Results: Out of 4,502 patients included in this study, 135 had a VTE event. After univariate analysis and Lasso regression, the following 11 variables were identified and included in the risk prediction model: male sex, age, BMI ≥ 25 kg/m², hyperlipidemia, hypoalbuminemia, hsCRP > 3 mg/L, renal involvement, nervous system involvement, anti- $\beta 2$ -glycoprotein I antibody positivity, lupus anticoagulant positivity, and no use of hydroxychloroquine. The AUC for the SLE-VTE score (Table 1) was 0.947 (95% CI, 0.9249-0.9694). The SLE-VTE score's sensitivity and specificity with the optimal cutoff value of 13 were 0.919 and 0.881, respectively. The SLE-VTE score was superior to the GAPSS system in predicting the risk of VTE in patients with SLE (AUC= 0.947 vs. 0.680, $P < 0.001$; integrated discrimination improvement (IDI)= 0.6652, $P < 0.001$; net reclassification improvement (NRI)= 0.6652, $P < 0.001$).

Table 1. Final multivariable analysis for venous thromboembolism risk in patients with SLE

	β coefficients	Odds ratio* (95% CI)	P-value	Points in scoring system
Male	0.621	1.86 (0.953-3.503)	0.061	2
Age at study entry(≥ 50)	0.837	2.308 (1.339-3.915)	0.002	3
BMI02(kg/m ²)	0.792	2.209 (1.333-3.627)	0.002	3
Hyperlipemia	0.838	2.313 (1.246-4.166)	0.006	3
Hypoalbuminemia	2.163	8.697 (5.185-14.794)	< 0.001	7
hsCRP > 3 mg/L	1.452	4.272 (2.618-6.968)	< 0.001	5
Anti $\beta 2$ GPI	1.013	2.754 (1.543-4.853)	0.001	3
LA	1.559	4.752 (2.799-8.072)	< 0.001	5
Nervous system	2.382	10.832 (6.163-18.998)	< 0.001	8
Lupus nephritis	0.835	2.305 (1.414-3.756)	0.001	3
No use of hydroxychloroquine	1.771	5.876 (3.722-9.401)	< 0.001	6

BMI: body mass index; hsCRP: Hypersensitive c-reactive protein; ACL: anticardiolipin, anti- $\beta 2$ GPI: anti- $\beta 2$ -glycoprotein I, LA: lupus anticoagulant; Values in bold are statistically significant at $p < 0.05$.

Conclusion: Various factors are related to the occurrence of VTE in patients with SLE. The proposed SLE-VTE risk score can accurately predict the risk of VTE and help identify SLE patients with a high risk of VTE who may benefit from thromboprophylaxis.

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POS0755

PREVALENCE AND RELEVANCE OF ANTIBODIES AGAINST CITRULLINATED ALPHA ENOLASE (ANTI-CEP1) IN CONNECTIVE TISSUE DISEASES

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Background: Anti-citrullinated alpha enolase antibodies have been investigated in rheumatoid arthritis and associated with bone erosion and interstitial lung disease but little is known about their prevalence and role in connective tissue diseases (CTDs).

Objectives: The aim of this study was to investigate the prevalence and relevance of anti-CEP1 antibodies in CTDs.

Methods: Serum samples from five independent patient cohorts were assessed: 1) established (est) primary Sjogren's syndrome (pSS) N=78, 2) est-systemic lupus erythematosus (SLE) N=52, 3) est-systemic sclerosis (SSc) N=71, 4) pSS at disease onset N=30, 5) SLE at disease onset N=46 (cohorts 4 and 5 had at least 3 years of follow-up). Samples from ninety sex and age matched healthy donors (HD) and 200 patients with est-RA (disease controls) were also tested. Anti-CEP1 IgG antibodies were measured with a commercially available ELISA kit (Euroimmun, Luebeck, Germany).

Results: Anti-CEP1 titer was significantly higher in est-pSS, est-SLE and est-SSc compared to HD, significantly lower in est-pSS and est-SSc compared to est-RA and comparable in est-SLE versus est-RA. We divided patients in every CTD group based on whether their anti-CEP1 titer was below or above the 25th, 50th and 75th percentile. In est-SLE anti-CEP1 values over the 25th percentile were associated with articular involvement (odds ratio, OR (95% confidence interval, CI)=11.5; 1.9-70.6, $p=0.008$). In est-pSS, no relationship between anti-CEP1 $> 25^{\text{th}}$ percentile and articular involvement was found but rather an association with rheumatoid factor positivity (OR (95% CI)=4.8, 1.6-14.1, $p=0.004$) and salivary gland swelling (OR (95% CI)=6.2, 1.3-29.1, $p=0.021$). In est-SSc no difference could be detected across the 3 groups. Anti-CEP1 titers in pSS and SLE at onset did not differ from each other, were comparable also to those of HD and significantly lower than those of est-pSS, est-SLE and est-RA patients (all $p < 0.0001$). Of interest, we could retrieve a serum sample collected at the time of diagnosis for 5 patients from the cohort of established pSS and we observed that anti-CEP1 titers were significantly lower at pSS onset than during follow up (at least 12 months after the diagnosis, $p=0.0024$). No difference was observed in the clinical presentation at disease onset according to different anti-CEP1 titer and they did not predict the development of new clinical manifestations during follow-up.

Conclusion: Anti-CEP-1 antibodies can be detected in CTDs at different title during the disease course and may increase overtime, at least in pSS. Although anti-CEP1 antibodies are associated with specific clinical manifestation in est-CTDs, such as articular involvement in est-SLE, they seem to lack a predictive value for future manifestations when measured at disease onset.

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POS0756

HOW HAS OUR MANAGEMENT OF SLE CHANGED OVER THE LAST THREE DECADES? REAL LIFE DATA FROM A MONOCENTRIC COHORT

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Background: Over the last decades new therapies have been approved and new treatment strategies have been proposed in the treatment of SLE. In particular, recently, EULAR recommendations¹ and the Treat to Target² approach established a new paradigm for the treatment of SLE based on the early introduction of immunosuppressive treatment and glucocorticoids (GC) minimization.

Objectives: to evaluate changes in therapeutic approach and outcomes over the last three decades in a monocentric cohort of SLE patients.

Methods: This is a retrospective analysis of prospectively collected data from a monocentric cohort of patients with SLE with disease diagnosis between 1990 and 2020. Based on the year of diagnosis, patients were divided in three groups, each of them corresponding to a decade: group 1: decade 1990-1999; group 2: decade 2000-2009; group 3: decade 2010-2020. For each patient, epidemiological and demographic characteristics, cumulative organ involvement and serology, previous and ongoing therapies, comorbidities were collected and compared among the 3 groups. Organ damage was evaluated by the SLICC-DI (SDI)³ at 1 and 5 years from diagnosis, as comorbidities we considered hypertension, diabetes, osteoporosis and cardiovascular (CV) events occurred during the follow-up.

Results: A total of 262 SLE patients were enrolled in the study (97% Caucasian, 90.5% females): 69 patients in group 1, 100 in group 2 and 93 in group 3. Demographic and clinical characteristics of whole cohort and of the three groups are summarized in table 1. Differences in therapies during the first year from diagnosis among the groups are summarized in table 1. In group 3 the use of Micophenolate Mofetil was significantly more common with respect to the group 1 (25% vs 1.4%, $p=0.001$) and similar to group 2 (25% vs 25.5%, $p=ns$); on the contrary, in group 3, Azathioprine (AZA) and Cyclosporine (Cya) were less used (13.2% vs 27.5%, $p=0.003$ and 3.3% vs 14.3%, $p=0.019$ respectively). As Cyclophosphamide (CYC) is concerned, it was used with the same frequency in the three decades, but in group 1, the total dose of CYC was significantly higher than second and third group (4.8 g vs 2.3 and 0.9, $p=0.02$ and $p=0.001$ respectively). In group 2 and 3, during the first year of disease, biological drugs (Rituximab or Belimumab) have been used more frequently (2% and 2.2% vs 0%, $p=0.04$). Any differences have not been showed for GC among the groups. However, in group 3 a significantly higher proportion of patients stopped GC therapy within 5 years from diagnosis (34.5% vs 8.8% and 12.5%, $p=0.001$) and in the same group the duration of GC therapy was significantly shorter with respect to previous two decades (3.1 years vs 16.8 and 10.5 respectively, $p=0.001$). As regard damage accrual, at 1 and 5 years from diagnosis, no significant differences among groups were observed; however, hypertension resulted significantly less common in group 3 (10% vs 26% and 37.3%, $p=0.001$), even adjusting for age ($OR=0.2$); less CV events were recorded in group 3, but significance is lost adjusting for age.

Table 1.

	Whole cohort	Group 1	Group 2	Group 3	p
Patients (n)	262	69	100	93	
Caucasian (%)	97%	99%	98%	94.6%	n.s.
Females (%)	90.5%	94.2%	95%	92.5%	n.s.
Median age at diagnosis (IQR)	29 (20-36)	27 (20-32)	28.5 (20-36)	34 (23-44)	0.001
Cumulative organ involvement					
Renal	48.1%	52.2%	57%	35.5%	0.007
Articular	74.4%	75.3%	66%	82.8%	n.s.
Serositic	19.5%	20.3%	22%	16.1%	n.s.
Neuropsychiatric	8%	11.6%	6%	7.5%	n.s.
Cutaneous	63%	70%	60%	61.3%	n.s.
Hematological	58.4%	51.5%	61%	61.3%	n.s.
Therapies 1st year					
AZA	17.2%	8.7%	27.5%	13.2%	0.003
MMF	18.7%	1.4%	25.5%	25.3%	0.001
CYC	22.5%	21.7%	27%	17%	n.s.
Cya	9.9%	13%	14.3%	3.3	0.019
Biologicals	1.5%	0%	2%	2.2%	n.s.

Conclusion: These data show that new therapies and new treatment strategies have actually been implemented in clinical practice over the past 30 years; further studies with a longer follow-up are necessary to appreciate the impact of these advancement on clinical outcomes.

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POS0757

SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) DIAGNOSED DURING HOSPITALIZATION: CLINICAL PHENOTYPE AND PERFORMANCE OF THE SLE RISK PROBABILITY INDEX (SLERPI)

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Background: Systemic Lupus Erythematosus (SLE) can first present with severe or critical disease leading to hospitalization. Prompt recognition of the disease in hospitalized patients may lead to early institution of treatment and improve outcomes. We have recently developed a clinician-friendly algorithm for SLE diagnosis based on classical clinical and serological SLE features [SLE Risk Probability Index (SLERPI)]¹.

Objectives: To determine the clinical phenotype of SLE patients first diagnosed during hospitalization, the interval between hospitalization and SLE diagnosis and the potential impact of SLERPI on early diagnosis.

Methods: Mixed prospective (from June 2020 to January 2021) and retrospective study of SLE patients from "Attikon" cohort (n=820)². Clinical phenotype was divided into 10 core domains (neuropsychiatric, thrombosis, nephritis, serosal, haematologic, pulmonary, cardiovascular, gastrointestinal, skin-joints, other). Chart review and patient interview was performed to assess the lag time between 1) the onset of symptoms and 2) the hospitalization and the final diagnosis. Demographic and clinical characteristics, SLERPI and SLICC damage index were recorded for each patient at the time of diagnosis. SLE diagnosis was based on at least one of the three existing classification criteria.

Results: Out of 820 SLE patients, 202 (24.6%) diagnosed during hospitalization were included. Among them, 185 patients (91.5%) were hospitalized because of a lupus related feature, while in the remaining 17 SLE patients, hospitalization was due to non-lupus related manifestations. The most common lupus-related clinical phenotype leading to hospital admission was neuropsychiatric lupus (n=51, 25.2%) with cerebrovascular events constituting the dominant clinical syndrome (n=8/51). Thrombotic events (n=32, 15.8%), mainly pulmonary embolism (n=20/32), cytopenias (n=32, 15.8%), lupus nephritis (n=30, 14.8%), skin-joint disease (n=26, 12.8%) and serositis (n=24, 11.8%) were also common as dominant manifestations. Pulmonary disease (n=16, 7.9%), heart disease (n= 4, 1.9%) and gastrointestinal disease (n=2, 0.9%) were less common. On admission, 11.3% of patients (n=23) had symptoms from at least 2 clinical domains as defined. Most patients (93.5%) had multisystem disease while only 6.5% had organ-dominant disease. Early diagnosis (within 3 months from hospitalization) was established in 86.6% while 27 patients had their SLE diagnosis more than 3 months from hospitalization. The mean lag time between the hospitalization and the diagnosis was approximately 14 months (SD 19.9). Overall, the mean interval between the onset of symptoms and the diagnosis was 48.2 months (SD 73.2). Importantly, a SLERPI >7 (suggesting probable SLE) at hospitalization was present in 92.5% of SLE patients with delayed diagnosis.

Conclusion: One out of four SLE patients first present with moderate to severe disease necessitating hospitalization, while in approximately 15% of such patients, diagnosis is initially missed. Application of the SLERPI may facilitate early SLE diagnosis.

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