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Increased incidence of Sjogren's syndrome in systemic sclerosis: A nationwide population study

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Abstract

In the past, there were no studies to evaluate the incidence of Sjogren's syndrome and its relationship with sex and age in patients with systemic sclerosis. In this study, we enrolled 2217 patients with systemic sclerosis and 6485 controls from Taiwan's Registry of Catastrophic Illness database and National Health Insurance Research Database. Every patient with systemic sclerosis was matched to at most three controls by sex, age, month, and year of first diagnosis of systemic sclerosis. Standardized incidence ratio (SIR) of Sjogren's syndrome in patients with systemic sclerosis and 95% confidence interval (95% CI) were calculated. Cox hazard regression was used to calculate the hazard ratio (HR). Both male and female patients with systemic sclerosis had higher incidences of Sjogren's syndrome (SIR: 7.59, 95% CI = 2.97–19.51; SIR: 7.59, 95% CI = 5.56–10.42, respectively). The incidence of Sjogren's syndrome in patients with systemic sclerosis was still higher compared with control when stratified according to age. Age at diagnosis of Sjogren's syndrome was earlier in patients with systemic sclerosis in both male and female groups ($p = 0.018$; $p < 0.001$, respectively). Systemic sclerosis was associated with Sjogren's syndrome after adjusting for age, sex, and various autoimmune diseases (HR: 5.98, 95% CI = 4.79–7.47, $p < 0.001$). Common cytokines, overlapping antibodies, and similar risk alleles were all potential causes of increased incidence of Sjogren's syndrome in systemic sclerosis.

Keywords: Hazard rate, incidence, retrospective cohort study, systemic sclerosis, Sjogren's syndrome