Methods: PubMed, EMBASE and COCHRANE databases were searched for english language articles on SSc published between 1960 and 31st October 2018. Any study that made reference to FVC and DLCO evaluation in SSc and reported their changes over the years was included. Reviewers double extracted articles to obtain agreement on >95% of pre-defined critical outcomes: DLCO and FVC at baseline, 1 yr of FU and at the last assessment interstitial lung disease by HRCT of the lungs study design, duration of FU. Other variables included demographics. In all cases I^2 test for heterogeneity was used and a result from 75 to 100% was considered as high heterogeneity. A random effects meta-analysis was used. Differences in the degree of change in FVC and DLCO were tested with t-test without compensation for repeated analysis.

Results: 1870 articles were screened for eligibility and 21 were selected for the SLR and meta-analysis. The analysis used 21 studies to evaluate changes of FVC and DLCO at 1 yr of FU. Only 5 studies were eligible to evaluate changes during longer FU (24.7 months (SD=20.4)). Heterogeneity was high at baseline and FU, (at 1 yr and >1 yr), both for the 21 studies at 1 yr (FVC: I^2 99.74%, 99.78%; DLCO: I^2 99.91%, 99.92%) and the 5 studies at > 1 year (FVC: I^2 92.86%; DLCO: I^2 99.54%), diminishing the confidence in the results. Table 1 gives the results of the random effects meta-analysis both for 21 and for the 5 studies evaluated. Regarding changes over 1 yr in the 21 studies, change of mean FVC was 2.7 (78.8 vs 81.5) while change in mean DLCO was 3.07 (SE 8.20) (59.7 vs 63.4). Considering the 5 studies during long term follow up, change in mean FVC was 2.0 (7.36) (81.1 vs 83.1), and change in mean DLCO was -0.96 (16.95) (55.6 vs 54.7). Comparing the 1 yr changes in the 21 studies, change in mean FVC was 2.7 (5.2) and change in mean DLCO was 3.07 (8.2); difference in changes was not statistically significant ($p=0.5791$). During long term FU (24.7 months), change in mean FVC was 2.0 (7.36) and change in mean DLCO was -0.96 (16.95); difference in changes was not statistically different ($p=0.4698$).

Conclusion: Our data are limited by great heterogeneity. Given this limitation, this SLR and meta-analysis indicates that there is no difference in the changes comparing FVC to DLCO at either 1 yr or during longer term follow-up. Corroboration of these results in prospective studies and in registries to make clear, comparable comparisons will be needed.

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AB0551 CLINICAL SIGNIFICANCE OF COGNITIVE IMPAIRMENT AND MALNUTRITION IN PATIENTS WITH SYSTEMIC SCLEROSIS

D. Benfaremo¹, L. Manfredi¹, I. Paterno¹, C. Dichiarà¹, A. M. Risa¹, G. Silvi¹, A. Gabrielli¹. ¹Università Politecnica delle Marche, Dipartimento di Scienze Cliniche e Molecolari, Ancona, Italy

Background: Previous studies reported a high prevalence of cognitive dysfunction in systemic sclerosis (SSc). Cognitive impairment was estimated to involve 60% to 80% of SSc patients and to be correlated with older age, disease severity, diffuse cutaneous subset and poor quality of life.

Objectives: The aim of our study was to evaluate the association between cognitive impairment, nutritional status and the quality of life of SSc patients.

Methods: Sixty-eight consecutive SSc patients followed at our Institution were evaluated for cognitive impairment using the validated Italian version of the Montreal Cognitive Assessment (MoCA). Scores <26 were considered abnormal. We also assessed other domains and quality of life measures such as UCLA SCTC GIT 2.0 for gastrointestinal involvement, BDI-II and PHQ-9 for anxiety and depression, EAT-10 for dysphagia symptoms, SHAQ and SF-36 for function and quality of life (QoL). The risk and the presence of overt malnutrition were assessed using the MUST questionnaire and the GLIM criteria, respectively. Clinical and demographic parameters such as age, sex, BMI, disease subset, organ involvement, autoantibody profile and modified Rodnan Skin Score

were also recorded for each patient. Data were analysed by Student t-test or chi-square test and regression analyses were used to assess the association between variables.

Results: A total of 68 SSc patients [47 (69.1%) limited SSc (lSSc) and 21 (30.9%) with diffuse SSc (dSSc), 59 female; mean age 60.2 ($\pm$ 13.4) years; mean disease duration 9 ($\pm$ 8.2) years; mean mRSS 8.1 ($\pm$ 7.6)] were included in the study.

Cognitive impairment was identified in 30 (44.1%) SSc patients; the mean MoCA score was 24.7 ($\pm$ 4.3). According to GLIM criteria, 16 (23.5%) patients were malnourished. Compared to patients with a MoCA $\geq$ 26, patients with cognitive impairment were older ($p<0.001$), had more comorbidities ($p<0.0001$) and a worse QoL as assessed by the physical and general health domains of the SF-36 ($p<0.05$). Malnourished patients were significantly more dysphagic ($p<0.01$) and had a worse HAQ ($p<0.01$) compared to well-fed patients. On regression analyses, cognitive impairment was related to increasing age (OR 1.08, 95%CI 1.03 to 1.14, $p=0.001$), but not to malnutrition, disease subset or symptoms. Malnutrition was associated with dysphagia (OR 1.10, 95%CI 1.01 to 1.20, $p=0.01$) and HAQ score (OR 2.69, 95%CI 1.24 to 5.82, $p=0.01$), but was not predicted by cognitive impairment.

Conclusion: Cognitive dysfunction is frequently observed in SSc patients and mostly associated with increasing age and number of comorbidities. Malnutrition and cognitive impairment are both associated to QoL but seem to be unrelated.

Disclosure of Interests: None declared

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AB0552 CHARACTERISTICS OF MYOSITIS SPECTRUM DISEASE - RHEUMATOID ARTHRITIS OVERLAP CASES IN A HUNGARIAN COHORT

L. Bodoki¹, Z. Griger², M. Nagy-Vincze², Z. E. Betteridge³, K. Dankó².

¹Debrecen, University of Debrecen, Faculty of Medicine, Department of Rheumatology, Debrecen, Hungary; ²Debrecen, University of Debrecen, Faculty of Medicine, Department of Clinical Immunology, Debrecen, Hungary; ³University of Bath, Bath, United Kingdom

Background: Overlap syndromes are autoimmune disorders in which classification criteria of at least two connective tissue diseases (CTDs) are fulfilled. The Division of Clinical Immunology in Debrecen, Hungary oversees patients with idiopathic inflammatory myopathies (IIMs) since the 1980's.

Objectives: In a work called The Myositis Antibody Research Project, which is coordinated together with the Bath Institute for Rheumatic Diseases (UK), authors investigated 330 patients with myositis, all treated in this Hungarian center.

Methods: The aim of this retrospective study was to investigate the frequency, clinical and serological parameters and therapeutic options in myositis – rheumatoid arthritis overlap cases in this group of 330 patients.

Results: The frequency of overlap cases, as seen in literature, was 13.64%. The importance of myositis-associated antibodies (MAAs) can be seen on this results: 44.44% of overlap patients, while only 7.02% of not overlap patients were MAA positive. Out of our 45 overlap patients twenty-seven myositis - RA overlap patients could be identified. Among these 27 patients the women:men ratio was 12.5:1, PM:DM ratio was 2.375:1. Muscle weakness and skeletal involvement was present in every patient, myalgia in 77.78% and Raynaud's phenomenon in 48.15% of the patients; general symptoms during disease relapse (fatigue, weight loss, fever) were present in 59.26%, 18.52% and 14.82%, respectively. Ten cases had seropositive rheumatoid arthritis, with high titer of rheumatoid factor. Authors underline the importance of lung involvement as internal organ manifestation: 6 patients had anti-synthetase antibodies (six anti-Jo-1, one anti-PL-7 and one anti-PL-12). In anti-PL-7 and anti-PL-12 positive patients interstitial lung disease (ILD) appeared some years before myositis and early aggressive management of ILD resulted in fast remission of muscle weakness. Anti-Mi-2 and anti-SRP could be detected in two patients. Most frequent used disease modifying antirheumatic drugs were cyclophosphamide, methotrexate and cyclosporine, 19 patients received DMARD combination therapy. Biological therapy was used in 3 patients, intravenous or subcutaneous immunoglobulin in 4 patients and one patient with RA – myositis – antiphospholipid syndrome died because of aspartum pneumonia.

Conclusion: Authors conclude that it is really challenging to treat these overlap cases: they form a very heterogenous group of patients and management has to be personalized.

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