

24.6±7.8%, p<0.0001), and a trend to decreased visceral fat weight (0.9±0.9 vs. 0.5±0.5kg, p=0.0670). Compared to HC, SSc patients demonstrated significantly decreased lean body mass assessed by both iDXA (LBM: 46.6±7.5 vs. 40.9±6.8kg, p=0.0003) and BIA (LBM: 53.2±8.7 vs. 47.7±7.0kg, p=0.0017), and increased ECM/BCM ratio (extracellular mass/body cell mass: 1.03±0.1 vs. 1.29±0.4, p<0.0001), which reflects worse muscle predispositions for physical exercise, aerobic fitness/performance, and usually increases with deteriorating nutritional status. Compared to HC, SSc patients had significantly lower bone mineral density (BMD: 1.16±0.10 vs. 1.05±0.11g/cm<sup>2</sup>, p<0.0001), and were currently able to perform less energetically demanding physical activities according to HAP score (84.7±6.6 vs. 64.1±17.2, p<0.0001). Disease activity negatively correlated with BF% (r=-0.324, p=0.014), and physical activity (HAP) positively correlated with BMD (r=0.276, p=0.034) and negatively with ECM/BCM (r=-0.625, p<0.0001).

**Conclusions:** Compared to healthy age-/sex-matched individuals we found significant negative changes in body composition of our SSc patients, which are associated with their disease activity and physical activity, and could reflect their nutritional status, and gastrointestinal and musculoskeletal involvement.

**Acknowledgements:** Supported by AZV-16-33574A, GAUK-214615.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.4873

**SAT0359 THE COURSE OF MOUTH OPENING AND ITS RELATIONSHIP WITH DISEASE CHARACTERISTICS, GLOBAL FUNCTIONING, HEALTH-RELATED QUALITY OF LIFE AND MOUTH HANDICAP IN PATIENTS WITH SYSTEMIC SCLEROSIS**

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**Background:** Systemic sclerosis (SSc) is a fibrotic disease which can lead to reduced maximal mouth opening (MMO). Previous cross-sectional research showed that reduced MMO in SSc correlated with higher disease severity and lower oral quality of life. Interpretation of interventions that possibly influence MMO is difficult, as the natural history of MMO in SSc is not well described.

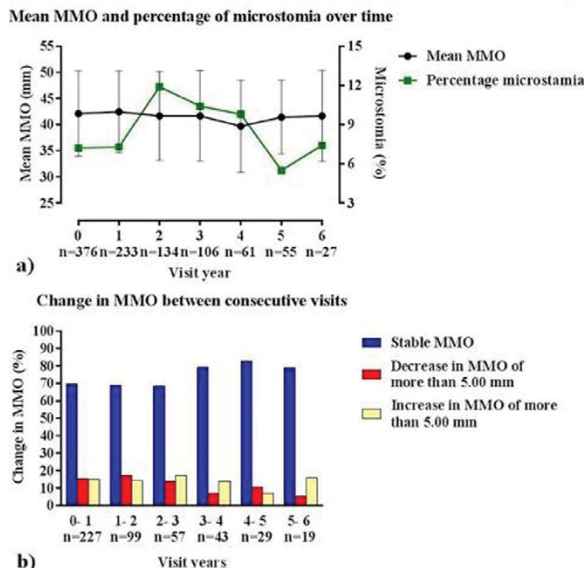
**Objectives:** To evaluate in SSc 1) the course of MMO 2) disease characteristics predictive for decreasing MMO and 3) the relationship between the course of MMO and global functioning, health-related quality of life (HRQoL) and mouth handicap.

**Methods:** SSc patients from the Leiden Combined Care In Systemic Sclerosis (CCIS) cohort, Leiden University Medical Center were included if at least one MMO measurement was available. Annual clinical assessment includes MMO

Table 1. Multivariate mixed model to determine the association between Maximal Mouth Opening (MMO) and baseline disease characteristics in SSc patients

	β	p-value	95% Confidence Interval	
			Lower limit	Upper limit
Non cutaneous SSc (3)			ref	
Limited SSc (2)	-2.2	<b>0.036</b>	-4.2	-0.2
Diffuse SSc (1)	-4.1	<b>0.004</b>	-6.9	-1.4
Gastrointestinal involvement	-2.6	<b>0.001</b>	-4.1	-1.1
Pulmonary involvement	-1.8	<b>0.032</b>	-3.4	-0.2
Peripheral vasculopathy	-2.3	<b>0.003</b>	-3.8	-0.8

**Figure 1** Mean Maximal Mouth Opening (MMO), percentage of microstomia and change in MMO over time in SSc patients



measurement, global functioning (HAQ), HRQoL (Short Form-36; SF-36), mouth handicap (Mouth Handicap in Systemic Sclerosis scale; MHSS). We assessed mean MMO, prevalence of microstomia (MMO<30.00 mm) and decreasing MMO (decline >5.00 mm/year) over time. Predictors for decreasing MMO were assessed by a linear mixed model (LMM), including baseline clinical parameters reflecting 7 domains (peripheral vasculopathy, skin, heart, gastrointestinal, lung, renal, musculoskeletal). Additionally, MMO over time was correlated with baseline HAQ, SF-36 and MHSS in separate LMMs adjusted for gender, Body Mass Index, age and disease characteristics correlated significantly (p<0.05) with the course of MMO.

**Results:** 382 patients were included with mean age 54±14 years, 83% female and 25% diffuse cutaneous SSc. Mean MMO during 6 years of follow-up ranged from 39.4 to 42.5 mm. The annual mean percentage of patients with microstomia was 9%, range 6 to 12% (Figure 1a). A decrease in MMO between two consecutive annual measurements was observed in 5 to 17% of patients, mean 12% (Figure 1b). More extended cutaneous involvement, peripheral vasculopathy, pulmonary and gastrointestinal involvement at baseline were predictive for decreasing MMO over time (Table 1). Baseline HAQ (β=-1.6, 95% CI=-2.7 to -0.6), SF-36 physical component (β=0.1, 95% CI=0.0 to 0.1) and MHSS (β=-0.2, 95% CI=-0.2 to -0.1) correlated with longitudinal MMO.

**Conclusions:** Over time, MMO is relatively stable in the majority of SSc patients. Microstomia is seen in 9% and important decrease of MMO in 12% and is associated with more severe organ involvement. Even though this concerns only a small subgroup of SSc patients, a significant association with global functioning and HRQoL was demonstrated, underlining the need for treatment strategies improving MMO.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.6245

**SAT0360 MYOSITIS-SPECIFIC AND MYOSITIS-ASSOCIATED AUTOANTIBODIES IN PATIENT WITH DERMATOMYOSITIS / POLYMYOSITIS; COMPARISON BETWEEN LINE BLOT AND ENZYME-IMMUNOASSAY ASSAYS**

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**Background:** MESACUP™ test (enzyme-immunoassay assays; TIF1γ, MDA5, Jo-1, EJ, PL-7, PL-12, and KS; MBL) (MESA) is used for a diagnosis of idiopathic inflammatory myopathies (IIMs) in Japan. On the other hand, EUROLINE myositis Profile 3 (line blot; EUROIMMUN) (EURO) can analyze plural Myositis-specific autoantibodies (MSA: Mi-2, Jo-1, SRP, PL-7, PL-12, EJ, OJ) and Myositis-associated autoantibodies (MAA; Ku, PM-Scl) at the same time, which is used commercially in Western countries. However, the difference between utility of MESA and that of EURO haven't be disclosed.

**Objectives:** To clarify difference between utility of EURO and MESA, and extract the problem of respective examination.

**Methods:** We enrolled 58 patients diagnosed DM/PM in our facility. Polymyositis (PM) and dermatomyositis (DM) were diagnosed according to Bohan and Peter's criteria.<sup>1)</sup> The MAA and MSA were analyzed using MESA and EURO. In case of MESA (+), MSA (anti-Jo1, anti-PL7, anti-PL12, anti-KS) were identified by specific ELISA. When those results were different, we analyzed by immunoprecipitation. And we analyzed the association between each autoantibody and clinical features.

**Results:** MSA and MAA were detected in 43/58 (74%) (anti-PL7: 12, anti-Jo1: 7, anti-EJ: 3, anti-PL12: 1, anti-OJ: 0, anti-Ro52: 27, anti-PM-Scl75: 7, anti-Ku: 6, anti-PM-Scl100: 1) by EURO. On the other hand, MSA and MAA were detected in 30/58 (52%) (anti-PL7: 9, anti-Jo1: 7, anti-EJ: 4, TIF1γ: 4, MDA5: 3, U1RNP: 3) by MESA. Five patients were MESA (-) and EURO (-). In the case of ARS positive patient, Two of EURO (-) patients was positive in MESA, respectively Jo1 and EJ. Three of MESA (-) patients was positive in EURO. Although MESA(-) and EURO(+) patients had plural MSA and MAA (PL7+Jo1, PL7+PL12, PL7+Ku), MSA and MAA weren't detected by immunoprecipitation in MESA(-) and EURO(+) patients. Two of patients that detected plural MSA or MAA had rapid progressive ILD.

(Association between clinical manifestations and MSA, MAA)  
All patients with anti-ARS (anti-Jo-1, anti-PL-7, anti-PL-12 and anti-EJ) had ILD. In addition, anti-ARS were associated with arthritis and mechanic's hands. Anti-Mi-2 positive patients didn't have ILD. Patients detected anti-PM-Scl75, anti-PM-Scl100, anti-Ku were almost overlap syndrome. All of Anti-SRP positive patients was PM.

**Conclusions:** EURO is a convenient and reliable method useful for detection of MSA and MAA. It was suggested the patients whom plural antibodies were detected by EURO have unique clinical course in others.

**References:**

[1] Bohan, A., Peter, J.B., 1975. Polymyositis and dermatomyositis (second of two parts). N. Engl. J. Med. 292, 403-407.

**Disclosure of Interest:** None declared

**DOI:** 10.1136/annrheumdis-2017-eular.4762