

Identification of autoantibodies associated with systemic lupus erythematosus by serological analysis of cDNA expression library

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Systemic lupus erythematosus (SLE) is an autoimmune disease characterized by the presence of antinuclear antibodies. We performed serological analysis of cDNA expression library (SEREX) to identify autoantibodies associated with SLE. We carried out screening of three different cDNA expression libraries and identified eleven independent clones that reacted with pooled sera of patients with SLE. In this screening, we found that autoantibodies to poly (ADP-ribose) polymerase (PARP), U1snRNP and galectin-3 were prevalent in the sera of patients with SLE (26/68, 25/68, 12/63 respectively). The frequency of autoantibody to PARP was significantly higher in SLE (26/68) than that of healthy control (0/76) (38.2% vs 0%, $p=0.0000000$ by chi-square test). The autoantibody against PARP was rarely detected in patients with rheumatoid arthritis (1/50), Sjogren syndrome (0/19), systemic sclerosis (0/18), and polymyositis/ dermatomyositis (0/37). The frequency of autoantibody to galectin-3 was significantly higher in SLE (12/63) than that of healthy control (0/56) (19% vs 0%, $p=0.0006$). The autoantibody against galectin-3 was not detected in rheumatoid arthritis (0/50), Sjogren syndrome (0/18), systemic sclerosis (0/19). Interestingly, autoantibody to galectin-3 was also prevalent in the sera of patients with polymyositis/dermatomyositis (16/37, 43.2%) compared to healthy control (0/56) ($p=0.0000001$). The presence of autoantibody to PARP was negatively associated with pleurisy, and the autoantibody to galectin-3 was associated with renal disease in SLE patients.

In conclusion, the frequency of autoantibody to PARP and galectin 3 was increased in SLE patients. Further functional characterization of the autoantibodies is warranted.

Fibromyalgia in Korean Lupus Patients is Associated with Depression

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Objective. To investigate the prevalence of fibromyalgia (FM) in Korean patients with systemic lupus erythematosus (SLE) and to determine the association between FM tender points and a Korean version of the Fibromyalgia Impact Questionnaire (FIQ-K) and clinical and psychological variables.

Methods. Ninety patients with SLE were examined for FM tender points and asked to complete the questionnaire. In addition to sociodemographic and clinical features, the severity of relevant current clinical symptoms, e.g., pain intensity, fatigue, and morning stiffness, were assessed by 10-cm visual analog scales (VAS). Disease activity was measured by ESR, complements, anti-dsDNA antibody and SLE Disease Activity Index (SLEDAI) and damage was measured by Systemic Lupus International Collaborating Clinics (SLICC). The Symptom Checklist-90-Revised (SCL-90-R) was used for psychometric scoring.

Results. Fourteen SLE patients (15.6%) met the American College of Rheumatology criteria for FM. Demographic data such as age, sex, disease duration, education level, marital status, employment, organ involvement and medication were not different between SLE patients with and without FM. The FM tender points were significantly correlated with the depression subscale of SCL-90-R and not with disease activity and damage index. The FIQ-K scores also showed strong correlation with the depression and anxiety subscales of SCL-90-R and not with disease activity and damage index. The SLE patients with depression had higher FIQ-K scores and current FM symptom VAS scores compared to SLE patients without depression.

Conclusion. The FM was not uncommon in Korean lupus patients, and was associated with the presence of depression and not with disease activity and damage.