YPLL, each decedent's age at death was subtracted from a predetermined age of 75 years.

Results: A total of 141 patients were analyzed, which were grouped into three clusters. The socio-demographic features and causes-of-death that characterized each cluster are summarized in Table 1. Figure 1 shows the cause-of-death patterns identified by clustering the variables. After adjusting for sex, skin color, and the presence of pregnancy in the last year, cluster 1 was significantly associated with the number of YPLL in the multivariate analysis (adjusted rate ratios=1.32; 95% confidence interval= 1.03 to 1.70; $p=0.028$).

Table 1. Socio-demographic characteristics and top ten causes-of-death according to clusters.

Variable	Cluster 1 n=40	Cluster 2 n=71	Cluster 3 n=30	P value
Age at death median (IR)	36(28.5 to 50.2)	46(30.0 to 56.0)	49(39.0 to 63.2)	0.022
Sex n(%)				
Male	4(28.6)	8(57.1)	2(14.3)	0.873
Female	36(28.3)	63(49.6)	28(22.0)	
Skin color n(%)				
White	18(21.4)	45(53.6)	21(25.0)	0.070
Non White	22(38.6)	26(45.6)	9(15.8)	
Associated causes-of-death n(%)				
Acute respiratory failure	2(11.8)	6(35.3)	9(52.9)	0.006
Chronic kidney disease	31(96.9)	0(0)	1(3.1)	0.000
Essential hypertension	2(22.2)	6(66.7)	1(11.1)	0.734
Heart failure	3(25.0)	9(75.0)	0(0)	0.093
Lupus nephritis	39(95.1)	2(4.9)	0(0)	0.000
Multiple organ failure	2(18.2)	5(45.5)	4(36.4)	0.496
Pericarditis	4(40.0)	5(50.0)	1(10.0)	0.569
Pneumonia	5(14.7)	6(17.6)	23(67.6)	0.000
Pulmonary embolism	4(20.0)	15(75.0)	1(5.0)	0.043
Septicemia	4(22.2)	0(0)	14(77.8)	0.000

YPLL: Years of potentially life lost. IR: Interquartile rank.

Conclusion: Three clusters of patients were identified, the one with higher prevalence of causes-of-death expressing renal damage presented higher mortality burden. The patterns of causes-of-death were mainly shaped by renal, cardiovascular and infectious causes. Better understanding of the association among causes of death, improves our comprehension of SLE and facilitate its clinical management.

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Figure 1: Dendrogram representing the hierarchical CA of causes of death in patients with SLE.

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POS0721

ARE ANTIMALARIALS SAFE FOR THE HEART OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS? ANALYSIS OF FACTORS ASSOCIATED WITH THE DEVELOPMENT OF HEART FAILURE IN PATIENTS IN THE SPANISH SOCIETY OF RHEUMATOLOGY LUPUS REGISTRY (RELESSER)

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Background: Factors associated with the development of chronic heart failure (CHF) in systemic lupus erythematosus (SLE) have received little attention. On the other hand, recent data from the use of hydroxychloroquine in the treatment of SARS-CoV-2 infection during the COVID19 pandemic have cast some doubts on its cardiological safety.

Objectives: To identify factors associated to CHF in SLE.

Methods: Retrospective cross-sectional study, including all patients with SLE (≥ 4 ACR-1997 criteria) recruited in RELESSER registry. The objectives and methodology of the registry have been described previously (1). CHF was defined according to the Charlson index item. Patients with CHF before diagnosis of SLE were excluded. Cumulative damage was measured with the SLICC/ACR index, excluding cardiovascular (CV) items (mSDI). Multivariate analysis exploring factors associated with CHF was carried out.

Results: 117 patients (3% of the entire cohort) with SLE and CHF and 3,506 controls with SLE without CHF were included. 90% were women. Disease duration: mean (SD), 120.2 (87.7) months. CHF appeared after a median (P25-P75) of 9.40 (4.2-18.3) years from SLE diagnosis. Patients with CHF were older (59.8 $\pm$ 18.2 vs. 46.2 $\pm$ 4.3). In the bivariate analysis, the

association of CHF with greater severity [Katz severity index: median (IQR): 4 (3-5) vs. 2 (1-3)], damage [mSDI: 3 (2-4) vs 0 (0-1)], comorbidity [modified Charlson- excluding CV items: 4 (3-6) vs 1(1-3)] and both CV (37.5% vs 6.7%) and overall mortality (43.2% vs 4.7%) ($p < 0.0001$ for all comparisons). Also, CHF patients were more refractory to SLE treatments (33.3% vs 24%, $p = 0.0377$) and were more frequently hospitalised due SLE [median 3 (1-5) vs 1 (0-2), $p < 0.0001$]. The results of the multivariable model are depicted in table 1.

Table 1. Congestive heart failure associated factors (multivariable analysis)

	Odds Ratio	95% CI	P-value
Sex (female)	0.46	0.25 - 0.88	0.0147
Ischaemic cardiopathy	7.96	4.01 - 15.48	<0.0001
Cardiac arrhythmia	7.38	4.00 - 13.42	<0.0001
Pulmonary hypertension	3.71	1.84 - 7.25	0.0002
Cardiac valvulopathy	6.33	3.41 - 11.62	<0.0001
Hospitalization (due to SLE)	3.74	1.81 - 8.65	0.0008
Calcium or vitamin D	5.29	2.07 - 16.86	0.0015
Antimalarials	0.28	0.17 - 0.45	<0.0001
mSDI *	1.29	1.16 - 1.44	<0.0001

*mSDI = modified SLICC/ACR damage index (without cardiovascular items)

Conclusion: - CHF is a rather late complication of SLE.

- Patients with SLE and CHF have more severe SLE, with greater refractoriness to SLE treatments and higher overall mortality.

- Treatment with antimalarials, as routinely used in SLE patients, is not only safe to heart, but even appears to have a cardioprotective effect.

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POS0722

HISTOPATHOLOGICAL ANALYSIS OF LUPUS NEPHRITIS INCORPORATING BANFF CRITERIA EMPHASIZES THE IMPORTANCE OF TUBULOINTERSTITIAL CHANGES FOR CREATININE AND PROTEINURIA AT 12 MONTHS AFTER RENAL BIOPSY

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Background: Lupus nephritis (LN) occurs in about 30-60% of patients with systemic lupus erythematosus (SLE). LN is associated with increased mortality. Currently, the diagnosis relies on histopathologic characteristics according to the ISN/RPS classification (1). This classification relies heavily on glomerular changes and may not accurately reflect all changes occurring in LN. For the description of transplanted kidney, the BANFF classification has been established which, in addition to glomerular changes, also incorporates tubular pathologies (2).

Objectives: With the present study, we aim to describe histopathologic changes according to the BANFF classification in a single-center cohort of LN patients.

Methods: We retrospectively recorded epidemiological, clinical and laboratory data of 58 patients with LN over a ten-year period. Histopathologic diagnoses according to ISN/RPS classification or the former WHO classification were also documented. We then re-analyzed representative kidney samples according to the BANFF classification and performed Spearman rank correlation for BANFF findings and creatinine at biopsy and 12 months as well as proteinuria at biopsy and at 12 months.

Results: We analyzed 58 patients with LN. 9 were male, 49 were female. Median age was 38 (15-78) years. According to ISN/RPS, 3 had class I LN, 6 had class II, 14 had class III, 16 had class IV, 6 had class V, and 0 had class VI. Median eGFR at biopsy was 60 ml/min/1.73m² (13-137). According to the BANFF classification, tubulointerstitial inflammation (ti) was associated with creatinine at 12 months. Proteinuria at 12 months was associated with interstitial fibrosis (ci) (Figure 1).

Conclusion: In LN, the current ISN/RPS classification puts emphasis on glomerular changes. Nevertheless, for the long-term outcome, tubulointerstitial changes (tubulointerstitial inflammation and interstitial fibrosis) may at least be as important as glomerular changes. These findings have to be corroborated in larger cohorts with prespecified renal endpoints.

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POS0723

HERPES ZOSTER IN A MULTI-ETHNIC SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) COHORT: CLINICAL FEATURES AND RISK FACTORS

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Background: Systemic Lupus Erythematosus (SLE) patients are at risk of Herpes Zoster (HZ) infection due to the underlying immunosuppressed state. The reported incidence of HZ in SLE is 6 to 10-times higher than the general population.

Objectives: To determine the clinical characteristics of SLE patients who develop Herpes Zoster (HZ) infection and their associated risk factors.

Methods: Medical records review was performed on consecutive SLE patients in Universiti Kebangsaan Malaysia Medical Centre (UKMMC) from 2018 until 2019. Previous history of HZ and their demographic characteristics, clinical and medications used at the time of infection were recorded. Univariate and multivariate analyses were performed to compare the clinical and treatment characteristics