

中文題目：台灣全身紅斑性狼瘡病人之 HLA-DR 基因型

英文題目：HLA-DR Genotypes in Patients with Systemic Lupus Erythematosus in Taiwan

作者：顏昌毅¹ 顏正賢^{1,2}

服務單位：¹高雄醫學大學附設中和紀念醫院 內科部, ²高雄醫學大學醫學院臨床醫學研究所

Background: The human leukocyte antigen (HLA) system is a complex of genes that plays an important role in the adaptive immune response and is involved in autoimmune diseases. The HLA system was first reported in the 1970s by McDevitt and Bodmer to be associated with autoimmune disorders. Systemic lupus erythematosus (SLE) is a complex, multifaceted autoimmune disease that is known to be associated with genetic factors, including HLA. Previous studies have shown different HLA-DR genotypes to be associated with the development of SLE in different populations. A study by Lu et al. has shown that, in Taiwanese patients, SLE was not associated with HLA-DR genotypes. Here, we investigate whether different HLA-DR genotypes are associated with SLE in Taiwanese patients.

Methods: This study enrolled 234 SLE patients (208 females, 26 males) and 346 healthy controls (301 females, 45 males). HLA-DR genotyping was done with the commercially available Ready Gene kit. Chi-square tests were performed to evaluate the differences in HLA-DR genotype frequencies between SLE patients and healthy controls. P-values were corrected for the number of comparisons. Alpha level was set at 0.05. We further investigated the associations of risk alleles with the onset age and clinical manifestations of SLE patients. A t-test was performed to compare the mean age of disease onset while chi-square tests were performed to compare the prevalence of different disease manifestations.

Results: The genotype frequency of HLA-DR2 was significantly higher in SLE patients than in controls (OR= 2.05, 95% CI= 1.44-2.92, $p < 0.001$). The p-value was still significant after correction ($P_{corr} < 0.01$). Notably, the HLA-DR6 genotype appeared to trend towards negative correlation with SLE (OR= 0.57, 95% CI= 0.36-0.90, $p = 0.015$, P_{corr} = not significant), while the HLA-DR8 genotype appeared to trend towards positive correlation (OR=1.63, 95% CI= 1.10-2.42, $p = 0.014$, P_{corr} = not significant). HLA-DR2 (+) SLE patients have a lower age of disease onset ($p =$

0.002), as well as higher prevalence of oral ulcer (OR= 2.092, 95% CI= 1.19-3.67, p= 0.01), avascular necrosis of bone (OR= 3.74, 95% CI= 1.76-7.93, p < 0.001), and renal involvement (OR= 2.05, 95% CI= 1.19-3.51, p= 0.009) in comparison with HLA-DR2 (-) patients.

Conclusion: In this study, HLA-DR2 was found to be positively correlated with the susceptibility to SLE in Taiwanese. HLA-DR2 was also associated with a lower age of disease onset and a more severe clinical course.