Autoantibodies Associated with Renal Involvement in Patients with Systemic Lupus Erythematosus

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Lupus nephritis has often been associated with anti-ds DNA. The aim of this study was to investigate whether renal involvement of systemic lupus erythematosus (SLE) was associated with any autoantibody patterns. Medical records of patients with SLE (57 patients) seen from 1999 through 2002 by the rheumatology service at the Shin Kong Wu Ho-Su Memorial Hospital were retrospectively analyzed. Persistent proteinuria was used as the evidence of renal involvement among the SLE patients. Results of autoantibody tests at diagnosis were identified retrospectively. Twenty (35%) of the 57 SLE patients had renal involvement. Anti-Ro/SS-A antibodies were present in the serum of 16 of the 20 (80%) patients with renal involvement and 19 of the 37 (51%) without renal involvement \((p=0.034)\). IgG anti-cardiolipin antibodies (IgG aCL) were present in the serum of 15 of the 20 (75%) patients with renal involvement and 13 of the 37 (35%) without renal involvement \((p=0.004)\). In addition, low levels of complement C3 were present in the serum of 13 of the 20 (65%) patients with renal involvement. Anti-ds DNA, anti-La/SS-B, anti-Sm, and anti-nRNP antibodies showed no correlation with renal involvement. Renal involvement in our SLE population was frequently found and the results correlated significantly with the presence of anti-Ro/SS-A, IgG aCL autoantibodies.

Key words: Autoantibody, renal involvement, systemic lupus erythematosus (SLE)

Introduction

Systemic lupus erythematosus (SLE) is the most clinically and serologically diverse of the autoimmune connective tissue diseases because it may affect any organ of the body and displays a broad spectrum of clinical and immunological manifestations. The clinical features include articular and mucocutaneous involvement, renal diseases, hematologic abnormalities, and central nervous system diseases [1]. As a result of immunological abnormalities, renal disorders occur frequently in patients with SLE [2-4]. The prognosis of patients with SLE is determined by the severity of renal involvement [5,6]. In most large series, one-third to one-half of SLE patients show evidence of clinical nephritis. While the renal manifestations of SLE vary with the severity of the renal lesion, proteinuria is present in the vast majority of cases.

Much effort has been expended to identify serologic markers that correlate with clinical nephritis in SLE patients. There is abundant evidence that DNA-anti-DNA complexes participate in nephritis [7], but not all patients with antibodies to DNA develop nephritis. When other serologic subgroups were investigated, patients with precipitating antibodies to Ro/SS-A alone showed a 37-42% frequency of nephritis [8,9], while SLE patients with both anti-Ro/SS-A and anti-La/SS-B precipitins had nephritis at the very low frequency of 4% [8]. SLE patients with antibodies to nuclear RNP (nRNP) alone also had a low prevalence of nephritis (13%), while those with anti-nRNP and anti-Ro/SS-A, anti-nRNP and anti-