Levels and trends in premature mortality burden due to systemic lupus erythematosus in Cuba

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Background: Analysis of the causes of premature mortality is an essential function of public health surveillance. A variety of methods have been used to accurately assess and report the level and trends of premature mortality; however, many have significant limitations, particularly in capturing actual early deaths. Years of life lost (YLL) has been recognized as a robust and comprehensive measure of premature mortality.1 Systemic lupus erythematosus (SLE) is among the leading causes of premature mortality burden in young women in the United States and premature mortality from SLE is increasing in Latin America.2 Thus, we aimed to examine the levels and trends of premature mortality due to SLE in Cuba during 2001-2018.

Methods: We conducted a population-based study using nationwide death certificates, 2000-2018. Premature mortality was defined as death occurring before the age of 65 years (the sex-specific median age at death), and the cause of death was classified using the International Classification of Diseases-10. The average annual percent change (AAPC) was calculated using the natural log of the relative measure for monitoring non-communicable disease mortality. Int J Epidemiol. 2013;42(4):1022-1032.

Results: During 2001-2018, 1,475 patients died from SLE. These deaths contributed 66,605 YLL (women: 59,166; men: 7,433) with a mean of 45.1 YLL per death (women: 45.2; men: 44.5). The 40-44 age group was the most affected in both sexes with 9,266 YLL (women: 8,177; men: 1,089). The ASYR was higher in 2017 than in 2001 in both sexes (Figure 1). A significantly increasing trend in ASYR due to SLE was identified throughout the period (average annual percent change [AAPC] = 1.9; 95% confidence interval [CI] = 0.9 to 3.0), more pronounced in men (AAPC = 7.0; 95% CI = 3.5 to 10.6) than in women (AAPC = 1.3; 95% CI = 0.3 to 2.3).

Conclusion: The high levels and growing trends in premature mortality burden from SLE in Cuba, demands its recognition as an important health problem and immediate actions that help mitigate it.

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AB0305

Is there hypercoagulation in patients with antiphospholipid syndrome and Behçet’s disease?

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Background: Whereas antiphospholipid syndrome (APS) is a non-inflammatory vasculopathy and is associated with thrombosis in 98% of cases, Behçet’s disease (BD) is a systemic vasculitis of unknown etiology, characterized by vascular inflammation of any calibre. Both venous and arterial thromboses occur in 45% of BD patients and are associated not with hypercoagulable disease but with inflammatory changes in the vascular wall mediated by hypersecretion of pro-inflammatory cytokines and endothelial cells dysfunction. Thrombodynamics (TD) is a new global test for diagnosing plasma haemostasis disorders, identifying bleeding and thrombosis risks, and can be used to detect a prothrombotic state and assess the influence of disease activity and course on the hypercoagulation process.

Objectives: Comparative assessment of TD in patients with APS and BD before anticoagulant therapy (AC).

Methods: The study included 20 patients (9 APS and 11 BD) and 8 age and sex-matched healthy controls (HC). None of the subjects received AC. Thromboses

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AB0306

OBESEITY PHENOTYPES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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Background: The so-called “obesity paradox” when cardiovascular risk is lower in overweight compared to lean patients accompanies some chronic conditions. A possible explanation for this phenomenon comes from variability of obesity phenotypes, i.e., “classical” obesity as exemplar perception of obesity is equal to increased body mass index (BMI) and metabolic disorders; but there are also “metabolically healthy” overweight individuals (BMI without metabolic disorders), and “latent” obesity phenomenon (when normal weight is associated with metabolic disorders, especially with insulin resistance (IR) and adipokines imbalance). Serum leptin concentrations increase has been established in obese, therefore, this adipokine synthesized in adipose tissue, can be used as a marker of body fat mass. Higher cardiovascular risks are known even in young patients with systemic lupus erythematosus (SLE), but obesity phenotypes have not been studied.

Objectives: To find out the rate of various obesity phenotypes and to identify factors contributing to “latent” obesity in SLE pts without diabetes mellitus (DM) or hyperglycemia.

Methods: A total of 49 SLE pts (46 women, 3 men, 40 [33-48] years old) without established DM or hyperglycemia were enrolled in the study. The median disease duration was 3 [0,7;8,0] years. SLEDAI-2K was 5 [2;8] points. SLE pts were treated with corticosteroids (74%), and immunosuppressive drugs (20%) and biological agents (10%). Insulin levels were measured using electrochemiluminescence assay Elecsys (Roche Diagnostics), serum leptin concentrations were estimated using ELISA (DBS-Diagnostics Biochim Canada Inc.). IR was defined as Homeostasis Model Assessment of Insulin Resistance index (HOMA-IR) ≥ 2.77. Leptin levels were considered elevated at values >10 mg/ml, 0.157 mg/ml for men. The overweight / obesity status was determined by World Health Organization criteria in patients with body mass index (BMI) ≥25 kg/m².

Results: Overweight / obesity were established in 45% of pts, normal BMI was in 55% of SLE pts. The combination of IR and high leptin levels was found in 32% of overweight / obese pts and 11% of pts with normal BMI (p<0.02), an isolated increased leptin level - in 64% and 41%, respectively (p=0.1), metabolic disturbances were absent in 4% of overweight pts and 48% of pts with a normal BMI (p=0.001). Thus, “classical” obesity was found in 43% of cases, “metabolically healthy” obesity - in 2%, and “latent” obesity - in 29% of SLE pts. Leptin levels correlated with BMI (r=0.5, p=0.02), waist circumference (r=0.5, p=0.02) in the overweight / obesity group, and with disease duration (r=0.5, p<0.02) SLEDAI-2K (r=0.4, p<0.001), and C3 complement (r=0.5, p=0.01), maximum (r=0.7, p<0.001) and current GCs doses (r=0.4, p=0.03) in patients with normal weight. There was a trend to association between leptin levels and duration of GCs therapy in SLE pts with normal BMI (r=0.4, p=0.06).

Conclusion: Metabolic disorders - most often increased leptin levels - were diagnosed in the majority of overweight / obese patients, as well as in about 50% of SLE patients with normal weight. There were only isolated cases of “metabolically healthy” obesity in SLE patients. Metabolically obese normal weight (“latent” obesity) phenotype was strongly associated with GCs therapy and decreased disease activity.

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AB0307

IS THERE ANY INFLUENCE OF THE ANTITHROMBIC THERAPY ON ECHOCARDIOGRAPHIC FINDINGS IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS?

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Background: Cardiovascular diseases are becoming the leading cause of death among lupus patients due to increasing life-span. Transthoracic echocardiography (TTE) is a routine and widely available modality in everyday clinical practice useful to identify specific pathological cardiac changes and predictors of heart failure.

Objectives: The goal was to identify potential abnormalities in the TTE findings in SLE patients, with and without antithrombotic therapy.

Methods: This is a prospective cross-sectional study including 41 pts (91% females, aged 32[29-41] years median [interquartile range 25%-75%]) with SLE (SLICC 2012 criteria). All patients were divided into 2 groups: the 1st group was composed of "untreated" patients and the 2nd - of patients receiving antithrombotic therapy. The 1st group included 43 pts (93% females) aged 31[27-40] years who were not receiving steroids, immunosuppressants and biological agents at the time of enrollment, 5[12%] of them were on hydroxychloroquine (HCQ) therapy 200mg/day. The 2nd group was represented by 48 pts (89% females) with median age 34[28-45] years. Out of them 47[98%] patients were on prednisone therapy at 10[8-15]mg/day, 20[41%] - on cyclophosphamide, 6[13%] - on methotrexate, 4[8%] - on mycophenolate mofetil, 3[6%] - on leflunomide, 1[2%] - on ticlopidine. Among them 10[21%] pts (6[13%] females) were on antithrombotic therapy at 10[8-15]mg/day, 10[21%] - on cyclophosphamide, 6[13%] - on azathioprine or mycophenolate mofetil, 4[8%] - on ticlopidine.

Results: Valve insufficiency with varying degree of clinically insignificant regurgitation and pericarditis were the commonest pathology found in "untreated" and "treated" SLE patients based on TTE data. No differences in rates of valve insufficiency (95% and 99%), pericarditis (43% and 47%) (both exudative and adhesive), endocarditis (26% and 33%), median left ventricular (LV) ejection fraction (64[59-68]% and 64[61-69]%), LV end-systolic diameter (30[27-32]mm and 29[25-31]mm), LV end-diastolic diameter (48[45-50]mm and 45[42-49]mm), pulmonary arterial systolic pressure (25[22-31]mm Hg and 23[22-30]mm Hg), LV diastolic dysfunction (26% and 21%) and LV systolic dysfunction (9% and 6%) were found between the "untreated" SLE patients and patients receiving antithrombotic therapy (p=0,05 for all cases). Higher rates of mitral and tricuspid valvular prolaphe was seen more often in "treatment-naïve" SLE patients: 16[47%] vs 10[21%], p=0.001.

Conclusion: Valvular dysfunction (insufficiency with clinically insignificant regurgitation) and pericarditis, endocarditis and LVDD were the most common cardiac TTE abnormalities in SLE patients. Antithrombotic therapy seems not to worsen structural and functional cardiac abnormalities based on TTE findings in SLE patients. Only mitral and tricuspid valvular prolapse was seen more often in "treatment-naïve" SLE patients.

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AB0308

INFLUENCE OF METABOLIC DISORDERS ON THE COMORBIDITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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AB0309

INFLUENCE OF METABOLIC DISORDERS ON THE COMORBIDITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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