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SAT0514

MRI – GUIDED THERAPY FOR SYSTEMIC SCLEROSIS ASSOCIATED MYOSITIS

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Background: Muscle involvement in systemic sclerosis (SSc) has a significant impact on morbidity, functional capacity, and mortality. The muscle histopathology is heterogeneous including inflammatory and fibrotic changes. Currently there are no satisfactory means to diagnose inflammatory myopathy in SSc pts with normal creatine kinase (CK) and to assess the response to therapy.

Objectives: Our aim was to evaluate whether muscle magnetic resonance imaging (MRI) might be a tool to diagnose inflammatory myopathy in SSc patients (pts) and to assess the effect of muscle oriented- immunomodulatory therapy.

Methods: We retrospectively analysed the clinical data of 290 consecutive SSc pts seen at our centre between the years 2012–2017. Our cohort is part of the EUSTAR registry (centre 042). Pts with muscle weakness as defined by the Medsger muscle severity score of ≥ 1 and at least one MRI study were included. Clinical data analysis included SSc subtype, disease duration, modified Rodnan skin score (mRSS), Medsger muscle severity score, CK, autoantibody profile, MRI and immunomodulatory treatment.

Results: 26 pts with muscle weakness answered the criteria of Medsger muscle severity score of ≥ 1 MRI data were available, in 17 of the pts. Muscle oedema and fasciitis were seen in MRI in 13 pts (10 diffuse subset, median: age 40, disease duration 1.25 years, mRSS 13.5). MRI was normal in 4 pts (2 diffuse SSc, median: age 50 years, disease duration 6 years, mRSS 4). CK was normal in 10 pts with pathologic MRI. Anti-topoisomerase was positive in 6 pts, RNA polymerase 3 – in 3 pts, anti-centromere – in 2 pts and 6 pts were only ANA positive. Muscle biopsy results were available in 4 pts: Biopsy was compatible with myositis in 3 pts with pathologic MRI and revealed fibrosis in 1 pt with normal MRI. 14 pts received immunomodulatory treatment: rituximab (3 pts), rituximab and intravenous immunoglobulins (IVIG) (3 pts), IVIG and methotrexate/azathioprine/mycophenolate mofetil.⁸ A second MRI was performed in 6 pts with first pathologic MRI, after 12 months of treatment. Significant regression of muscle oedema and per fasciitis was observed in 5 pts and correlated with clinical amelioration, with improvement of muscle strength. No clinical and imaging improvement occurred in one patient, despite the treatment. No change in muscle strength was seen in the patient with normal MRI and evidence of fibrosis on muscle biopsy, although the skin score improved.

Conclusions: MRI might serve as a non-invasive tool for diagnosis of inflammatory myopathy in SSc pts with early disease, Medsger muscle severity score of ≥ 1 and normal CK and for assessment of treatment efficacy.

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SAT0515

CLINICAL CHARACTERISTICS OF PATIENTS WITH CANCER-ASSOCIATED MYOSITIS COMPLICATED BY INTERSTITIAL LUNG DISEASE

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Background: Cancer-associated myositis (CAM) is believed to be rarely complicated by interstitial lung disease (ILD), and, thus, detailed clinical characteristics of CAM in patients with polymyositis (PM)/dermatomyositis (DM)-associated ILD are not well known.

Objectives: To clarify the incidence, risk factors, and impact on survival of malignancy in patients with PM/DM-associated ILD, using a large cohort data.

Methods: We used 497 patients with PM/DM-associated ILD enrolled in a multi-centre retrospective cohort of incident cases from 44 institutions across Japan (JAMI). CAM was defined as malignancy diagnosed within 3 years before or after PM/DM diagnosis. Demographic data and clinical characteristics were recorded at the time of diagnosis, and follow-up survival and malignancy data were collected prospectively.

Results: Thirty-two patients with CAM (6.4%) were identified. Patients in the CAM group were older (64.3 vs 55.1 years, $p < 0.001$), had shorter disease duration at onset (4.1 vs 7.0 months, $p = 0.01$), and presented with arthritis less frequently (24.1 vs 48.5%, $p = 0.01$), in comparison with those with non-CAM group. All patients with CAM were older than 40 years, and the proportion of CAM increased along with the age. Patients who were ≥ 59 years at diagnosis and lacked arthritis were at 12 times higher risk for concomitant malignancy than those without such features (figure 1). Frequencies of autoantibodies, including anti-MDA5, anti-ARS, and anti-TIF1gamma, were not different between the groups. In 19 patients (59%), malignancy was diagnosed within 3 months before or after PM/DM diagnosis. Eleven CAM patients were died, and cause of deaths included ILD in 6 and malignancy in 5. Survival analysis by Kaplan-Meier method demonstrated that CAM patients had a poorer survival than did non-CAM patients ($p = 0.016$).

Conclusions: In patients with PM/DM-associated ILD, older age at diagnosis and lack of arthritis are predictors for concomitant malignancy, which leads to a reduced survival.

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Vasculitis

SAT0516

TWO DISTINCT SUBSETS OF LOW DENSITY GRANULOCYTES IN ANCA ASSOCIATED VASCULITIS

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Background: Low density granulocyte (LDG), a proinflammatory population of neutrophils, was first described in systemic lupus erythematosus (SLE) and has

been shown to contribute to lupus pathogenesis. It has been suggested that LDGs have a pathogenic role in ANCA associated vasculitis (AAV) based on the data of gene expression signature in AAV and the ability of excessive neutrophil extracellular traps (NETs) formation by LDGs in AAV. However, more detailed analysis of LDG in AAV patients has not been reported.

Objectives: In this study we investigated the characteristics of LDG in AAV patients using flow cytometry and proteomics approach and examined the correlations with disease activity.

Methods: We examined the presence of LDGs in peripheral blood of 10 AAV patients before treatment and followed them for 4 months with immunosuppressive therapy. Normal-density granulocytes (NDGs) were isolated by dextran sedimentation and PBMCs were isolated by Ficoll gradient. LDGs were assessed using cell surface expression of CD14 and CD15 by flow cytometry and isolated by magnetic bead procedure from PBMCs. We performed comparative proteomic analysis among LDGs and autologous NDGs and healthy controls (HC)-NDGs.

Results: LDG frequencies were 9.8-fold higher in AAV patients before treatment relative to HC. There were two distinct populations of LDGs showing different cell surface expressions of CD10, CD14, and CD15 in AAV patients. One population of LDGs was mainly CD10 positive and another one was CD10 negative. Although the frequency of CD10 positive-LDG decreased along with decrease of disease activity, the frequency of CD10 negative-LDG increased in 4 months (17.9-fold higher than before treatment). Comparative proteomic analysis revealed these two populations of LDGs were distinct from each other and had common differences from autologous NDGs and HC-NDGs.

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Conclusions: We identified two distinct subsets of LDGs in AAV. It is possible that they play different roles in the pathogenesis of AAV.

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SAT0517

GENDER DIFFERENCES INFLUENCES CLINICAL PRESENTATION AND VASCULAR PATTERN IN PATIENTS WITH TAKAYASU ARTERITIS: AN ITALIAN MONOCENTRIC STUDY

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Background: Takayasu arteritis (TA) is a large-vessel vasculitis affecting aorta and its major branches¹. Vascular inflammation may cause luminal narrowing, occlusion or aneurysms². TA affects more frequently young women, but occurrence in patients >40 years is not rare. Female: male ratio is 9:1³

Objectives: To compare age at disease onset, age at diagnosis and diagnostic delay between male and female Italian TA patients from our cohort. To compare symptoms presentation and vascular involvement

Methods: Data from 10 male and 104 female TA patients (fulfilling ACR criteria) from our tertiary centre were retrospectively collected. Age at diagnosis, age at first symptom onset, diagnostic delay, signs and symptoms subsequently attributed to TA, and arteries involved before the diagnosis were compared. Non-parametric statistic tests were used

Results: In male patients mean age at diagnosis was 33.5±14.64 years and mean age at onset was 25.8±13.01 years. In female patients mean age at diagnosis was 36.26±12.6 years and mean age at onset was 31±13.1 years. The differences not being statistically significant. The highest percentage of male patients disease onset was <18 years (40%), in female patients it was between 18–40 years (61.5%). Mean diagnostic delay was 92.9±80.78 months in male and 63.03

±85.63 in female patients (p=0.050). Features at disease onset are summarised in table 1. Frequency of limbs claudication was not significantly different in the two groups (50% vs 56.7%), 10% of male patients had upper limbs claudication, compared to 43.3% of female patients, p=0.047. Arterial hypertension was more frequent in male patients (70% vs 35.6%, p=0.044). Acute coronary syndrome was more frequent in male patients (30% vs 5.8%, p=0.031). Frequency of cardiovascular risk was not significantly different in the two groups (40% vs 32.7%). Coronary angiography was more frequently performed in male patients (30% vs 2.9%, p=0.009). At disease onset, compared to female patients, male patients coronary (30% vs 6.7%, p=0.042), iliac (50% vs 15.4%, p=0.018) and femoral arteries (40% vs 6.6%, p=0.008) were more frequently involved. In female patients subclavian arteries were more frequently involved (72% vs 40%, p=0.066).

Signs/symptoms	N°male patients (%)	N°female patients (%)	P-value
Constitutional symptoms	5 (50)	61 (58.7)	0.740
Arthralgias	3 (30)	28 (26.9)	1
Carotidynia	1 (10)	25 (24.0)	0.451
Syncope/vertigo	2 (20)	22 (21.2)	1
Neurological signs	1 (10)	8 (7.7)	0.576
Overall limbs claudication	5 (50)	59 (56.7)	0.746
Upper limbs claudication	1 (10)	45 (43.3)	0.047*
Lower limbs claudication	5 (50)	25 (24.0)	0.125
Arterial hypertension	7 (70)	37 (35.6)	0.044*
Discrepancy in BP	1 (10)	29 (27.9)	0.287
Reduced/absent pulses	3 (30)	46 (44.2)	0.511
Vascular bruits	4 (40)	32 (30.8)	0.723
Angina abdominis	0 (0)	16 (15.4)	0.353
Chest pain	3 (30)	9 (8.7)	0.071
Acute coronary syndrome	3 (30)	6 (5.8)	0.031*
Serositis	0 (0)	7 (6.7)	1

Conclusions: Male patients with TA have more frequent involvement of the coronary arteries and of the iliac and femoral arteries. As a consequence, they suffer more frequently acute coronary syndrome and lower limbs claudication. Besides, they have more frequently arterial hypertension

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SAT0518

THE ROLE OF LEFLUNOMIDE IN THE TREATMENT OF GIANT CELL ARTERITIS

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Background: Glucocorticoids (GC) have been the mainstay treatment in giant cell arteritis (GCA) for decades. Recently tocilizumab and abatacept have been proven to be effective alternatives to glucocorticoids. However, not all GCA patients are eligible for a biologics.

Objectives: We aimed to evaluate the role of leflunomide (LEF) as a steroid sparing agent in GCA.

Methods: This prospective observational study included newly diagnosed GCA patients followed at least 48 weeks at a single secondary/tertiary rheumatology centre.

Patients were treated with GC in line with the EULAR recommendations.¹ In short, patients with uncomplicated GCA initially received oral methylprednisolone (MP) 32–48 mg qd, while those with ischaemic complications or large vessel disease first received MP 250 mg on 3 consecutive days intravenously, followed by oral MP. MP tapering was started 2–4 weeks after treatment initiation slowly to 4 mg qd which was continued for at least 6 months. At week 12, LEF 10 mg qd was recommended as an add-on therapy to those GCA patients without contraindications for it. The final decision to add LEF was patient dependent. Follow-up visits with predetermined clinical and laboratory tests were performed 4, 12, 24, 48, 96 and 144 weeks after diagnosis. In patients who relapsed during the MP tapering unscheduled visits were arranged and treatment was adjusted (GC dose was