Clinical Manifestations in Patients with Positive Anti-dsDNA Test

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Background: Systemic Lupus Erythematosus (SLE) is an autoimmune disease characterized by a heterogeneous spectrum of skin manifestations, the most common presentation and organ affection. The cutaneous lesions in SLE are classified as LE specific skin lesions and LE non-specific skin lesion. LE specific skin lesions are accompanied with acute cutaneous lupus erythematosus (ACLE), subacute cutaneous lupus erythematosus (SCLE), and chronic cutaneous lupus erythematosus (CCLE). The presence of ACLE is implicated to increase the risk for SLE development and severity of the disease, compared to other types. Additionally, serum autoantibodies are frequently positive in SLE and remain positive through the course of the disease. Anti-dsDNA is one of the autoantibodies in the SLICC classification criteria for SLE diagnosis and reported to be associated with disease activity.

Objective: To investigate the correlation of patients with positive anti-dsDNA test and the clinical manifestations, severity, and diagnosis.

Methods: A retrospective collection of data was done in patients who underwent positive anti-dsDNA tests in Phramongkutklao Hospital, Bangkok, Thailand during May 2013-2017. Patients aged > 15 years with presence of positive anti-dsDNA test were enrolled into the study. Demographic data, clinical manifestations, final diagnosis, and treatments were recorded.

Results: There were 82 patients with positive anti-dsDNA test (13 men and 69 women). The mean age was 38.6 years (range from 17-83 years). SLE diagnosis was done in 65/82 patients (79.26%); whereas, 5/82 (6.09%) had other diagnoses unrelated to connective tissue diseases. The LE-specific skin lesions were presented in 43/82 patients (52.44%), and most of them were in acute cutaneous LE (23/82, 28.04%). The diagnosis of SLE was significantly present in patients with positive anti-dsDNA and cutaneous manifestations, compared to those with no cutaneous manifestation (p=0.001). Nevertheless, there was no difference between each type of patients with LE-specific skin lesions. According to internal organ involvements, patients with positive anti-dsDNA and ACLE were likely to be correlated with major internal organ involvements, compared to other groups of LE-specific skin lesions and those with no skin lesions, but without statistically significant (p = 0.082). (P <0.05). Patients with CCLE were significantly correlated with minor organ involvements compared to other groups (p= 0.001).

Conclusion: Positive anti-dsDNA accompanied with the presence of LE-specific skin lesions can help to complete criteria for diagnosis SLE. Additionally, the presence of ACLE with positive anti-ds-DNA test predicts the association with major internal organ involvements. Although anti-dsDNA is specific for LE, some patients have other diagnoses. Further investigation on both clinical manifestations and laboratory findings for SLE diagnosis is recommended.

Keywords: Cutaneous manifestations of SLE, SLE, anti-dsDNA, Acute cutaneous LE, Subacute cutaneous LE, Chronic cutaneous LE