nervous system involvement were less in the abnormal than normal BMD group ($\chi^2 = 5.996$, $P = 0.014$ and $\chi^2 = 8.169$, $P = 0.004$). Multivariate analysis showed that BMI (correlation coefficient = 0.484, $P < 0.001$) and multisystem damage (correlation coefficient = 0.258, $P = 0.003$) were positively correlated with BMD.

Conclusion: Low BMI, SLEDAI and less multisystem damage may be risk factors of BMD abnormalities in newly diagnosed SLE patients.

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AB0502

IMPROVING RATES OF CERVICAL CANCER SCREENING AND PREVENTION IN PATIENTS WITH LUPUS

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Background: Recent studies suggest that patients with lupus have higher rates of cervical dysplasia and pre-malignant lesions. We have a large population of lupus patients at our institution that may be at increased risk of dysplastic lesions due to suboptimal rates of HPV vaccination and cervical cancer screening. The aim of this study was to determine the rate of HPV vaccination completion and cervical cancer screening compliance among the lupus patients seen in our institution. In addition, we developed a process to increase patient education and improve both HPV and cervical cancer screening rates at the level of the outpatient renal, dermatology and rheumatology clinics.

Objectives: To improve rates of cervical cancer screening and HPV vaccination among patients with Lupus

Methods: A comprehensive list was compiled of all patients with a diagnosis of lupus seen in the clinics over a 3 year period. A chart review of 332 patients was subsequently performed to determine the rate of HPV vaccination completion and the rate of compliance with cervical cancer screening. Methods were developed to improve these rates by streamlining access to HPV vaccination sites or facilitating referral for screening exams. Patients were also provided education through brochures about their increased risk.

Results: Our results revealed that rates of HPV vaccination among lupus patients at our institution were lower than national averages by 11%. Rates of cervical cancer screening were also 21% lower compared to national average for this group of patients. In creating a system to flag providers and increase patient education, we were able to improve these rates. In the first two months, 73.7% of all patients seen in the clinics were provided education and 61.5% of eligible patients that were seen in clinic were appropriately referred to either their PCP or to gynecology to complete cervical cancer screening and prevention.

Conclusion: Initial review of the lupus population at our institution highlighted a strong need to develop an intervention to improve vaccination and screening compliance in this population. By raising awareness amongst providers, we were able to significantly increase the number of at risk patients referred for cervical cancer screening and prevention. Given that the United States Food and Drug Administration has recently approved to expand the use of the HPV vaccine to women and men up to age 45, future efforts will be made to expand our eligible population to reflect these recommendations.

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AB0503

THE LUNG IN SJÖGREN'S SYNDROME PATIENTS – AN OVERVIEW OF CLINICAL CHARACTERISTICS AND DISEASE OUTCOME

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Background: Lung involvement has been reported in 10-20% of patients (pts) with primary Sjögren's syndrome (pSS) and mostly affecting parenchyma and airways. Its occurrence significantly impacts both quality of life and mortality in pSS pts.

Objectives: To characterize lung involvement in a cohort of pSS pts and present our experience with immunosuppressive drug treatment for pSS-interstitial lung disease (ILD).

Methods: Retrospective analysis of pSS pts followed in our Rheumatology department until December 2018. Lung involvement was based on imaging and/or histopathological alterations described in the spectrum of pSS-associated lung disease. Patients with and without lung disease were compared using parametric and non-parametric tests.

Results: In total, 137 pSS pts who fulfilled the European-American consensus criteria 2002 were identified, 130 (94.9%) females, with mean age at pSS diagnosis of 56.1 (± 12.2) years; median disease duration 6 [IQR 3-10] years and median follow-up 6 [IQR 3-10.25] years. Antinuclear antibodies were positive in 113 (82.5%) pts, with 95/134 (70.9%) pts presenting positive anti-SSA and 60/128 (46.9%) anti-SSB. Specific immunoassays performed in 82 pts allowed identification of anti-Ro52 antibody in 48 (58.5%) of them. Rheumatoid factor was positive in 48/91 (52.7%).

During follow-up 3 pts died, 1 due to ILD progression and 2 due to sepsis (respiratory and abdominal), both under immunosuppression.

Lung involvement occurred in 17 (12.4%) pts; median time to lung disease was 2 years [IQR 0-8] after pSS diagnosis.

Mean EULAR SS disease activity index (ESSDAI) at the time of lung involvement diagnosis was 13.1 (± 5).

Differences between pts with and without lung involvement are shown in table 1.

Table 1. – Comparison between pts with and without lung involvement

	Lung involvement (n=17)	No-lung involvement (n=120)	p-value
Female	17 (100%)	113 (94.2%)	0.31
Age at pSS diagnosis (mean $\pm$ SD)	60.9 $\pm$ 8.6	55.4 $\pm$ 12.4	0.04
Disease duration (median IQR)	8 [2.5-12]	5 [3.9-7.5]	0.24
ANA	15 (88.2%)	99 (82.5%)	0.56
Anti-Ro52	7 (63.6%)	41 (57.7%)	0.72
Hypergammaglobulinemia during follow-up	10 (58.8%)	48 (40%)	0.14
Constitutional involvement during follow-up	6 (35.3%)	5 (4.2%)	<0.001

Legend: pSS - primary Sjögren's syndrome; ANA- antinuclear antibodies

Regarding pattern of lung involvement, 9 (52.9%) pts had ILD, 6 (35.3%) isolated bronchiectasis and 2 (11.8%) follicular bronchiolitis. In ILD pts, non-specific interstitial pneumonia (NSIP) was documented in 6 pts, lymphocytic interstitial pneumonia in 2 and 1 pt had unclassifiable ILD pattern with lymphocytic alveolitis in bronchoalveolar lavage. One of the pts with NSIP later developed radiographic characteristics suggestive of usual interstitial pneumonia (UIP).

Six ILD pts were treated with immunosuppressive drugs. One received cyclophosphamide (CYC), 2 azathioprine (AZA) and 4 mycophenolate mofetil (MMF). From pts receiving MMF, 1 was previously treated with CYC as induction treatment and the other with AZA, but with inefficacy. Rituximab (RTX) was given to 1 pt with refractory arthritis and new ILD onset. After 11 years on RTX (total 10 cycles) the pt complained of persistent dyspnoea and fatigue on minor exertion (cardiac causes excluded), with onset of subtle honeycombing in high resolution computed tomography. At this point pirfenidone was added to RTX, with clinical improvement. Detailed lung function and imaging evolution of pSS-ILD pts is shown in table 2.

Table 2 – Evolution of patients with interstitial lung disease treated with immunosuppressive drugs

Patient	Current immunosuppression	Baseline		6-12 months		≥ 24 months		Lung CT 6-12 months	Lung CT ≥ 24 months
		FVC (%)	DLCO (%)	FVC (%)	DLCO (%)	FVC (%)	DLCO (%)		
1†	AZA	52.8	27.7	42.1	7.4	35.2	Unable to perform	Progression, assuming UIP pattern	Stable
2	MMF	87.6	69.3	95	72.7	-	-	-	-
3	MMF	37.1	Unable to perform	45	Unable to perform	-	-	Progression	-
4	MMF	98.6	84.7	112.2	90	-	-	Improvement	-
5	MMF	76.7	39.6	*	*	*	*	*	*
6	RTX	45.8	40.9	-	-	46.5	36.7	Stable	Progression

† Patient 1 died due to lung disease progression, after 3 years on AZA and before there was experience with anti-fibrotic drugs

* This patient is under treatment for less than 6 months and has no follow-up assessment yet

Legend: AZA – azathioprine; MMF – mycophenolate mofetil; RTX – rituximab; FVC – forced vital capacity; DLCO – gas transfer; CT – computed tomography; UIP – usual interstitial pneumonia

Conclusion: Lung involvement occurred in 12.4% of our cohort and was associated with older disease at pSS diagnosis and presence of constitutional involvement.

Small airways disease and ILD had nearly the same prevalence and in the ILD sub-group, NSIP was the commonest pattern. Despite the small number of ILD pts receiving immunosuppression, these drugs seemed to be associated with disease stabilization in most of them. Only 1 pt with UIP pattern had disease progression and eventually died.

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AB0504

CLINICOPATHOLOGICAL CHARACTERISTICS AS POSSIBLE PREDICTOR OF RENAL OUTCOME IN PATIENTS WITH ACTIVE LUPUS NEPHRITIS FOLLOWING THE INDUCTION OF REMISSION PHASE

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Background: Systemic lupus erythematosus is polygenic autoimmune rheumatic disease with heterogeneous manifestations. Lupus patients with nephritis signal represents management challenge. With current induction and maintenance therapy the risk of developing lupus nephritis related ESRD at five, ten and fifteen years remains 11,17 and 22% for the last decade

Objectives: To study clinicopathological characteristics of lupus nephritis patients as well as short term renal outcome following induction of remission attempts.

Methods: Retrospective, prospective observational study. We enrolled all patients with suspected active Lupus nephritis attending Dubai Hospital Rheumatology services. Data collected during outpatient, inpatient consultation using medical electronic system for all patients newly diagnosed to have lupus with renal involvement or patients who had nephritic or nephrotic flare from June 2016 till December 2018

Results: Of 71 patients included during the study period, mean age was 36.4 years, 93% were female while 7% were males. 56 Out of 71 were Arab (78%) while the rest 15 out of 71 (22%) from non-Arab ethnicity. 84% (60/71) patients suspected to have active lupus nephritis underwent ultrasound guided kidney biopsy unless contra-indicated or the patient refused to sign the consent for the procedure. The commonest histopathological class according ISN/RPS 2003 Classification was class III. Induction of remission attempted with Mycophenolate Mofetil in 29% of patients (21/71). Around (8/71) received Rituximab regimen while more than 50% of the patients (39/71) received Cyclophosphamide Euro lupus protocol. At 6 months assessment following induction of remission 40/71

showed complete response and 26/71 responded partially, 5/71 required dialysis 2 of them required short term dialysis. On the other hand 3/71 (4%) progressed to end stage renal disease. Among patients who developed end stage renal disease there was signal of less favorable prognostic indicators such comorbid condition with possible glomerulopathy complications such as diabetes mellitus and hypertension. Moreover 2 of the 3 patients end with long term dialysis observed to have positive Anti-phospholipid antibody status which may reflect co-existing thrombotic angiopathy. Among biopsy criteria predicting worse outcome was the presence of Cellular crescents on background of Class III or IV lupus nephritis.

Conclusion: Our study is unique in the region, characterizing high risk group of SLE patients. The signal of co morbid conditions such as hypertension, diabetes mellitus and antiphospholipid antibody positivity as well as class III/IV Lupus nephritis with cellular crescents as predictor of worse renal outcome raise the unmet need for further study with large sample involving more than single center to determine clinical, serological and histopathological predictors of renal outcome in short term as well as long term with the available immune suppressive regimens.

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AB0505

AGE AT DIAGNOSIS AND HEALTH-RELATED QUALITY OF LIFE ARE ASSOCIATED WITH FATIGUE IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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Background: Fatigue can be defined as feeling tired and exhausted and lacking energy (1). It is associated with a poor quality of life; 53 to 80% of SLE patients identify fatigue as their main symptom (2)

Objectives: To define factors associated with fatigue in Mestizo patients with Systemic Lupus Erythematosus (SLE).

Methods: This is a cross-sectional study of SLE patients from a single center cohort. Visits were performed every six months. For these analyses, the first visit between October 2017 and December 2018 was included. Demographic and clinical characteristics as well as treatment were recorded at every visit. Socioeconomic status (SES) was defined using the Graffar's method (ref). Fatigue was ascertained with the Functional Assessment of Chronic Illness Therapy-Fatigue (FACIT-FT), Health-Related Quality of Life (HRQoL) with the LupusQoL, disease activity with the Systemic Lupus Erythematosus Disease Activity Index –2K (SLEDAI-2K), and damage with the Systemic Lupus International Collaborating Clinics (SLICC)/American College of Rheumatology (ACR) damage index (SDI). Prednisone use was recorded as current daily dose. Immunosuppressive drugs and antimalarial use was recorded as current, past or never. Univariable and multivariable analyses were performed using linear regression models. For the multivariable analyses, model selection was based on backward elimination.

Results: Two hundred and twenty-six patients were evaluated. The mean (SD) age at diagnosis was 35.6 (13.1) years, 211 (93.4%) were female; and disease duration was 11.0 (7.3) years. The mean SLEDAI and SDI were 2.4 (3.5) and 1.3 (1.5), respectively. The mean FACIT-Fatigue was 33.1 (10.8). In the univariable analyses, FACIT-Fatigue correlated with age at diagnosis, SES, disease duration and all the HRQoL domains like physical health, pain, planning, intimate relationships, burden to others, emotional health, body image and fatigue. On the multivariable analysis, however, only age at diagnosis; and some domains of HRQoL (physical