR and PNI in AOSD and non-AOSD patients (Initially suspected AOSD but not diagnosed).