AB0545

IS LUPUS MORE PREVALENT IN WORLD'S MOST STRESSED COUNTRIES?

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Background: A number of studies have implicated psychological stress as a trigger for autoimmune diseases. In a questionnaire study involving 120 lupus patients emotional stress was selected in over 75% cases as a trigger for their disease¹. The role of stress as a trigger in lupus however is controversial. Here we study whether there is an association between the prevalence of lupus in various countries and their reported stress measures.

Methods: We undertook a literature review of the reported prevalence of lupus in various countries across the world. We then recorded the reported stress index in those countries from Bloomberg's study², which utilised seven equally weighted variables: homicide rates, GDP per capita income inequality, corruption perception, unemployment, urban air pollution and life expectancy to rank 74 countries according to stress levels. Pearson's correlation was used to measure association between national stress indices and lupus prevalence

Results: Results are presented in graph 1. Prevalence data was only available in the literature for limited countries. Of the countries studied no correlation was found between national stress indices and lupus prevalence ($r = -0.028$ (p-value 0.449))

Abstract AB0545 – Figure 1

Conclusions: We found no association between a country's prevalence of lupus and the measured stressfulness of its living environment.

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AB0546

CRYGLOBULINEMIA IN SYSTEMIC LUPUS ERYTHEMATOSUS: CLINICAL AND IMMUNOLOGICAL FEATURES

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Background: Systemic lupus erythematosus (SLE), as the prototype of systemic autoimmune diseases, has a wide array of clinical manifestations. An association between cryoglobulinemia and certain clinical and immunological features of SLE has been proposed, and there are various pathophysiological pathways that could be involved in this relationship. Although the presence of cryoglobulinemia in SLE patients may be related to specific disease features and could even have prognostic value, this association has not been addressed thoroughly.

Objectives: To describe clinical and immunological characteristics in SLE patients with cryoglobulinemia.

Methods: We performed a retrospective, case-control study, in which we included all patients with a cryoglobulin determination between January 2005 and December 2016 in a third level referral centre in Mexico City. Patients with SLE and a positive cryoglobulin test (cryocrit $\geq 1\%$) were included in the case group, whereas SLE patients with a negative cryoglobulin determination were considered controls. We studied demographic, clinical and immunological

characteristics at the time of the positive cryoglobulin result, as well as three months earlier, and 6 and 12 months later.

Results: Thirty-six SLE patients had a cryoglobulin determination throughout the study period. Ten patients had cryoglobulin levels $\geq 1\%$ and were included in the case group, whereas 26 patients with a negative determination were included as controls. Mean age was 37.7 ± 18.3 in cases and 41.7 ± 19.3 in controls. 70% of cases and 88.5% of controls were women.

Among subjects with cryoglobulinemia, the cryocrit was 1% in 9 patients, and 3% in one. Regarding clinical and immunological characteristics, a positive lupus anticoagulant and a history of vasculitis were more frequent in patients with serum cryoglobulins ($p=0.004$ and 0.04 , respectively).

At the time of the cryoglobulin measurement, patients in the case group had lower levels of C3 and C4 ($p=0.026$ and $p=0.003$, respectively), and serum albumin ($p=0.028$). They also had a higher prevalence of serositis ($p=0.021$) and peripheral oedema ($p=0.034$), as well as a higher SLICC Damage Index score ($p=0.014$) than controls.

Regarding follow-up, patients in the case group had a higher SLEDAI score after six and twelve months ($p=0.009$ and 0.034 , respectively). Also, after 12 months they had a higher prevalence of renal activity ($p=0.004$) and lower C4 levels ($p=0.001$). Among patients with renal activity, 20% of cases and 55% of controls had achieved complete remission after 12 months.

Conclusions: Serum cryoglobulins in SLE patients were associated with positive lupus anticoagulant and hypocomplementemia. Cryoglobulinemia was also associated with specific disease manifestations, such as serositis and vasculitis, and with damage accrual. At follow-up, patients with cryoglobulinemia had a higher prevalence of renal activity, as well as an increased disease activity overall. Whether cryoglobulins could be used as a biomarker for renal activity or worse renal prognosis remains to be determined, and larger prospective studies will be needed to address this possibility.

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AB0547

LYMPHADENOPATHY IN SYSTEMIC LUPUS ERYTHEMATOSUS: CLINICAL RELEVANCE AND HISTOLOGICAL SUBTYPES

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Background: Some patients with Systemic Lupus Erythematosus (SLE) have lymphadenopathy (LAP) at diagnosis or at follow-up. The prevalence of LAP in SLE was 59% in the oldest series,¹ 12% in the 1993 EUROLUPUS series² and in the last two decades its prevalence was not mentioned. However, the presence of LAP and their histological type may have clinical relevance.³

Objectives: To study the prevalence and histologic characteristics of LAP in a cohort of patients with definite SLE and evaluate its relationship with clinical manifestations.

Methods: All patients diagnosed with SLE according to the 1997-ACR criteria at the Autoimmunity Units of three different hospitals since 2005 were followed looking for lymph node enlargement at every consult. The moment when LAP was detected, the concomitant clinical symptoms, SLE manifestations and laboratory variables were recorded. The group of patients with and without LAP were compared. A tissue sample was obtained when indicated. All patients agree to participate in the study.

Results: 103 patients with definite SLE were included in the study. Valuable LAP (>10 mm) was found in 28 patients (27%). The gender and age of SLE patients with and without LAP was similar (80% vs 78% females, and 34 ± 15 vs. 40 ± 28 years respectively). LAP was detected at the time of SLE diagnosis in 54% of patients. Fever was significantly more frequent in patients with LAP (60% vs 5%, $p<0.01$) like dermatopathy (86% vs. 60%; $p<0.05$) and serositis (45% vs 16% $p<0.01$). High titers of anti-dsDNA antibodies (71% vs. 42%; $p<0.05$) and hypocomplementemia (89% vs. 60%; $p<0.05$) were also more frequent in patients with LAP. A total of 28 tissue samples were obtained in 17 patients (FNA 6, Ultrasound-guided biopsy 6 and surgical excision in 17). The histopathological study showed: Reactive lymphadenitis 20, histiocytic necrotizing lymphadenitis in 6 and Non-Hodgkin Lymphoma in 2 (B-cell lymphoma on methotrexate treatment, and a Burkitt lymphoma). All 6 patients with SLE and histiocytic necrotizing lymphadenitis have cutaneous involvement but none of them developed lupus nephritis.

Conclusions: Patients con SLE and lymphadenopathy had significantly more fever, cutaneous lesions and serositis. High levels of anti-dsDNA antibodies and hypocomplementemia were more frequent in these patients. In some occasions malignancy could be the cause of lymphadenopathy.

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AB0548

ANTIBODY TO PURINNUCLEOSIDE PHOSPHORYLASE CAN BE USED AS AN ADDITIONAL MARKER OF INFECTIOUS COMPLICATIONS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Purine nucleoside phosphorylase (PNP, EC 2.4.2.1) plays a leading role in the assimilation of nucleosides and nucleotides by the cell, as well as in maintaining the immune status of the organism. Patients with PNP deficiency are highly susceptible to various infections, in view of the fact that the decreased activity of PNP is closely related to the insufficiency of cellular immunity.

Objectives: Study of the possibility of using the level antibodies to purine nucleoside phosphorylase as an additional marker of infectious complications in patients with systemic lupus erythematosus (SLE).

Methods: The study included 60 patients with SLE (women – 91.7%, mean age 36.32±15.27 years, average duration of the disease 7.96±7.35 years) with different clinical manifestations (SLEDAI activity 8.93±5.74, ECLAM activity 5.30±2.79, damage index SLICC/ACR 1.95±1.71). Antibodies to PNP (anti-PNP) were determined in our indirect ELISA test using the immobilised form of the enzyme as an antigenic matrix.

The presence of infectious complications in SLE patients was assessed by characteristic clinical manifestations and was considered to be confirmed when the causative agent was recognised and/or the serological analyses are positive. Infections were diagnosed in 38.3% of patients, the most frequent localization was the urinary system (n=12; 52.2%) and female genitalia (n=5; 21.7%).

Results: In the presence anti-PNP in the blood serum of patients with SLE we have often noted infectious complications (p=0.025, criterion χ^2) and less often lung damage (p=0.17) (when compared with a group of patients with SLE seronegative for the presence of anti-PNP).

Statistically significant differences (Mann-Whitney U-criterion) were detected only for pyuria (p<0.0005), C-reactive protein level (p=0.048) and the number of ceruloplasmin (p=0.008), while comparing the groups of SLE patients with the presence of infectious complications and without it; differences in the level of antibodies to CP (p=0.052) did not reach statistical significance. Other clinical and laboratory parameters do not have statistically significant differences between the two sessions. This fact complicates the recognition and differential diagnosis of infectious complications in SLE significantly.

The analysis of the characteristic curve of antibodies to PNP in the diagnosis of infectious pathology in SLE shows limited possibilities for using this parameter. The square under the curve was 0.687 (95% confidence interval 0.523–0.804, p=0.008), the separation point was 0.386 U/ml with a sensitivity of 55% and a specificity of 83%.

Taking into account that the typical clinical manifestations of infection with SLE can be erased as a result of the actual activity of SLE, and due to the use of immunosuppressive drugs, timely diagnosis and treatment become especially relevant. This study indicates the possibility of using the level of antibodies to PNP as an additional marker of infection, but the balance between specificity and sensitivity of this test does not allow to recommend it as a single study.

Conclusions: A high level of anti-PNP in the serum, especially combined with the C-reactive protein increase and in the absence of other markers of SLE activation allows to suspect the presence of infection and points to the need for in-depth research directed to identify the pathogen.

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AB0549

CAN THE OVERALL THROMBOTIC RISK IN SYSTEMIC LUPUS ERYTHEMATOSUS BE DETERMINED? THE COMBINED ROLE OF CLASSIC CARDIOVASCULAR FACTORS AND ANTIPHOSPHOLIPID ANTIBODIES

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Background: Systemic Lupus Erythematosus (SLE) is a chronic inflammatory disorder. Antiphospholipid syndrome (APS) is a thrombotic disorder associated with the presence of antiphospholipid antibodies (APA) and increased cardiovascular risk (CVR). Framingham (FRM) and SCORE (Systematic Coronary Risk Evaluation) scales are available CVR assessment systems. aGAPSS (adjusted Global Antiphospholipid Syndrome Score) combine positive APA and CVR factors, which was suggested to determine the thrombotic risk in persistently positive APA (PPAPA) patients.

Objectives: To determine the role of the thrombotic factors in SLE patients, considering CVR factors and APA. To access the application of different thrombotic risk scales.

Methods: A retrospective cohort study of 84 patients with SLE followed in an out-patient setting of a Portuguese central hospital was performed. The study evaluated patient gender, current age, age at diagnosis, duration of illness, presence of another autoimmune disease (AID), CVR factors [obesity (OB), diabetes (DB), arterial hypertension (AH), dyslipidaemia (DL), smoking (SM)], presence of APA, treatment, dose and duration of steroids. The FRM, SCORE and aGAPSS scores were calculated. The data was analysed using SPSS and considered significant if p<0.05.

Results: Table 1 characterises the study population. Male patients had a higher prevalence of AH (p=0.022), DL (p=0.047), and SM (p=0.001), with a risk of 11%–20% in the FRM scale and a risk of 5%–14% in the SCORE (p=0.000). Female patients had a higher presence of another AID (p=0.014) and treatment with disease-modifying antirheumatic drugs (p=0.014). FRM scale reveals a risk of 11%–20% in the presence of AH and >20% in SM (p=0.001). The SCORE scale reveals a risk of 5%–9% in the presence of AH (p=0.003) and 10%–14% in DL (p=0.024). When the risk is 6%–20% in the FRM scale, the risk is lower in SCORE (p=0.000). APA does not correlate with an increased CVR. All APA are associated with another AID, APS and PPAPA. The aGAPSS associates a score of 7–12 if another AID is present (p=0.000); 4–9 with APS; >7 with PPAPA (p=0.000); 4–6 with DB (p=0.039), DL (p=0.002) and AH (p=0.000); >7 with lupus anticoagulant (LA), >7 with anticardiolipin antibodies (aCL) and >12 with anti-β-2glycoprotein-I antibody (antiβ2GPI) (p=0.000).

Abstract AB0549 – Table 1

Women	74%
Current age	52.3±16.2 years
Age of diagnosis	44.9±17.4 years
Duration of disease	7.2±7.5 years
Another AID	30% (APS 60%, Sjögren syndrome 36%)
PPAPA	12%
CVR	AH 42.8%, DL 21.4%, OB 11.9%, DB 10.7%, SM 9.5%
APA	LA 19%, aCL 15.5%, antiβ2GPI 7.1%
Steroid use	61%
DMARDs	89%

Conclusions: This study highlights the existence of thrombotic factors in SLE. Their risk is even more elevated when another AID is present. The FRM and SCORE scales reflects the CVR. In SLE patients both the CVR factors and the presence of APA must be evaluated. Therefore, not only should the FRM scale be calculated, but also the global thrombotic risk, using the aGAPSS, must be accessed.

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