- [3] Dooley MA, Jayne D, Ginzler EM, Isenberg D, Olsen NJ, Wofsy D, et al. Mycophenolate versus azathioprine as maintenance therapy for lupus nephritis. *The New England journal of medicine* 2011;365(2011):1886–1895.

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AB0531 DECISION TO INITIATE IMMUNOSUPPRESSION IN PATIENTS WITH PRIMARY SJÖGREN'S SYNDROME

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Background: There is limited data available (case series, small clinical trials and expert opinion) regarding the need to initiate immunosuppressive therapy in patients with primary Sjogren syndrome (pSS).

Objectives: The aim of this study is to determine the factors that correlate with physician's decision to start immunosuppressive therapy in pSS patients.

Methods: Subjects with pSS diagnosed according to the classification criteria in use at the time of their first presentation, were included in a monocentric cohort. A retrospective analysis was performed. The EULAR Sjogren's Syndrome Disease Activity Index (ESSDAI) at onset and Sjogren Syndrome Damage Index (SSDI) at the last evaluation were calculated. Treatment was given according to the physician's decision. Laboratory tests and Ultrasonography (US) of major salivary glands were performed in all cases. The data was analysed using Windows Excel/SPSS20.0.

Results: Corticotherapy was prescribed in 26/30 cases (86.6%), mean duration 50.65 months. Immunomodulatory treatment with hydroxychloroquine was given in 26/30 cases (86.6%). Immunosuppressive treatment was required in 10/30 patients (33.3%)- azathioprine 7 (23.3%) cases, methotrexate 3 (10%) cases. The mean ESSDAI score was $6.83 \pm SD 1.8$. In 19 (63.3%) cases disease activity was moderate or high (ESSDAI >5). The mean damage score value (SSDI) was $3.1 \pm SD 1.2$. There was a moderate correlation between the activity score ESSDAI and the damage score SSDI ($r=0.41$, $p<0.05$). The physician's decision to start immunosuppression correlated significantly with the presence of hypergammaglobulinemia ($r=0.4$, $p<0.05$). The duration of immunosuppressive treatment correlated moderately with specific Sjogren's US pattern of salivary glands ($r=0.40$, $p<0.05$). In contrast, immunosuppressive treatment duration did not correlate with the activity and damage scores (ESSDAI and SSDI).

Conclusions: An important number of patients received corticotherapy, immunomodulatory agents and immunosuppressive therapy. The decision to initiate and maintain immunosuppressive therapy correlated with hypergammaglobulinemia and specific Sjogren's US changes. The damage score (SSDI) does not correlate with immunosuppressive therapy duration.

REFERENCES:

- [1] Rischmueller M, Tieu J, Lester S. Primary Sjögren's syndrome. *Best Pract Res Clin Rheumatol* 2016 Feb 30.
[2] Seror R, Bootsma H, Saraux A, et al. Defining disease activity states and clinically meaningful improvement in primary Sjögren's syndrome with EULAR primary Sjögren's syndrome disease activity (ESSDAI) and patient-reported indexes (ESSPRI). *Ann Rheum Dis* 2016.

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AB0532 THE EFFECTIVENESS OF EXERCISE THERAPY IN PATIENTS WITH SYSTEMIC SCLEROSIS: A SYSTEMATIC REVIEW

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Background: Exercise therapy is an important and relatively often used nonpharmacological intervention¹, yet its effectiveness based on studies where exercise therapy is evaluated as single intervention (and not part of a comprehensive program²) has not been determined.

Objectives: To evaluate the effectiveness of exercise therapy in SSc patients by means of a systematic review of the literature.

Methods: A systematic literature search was performed in February 2017 in ten databases including Pubmed and Embase from 1990 to February 2017. We included clinical studies with an observational or experimental design as long as the study population concerned ≥ 3 SSc patients, the intervention consisted only of exercise therapy (categorised into hand exercises, mouth opening exercises, and aerobic exercises either or not combined with other exercises) and its clinical outcome according to at least one assessment of effectiveness done before and after the intervention was reported. Studies where exercise therapy was part of a multidisciplinary intervention were excluded. The selection of studies, data extraction and assessment of methodological quality was done by two of the researchers independently.

Results: The search strategy yielded 636 titles and abstracts, with eventually six studies being included (2 randomised controlled trials (RCTs), 3 observational designs (ODs) and 1 single subject experimental design (SSED)). The total number of patients included per study ranged from 4 to 48, patients' mean age from 44.0 to 66.5 years and mean disease duration from 3.5 to 12.6 years. One study concerned hand exercises (an RCT comparing strengthening and mobility exercises using a telemedicine intervention consisting of a portable device guiding patients during workout and sending data to health professionals to no-telemedicine), two studies on mouth stretching and oral-augmentation exercises (an OD and a RCT), and three studies on aerobic exercise (two ODs and one SSED; one program with only aerobic training and two programs combining aerobic and resistance training, lasting 30–60 min, 2–3 days/week for 8–12 weeks). The study on hand exercises reported a greater improvement of hand function using the telemedicine intervention. The RCT on mouth exercises showed a statistically significant effect on maximum mouth opening in the exercise group compared to no exercise at 3 months but not at 6 months follow-up, whereas the OD showed improvement of mouth opening directly after the mouth exercise program. The three studies on aerobic exercise indicate effectiveness and no dropouts were observed. The program of solely aerobic exercise on a treadmill improved patient's exercise tolerance and aerobic capacity. The two programs combining aerobic and resistance exercise showed improvements of strength and muscle function in the OD and improvements of muscular endurance and aerobic capacity in the SSED.

Conclusions: The literature on the effect of exercise therapy in SSc patients is scanty. Collaborative efforts to conduct methodologically sound intervention studies with adequate reporting is needed.³

REFERENCES:

- [1] Meijis J, et al. *Clin Rheumatol* 2013;33(6):825–832.
[2] Willems L, et al. *Arthritis Care & Res.* 2015;67(10):1426–1439.
[3] Ravaud P, et al. *Nat Clin Pract Rheumatol* 2006;2(6):313–319.

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AB0533 PATTERN OF DRUG USE IN SYSTEMIC LUPUS ERYTHEMATOSUS IN REAL WORLD CLINICAL PRACTICE

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Background: Pharmacological treatment for systemic lupus erythematosus (SLE) is aimed at reducing disease activity, preventing flares and minimising the damage. The use of medication varies widely and therapeutic strategies are well defined only for certain organ manifestations. Hydroxychloroquine is the standard treatment for most SLE patients during the entire disease course, while immunosuppressants are recommended for those with severe organ involvement. Belimumab is the only biological currently licensed for SLE, although others are used off-label in clinical practice.

Objectives: To describe the real-world patterns of drug use in SLE patients, and their relationship with disease phenotype.

Methods: Observational study of adult SLE patients registered in the Rheumatic Diseases Portuguese Registry, who have clinical diagnosis of SLE, followed for at least 1 year and with available data on medication, which was retrieved. Sociodemographic and clinical characteristics were compared among treatment groups defined as: group 1 antimalarials and/or glucocorticoids; group 2 immunosuppressants (azathioprine (AZA)/mycophenolate mofetil (MM)/methotrexate (MTX)) $\pm$ antimalarials and/or glucocorticoids; group 3 biologics $\pm$ immunosuppressants and/or antimalarials and/or glucocorticoids. To assess possible differences

between the groups, univariate regression analyses were made. In all analyses significance level was set at 0.05.

Abstract AB0533 – Table 1. Sociodemographic and clinical characteristics according to treatment groups

Characteristics	Group 1 (N= 409)	Group 2 (N= 272)	Group 3 (N= 53)	Global p-value
Female, N (%)	377 (92.2%)	249 (91.5%)	49 (92.5%)	0.948
Caucasians, N (%)	375 (95.9%)	235 (91.1%)	42 (87.5%)	0.029
Age, years (mean±SD)	48.7±14.6	44.5±13.7	45.4±14.2	<0.001
Duration of disease, years (mean±SD)	12.9±8.4	13.2±8.0	11.7±6.6	0.507
Non-smokers, N (%)	145 (70.1%)	94 (66.2%)	22 (64.7%)	0.719
Physician global VAS (0-3) (mean±SD)	0.1±0.2	0.4±0.5	0.4±0.5	<0.001
SLEDAI (mean±SD)	1.6±1.7 (min:0; max:8)	2.9±3.3 (min:0; max:19)	3.5±4.0 (min:0; max:19)	<0.001
Inactive disease (≤4) (N (%))	288 (88.2%)	152 (74.5%)	22 (79.6%)	<0.001
Mild-moderate disease (5-12) (N (%))	28 (8.7%)	45 (22.1%)	5 (17.9%)	
Severe disease (≥13) (N (%))	10 (3.1%)	7 (3.4%)	1 (3.6%)	
Organ damage SLICC (mean±SD)	0.5±1.1	0.7±1.5	1.0±1.4	0.012
SLICC (≥0) (N (%))	119 (70.7%)	100 (19.2%)	24 (48.9%)	0.010
Acute cutaneous lupus, N (%)	220 (67.0%)	156 (60.9%)	35 (74.5%)	0.059
Chronic cutaneous lupus, N (%)	51 (15.5%)	55 (22.9%)	10 (21.7%)	0.314
Oral or nasal ulcers, N (%)	91 (23.3%)	80 (30.7%)	25 (52.1%)	<0.001
Non-scarring alopecia, N (%)	59 (15.9%)	57 (23.8%)	10 (50.0%)	<0.001
Arthritis, N (%)	255 (64.7%)	201 (76.7%)	45 (90.0%)	<0.001
Serositis, N (%)	77 (23.6%)	62 (23.7%)	12 (28.1%)	0.945
Renal involvement, N (%)	76 (20.4%)	134 (53.8%)	19 (43.2%)	<0.001
Neurologic involvement, N (%)	21 (7.7%)	24 (9.6%)	8 (28.2%)	0.015
Hematologic involvement, N (%)	248 (85.4%)	194 (74.9%)	59 (81.3%)	0.001
Hemolytic anemia, N (%)	29 (7.4%)	41 (15.7%)	7 (14.9%)	0.002
Leukopenia, N (%)	179 (47.4%)	142 (56.8%)	33 (70.2%)	0.002
Thrombocytopenia, N (%)	75 (23.9%)	71 (28.4%)	13 (28.3%)	0.034
Glucocorticoids, N (%)	145 (35.5%)	211 (77.6%)	49 (81.1%)	-
Antimalarials, N (%)	409 (100%)	210 (77.2%)	37 (89.8%)	
Immunosuppressants, N (%)	-	157 (50.4%)	11 (20.8%)	
azathioprine/mycophenolate mofetil/methotrexate	-	(32.0%)/55 (20.2%)	(13.2%)/9 (36.9%)	

VAS (visual analog scale), SLEDAI (Systemic Lupus Erythematosus Disease Activity Index), SLICC (Systemic Lupus International Collaborating Clinics)

Results: A total of 824 SLE patients were included, mean age of 47.3±14.4 years, 92.3% female. The mean age at first symptoms was 31.6±14.1 and at SLE diagnosis of 34.1±14.3 years. On their last assessment, 678 (82.3%) were being treated with antimalarials, 463 (56.2%) glucocorticoids, 343 (41.6%) immunosuppressants (149 AZA, 99 MM, 67 MTX, 14 cyclosporine, 11 cyclophosphamide, 3 leflunomide), 53 (6.4%) biologics (32 rituximab, 21 belimumab) and 26 (3.2%) were off medication. The sociodemographic and clinical characteristics according to treatment groups are shown in table 1. Gender distribution was similar across groups. A high prevalence of women, Caucasians, non-smokers, acute cutaneous lupus and arthritis was found in all groups. Patients in group 1 had lower disease activity measured by SLEDAI, less organ damage measured by SLICC and lower physician's global assessment. In group 2 patients were younger and had higher prevalence of renal involvement. Patients in group 3 had higher SLEDAI score and damage, higher prevalence of mucocutaneous, articular, neurologic and hematologic involvement and more use of glucocorticoids.

Conclusions: Almost all SLE patient with established disease were chronically medicated, most with antimalarials and/or glucocorticoids. As expected, group 1 had less severe disease. Patients under immunosuppressants had a higher frequency of renal involvement, which denotes a targeted therapeutic strategy. In routine clinical settings biologics are rarely used, being restricted to patients with very active SLE and multiple clinical manifestations.

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AB0534 PROPORTION OF SJÖGREN'S SYNDROME PATIENTS REFERRED TO ORAL SPECIALISTS AT A RHEUMATOLOGY TERTIARY CENTRE AND FACTORS ASSOCIATED WITH THEIR REFERRAL

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Background: Ideally all patients with Sjögren's Syndrome (SS) and symptoms of mouth dryness should be assessed by an oral specialist (OS) team at 3–6 monthly intervals for optimisation of their treatment for xerostomia and minimisation of the risk of dental loss¹. However, in reality specialist input is not always offered.

Objectives: To determine the proportion of SS patients at a rheumatology tertiary centre who were referred to OS and evaluate if any factors were associated with referral.

Methods: We retrospectively collected data about 105 patients with primary or secondary SS who attended outpatient clinics in October – November 2016, including duration of symptoms and years since diagnosis, presence of SS associated symptoms, medications trialled to date, and serological, imaging and histological patient features. We have also assessed proportion of patients referred to OS, as well as the medication recommended by the OS. p<0.05 was considered significant.

Results: In our cohort, 58.1% of SS patients were referred to an OS. We compared patient demographics and various disease features (table 1) in SS patients who were referred to OS and those who were not.

Abstract AB0534 – Table 1

	SS patients seen by oral specialists n=61	SS patients never referred to oral specialists n=44	P value
Gender F (%)	93	98	0.17
Age (years) mean±SD	60.1±16.7	50.1±15.3	0.023
Disease duration (years) mean±SD	9.7±7.9	7.4±5/2	0.57
Symptoms duration (years) mean±SD	11.0±8.47	10.0±5.80	0.2
Medication			
Oral prednisolone N (%)	13.1	27.3	0.069
Hydroxychloroquine/Chloroquine N (%)	65.6	68.2	0.78
Azathioprine N (%)	12.5	15.4	0.75
Methotrexate N (%)	8.82	24	0.12
Saliva substitutes N (%)	59.5	32	0.034
Associated Symptoms			
Oral dryness (VAS>5/10) N (%)	95.1	72.7	0.0012
Glandular enlargement N (%)	27.9	13.6	0.082
Maximum ESSDAI score	7 (4–12)	6 (4–10.75)	0.36
Median (interquartile range)			
Serology, Histology and Imaging			
Anti Ro antibodies N (%)	79.2	78.4	0.92
Anti La antibodies N (%)	61.4	58.1	0.77
Positive salivary gland biopsy N (%)	100	83.3	0.20
Ultrasound scan of salivary glands showing definite features of SS N (%)	86.4	66.7	0.38

The parameters that correlated with the referral to OS were oral dryness (VAS>5/10) (p=0.0012) and the use of saliva substitutes (p=0.034).

The most common OS treatment recommendations were for use of Duraphat 5000 ppm (50.8%), Salivix pastilles (44.3%), mouth wash (41%) and Glandosane (36%), apart from frequent sips of water recommended in all patients.

Conclusions: 58.1% of SS patients at a tertiary rheumatology centre were referred to OS. The factors that correlated with onward referral to the OS from the Rheumatologist in SS patients were oral dryness and treatment with saliva substitutes. This suggests that Rheumatologists adequately treat xerostomia and refer to OS appropriately when patients remain symptomatic. Further research is needed to assess whether there is a difference in outcome for patients referred to an OS versus those who are not.

REFERENCE:

- Price E, Rauz S, Tappuni A, Sutcliffe N, Hackett K, Barone F, et al. The British Society for Rheumatology guideline for the management of adults with primary Sjögren's Syndrome. *Rheumatology* 2017;56(10):1828–1828.

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