Conclusion: Among patients with SLE, APS or SLE and APS, the overall prevalence of IgA anticardiolipin antibody was found to be about 4.84%, which is much less as compared to the percentages reported by other groups^[1] IgA Anticardiolipin antibody positivity was more in patients with pregnancy morbidity compared to patients without a pregnancy morbidity. In this study however, statistical significance was not reached. Similar studies with larger number of patients are required. We also need to prospectively follow up such patients with IgA ACLA and evaluate for morbidity during pregnancy

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AB0493

IMMUNOGLOBULINS AFTER ACUTE PHYSICAL EXERCISE IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: Moderate exercise improves the functions of the immune system. The results of serum immunoglobulins in response to acute physical exercise are conflicting, but in general, there is an increase in serum immunoglobulins in athletes and non-athletes after maximal and submaximal exercise. The effects of acute physical exercise on serum immunoglobulin in patients with systemic lupus erythematosus are unknown.

Objectives: To determine the serum levels of IgG, IgM and IgA immunoglobulins in patients with systemic lupus erythematosus after a single session of acute aerobic exercise.

Methods: Thirty-one women with SLE (ACR1997 and/or SLICC 2012 criteria), 11 with active lupus and 20 with inactive lupus, and 24 healthy women, who were matched by gender, age, and body mass index, participated in this study. All subjects underwent a maximal exercise test on motorized treadmill, with increases in velocity every minute until exhaustion, to evaluate the speed (km/h), heart rate, Borg scale (6-20), and the reason for stopping the test (fatigue and/or dyspnea). Samples of blood were collected in the morning, after an 8-hour fast and immediately after acute physical activity, and stored in a freezer at -80°C until the tests were performed. Immunoglobulin IgG, IgM and IgA assay was performed by turbidimetry according to the manufacturer (Turbiquet, Labtest Diagnostic S.A).

Results: There was an increase in both IgG and IgA serum levels after physical activity in SLE patients ($p = 0.004$ for IgG and $p = 0.002$ for IgA) and healthy controls ($p < 0.001$ for IgG and $p < 0.001$ for IgA) (Figure 1). Inactive SLE patients showed higher levels of IgG and IgA after exercise ($p = 0.006$ and $p = 0.010$, respectively) (Figure 2), in comparison with the active SLE patients. There was no difference in IgM serum levels before and after the exercise test in both groups.

Figure 1. Comparison of IgG, IgM and IgA immunoglobulins intra and inter-group lupus and control ▲ = Average

Figure 2. Comparison of IgG, IgM and IgA immunoglobulins intra- and inter-group of active and inactive lupus. ▲ = Average

Conclusion: Patients with SLE, mainly with inactive disease, responded to acute physical exercise with increased IgG and IgA serum levels, similarly to healthy controls.

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AB0494

ACTIVITY OF PURINE AND PYRIMIDINE METABOLISM ENZYMES IN SYSTEMIC LUPUS ERYTHEMATOSUS: ENZYMATIC PATTERNS OF BLOOD PLASMA AND LYSED LYMPHOCYTES

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Background: Cytotoxic immunosuppressants are widely used nowadays for outcome improvement and better quality of life in severe systemic lupus erythematosus (SLE). As purine and pyrimidine metabolism suggest to be the major targets of most cytotoxic immunosuppressants, enzyme profiling of these metabolic pathways is recognized as an important step for a better balance between efficiency and safety in clinical practice.

Objectives: To characterize enzymatic patterns of the major enzymes of purine and pyrimidine metabolic pathways in systemic lupus erythematosus.

Methods: The research was carried out in agreement with the WMA Declaration of Helsinki principles. 50 adult SLE patients from the rheumatology unit of Volgograd Clinical Emergency Hospital #25 and 30 healthy controls were included in the study. Diagnosis of SLE had been established using ACR criteria (1997), and activity was assessed by means of ECLAM scale. Activities of 10 major enzymes involved in purine and pyrimidine metabolic pathways: adenosine deaminase (ADA; E.C. 3.5.4.4), adenosine kinase (AK; E.C. 2.7.1.20), guanylate kinase (GK; E.C. 2.7.4.8), dihydroorotate dehydrogenase (DODG; E.C. 1.3.5.2), IMP dehydrogenase (IMPDG; E.C. 1.1.1.205), purine nucleoside phosphorylase (PNP; E.C. 2.4.2.1), thymidine kinase (TK; E.C. 2.7.1.21), thymidine phosphorylase (TP; E.C. 2.4.2.4), uracil/thymidine dehydrogenase (UDG; E.C. 1.17.99.4), cytidine deaminase (CDA; E.C. 3.5.4.5) were measured in blood plasma and lysed lymphocytes. Results are expressed as mean ± standard error. Statistical comparison tests are selected in line with common guidelines, differences were considered significant when $p < 0.05$.

Results: Enzymatic profiles in plasma of SLE patients are characterized by increased PNP, AK, UDG, IMPDG, CDA, TK, and DODG activities; ADA and GK were found to decrease. Lysed lymphocytes are revealed however to increased AK, IMPDG, TK, as well as decreased PNP, ADA, GK, CDA, and TP activities. We have also found that most enzyme activities significantly correlate with ECLAM score in accordance with our previous results [1]. Plasma PNP, AK, UDG, IMPDG, CD, TK and DODG activities positively correlated with ECLAM score, as well as lymphocyte AK, IMPDG, and TK activities did. Negative correlations with ECLAM score were revealed for plasma ADA and TP, and also for lymphocyte PNP, ADA, GK, UDG, CD, TP, and DODG. Plasma PNP, AK, IMPDG, and lymphocyte PNP, ADA, AK activities had the closest relations with minimal SLE activity, being a candidate markers of it.

Conclusion: The enzymatic patterns studied can be used as auxiliary markers of SLE activity, with special emphasis on minimal disease activity.

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