Decreased Prevalence of Autoimmune Connective Tissue Diseases in Type 1 and Type 2 Diabetes

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Background/Purpose: Evidence suggest that some autoimmune diseases coexist at a higher rate than expected, reflecting common pathogenetic pathway, while an inverse association is also reported . In this study we investigate the co-occurrence of systemic sclerosis (SSc), Systemic lupus Erythematosus (SLE) and Sjogren Syndrome (SS) In patient with type 1 and type 2 diabetes mellitus (DM).

Methods: Health Care and Utilization Project (HCUP) data for the year 2019 was searched. We identified patients with Type 1 and Type 2 DM, SSc with and without lung involvement, patients with SS, and SLE with and without lupus nephritis (LN). We used weighted logistic regression to examine the association between each of these diseases and DM.

Results: The prevalence of SSc among patients with Type 1 and 2 DM was significantly lower than that for the non-DM control group. Also, the prevalence of SSc with lung involvement was lower among patients with Type 1 and type 2 DM. The prevalence of SLE and SLE-LN were lower among patients with type 1 and in type 2 DM. A decrease prevalence of SS in patients with type 1 and type 2 DM was also seen.

Conclusion: The data demonstrates an inverse relation between SSc, lupus, and SS in patients with DM. This suggests that these diseases and DM may have different immune pathogenesis. There was also significantly lower incidence of organ complications such as lupus nephritis and SSc lung disease among patients with diabetes suggesting that diabetes and treatment of diabetes may alter the clinical expression of these disorders.

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