COMMENT ON MÄKIMATTILA ET AL.

# Every Fifth Individual With Type 1 Diabetes Suffers From an Additional Autoimmune Disease: A Finnish Nationwide Study. Diabetes Care 2020;43:1041–1047

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We read with interest the article by Mäkimattila et al. (1) reporting the prevalence of autoimmune diseases (ADs) in patients with type 1 diabetes (T1D) from the Finnish Diabetic Nephropathy (FinnDiane) Study, an ongoing, nationwide, multicenter study aimed at identifying genetic and environmental risk factors for complications of diabetes (1). ADs were identified by linking the data of the FinnDiane cohort (4,758 T1D patients, with a median age of 51.4 years and a median duration of disease of 35.5 years) with those from the nationwide health registries. Mäkimattila et al. (1) report that 22.8% of their T1D patients had at least one additional AD, with a clear female preponderance for all ADs except for atrophic gastritis. Few patients had two (3.0%), three (0.13%), or four (0.02%) ADs together with T1D, with women more likely to develop multiple associations. Patients with T1D showed an increased risk of ADs; the most common AD was hypothyroidism, followed by celiac disease, hyperthyroidism, atrophic gastritis, and Addison disease.

We have been following a cohort of T1D patients in transition from pediatric care since 2012 that currently is the largest single-center cohort in our Campanian County (2). We linked the data of our cohort at the Diabetes Unit of the University Hospital "Luigi Vanvitelli" in Naples, Italy, with those of the regional register of rare diseases where all autoimmune polyglandular syndromes are certified. We found that 142 (18%) of our 790 T1D patients showed at least one additional AD with higher prevalence in females, and 103 patients (13%) showed two associated ADs. The younger age of our cohort (28.6 $\pm$ 9.9 years, mean $\pm$ SD) and the shorter duration of disease make it possible that additional ADs may occur in the first years of disease.

In our series, thyroiditis was the most common associated disease, followed by celiac disease, Addison disease, and atrophic gastritis. However, under the term thyroiditis, we include all patients with the presence of antibodies to thyroglobulin, antibodies to thyroperoxidase, or both, independent of the simultaneous presence of hypothyroidism, subclinical hypothyroidism, or hyperthyroidism. This may explain why the prevalence in our cohort for thyroiditis (16%, i.e., 126 patients out of 790) seems not too far from that of Mäkimattila et al. for hypothyroidism and hyperthyroidism (20.3%) despite the fact that our case subjects are younger and with shorter duration of disease.

In conclusion, considering the differences that may exist between the countries and between different decades of life, we agree with the message of Mäkimattila et al. that patients with T1D have a higher risk of ADs and we stress the importance of the screening for additional autoimmune disease, at diagnosis and periodically, for the early identification of other autoimmune diseases also in subclinical phase.

**Duality of Interest.** No potential conflicts of interest relevant to this article were reported.

## References

1. Mäkimattila S, Harjutsalo V, Forsblom C, Groop P-H; FinnDiane Study Group. Every fifth individual with type 1 diabetes suffers from an additional autoimmune disease: a Finnish nationwide study. Diabetes Care 2020;43:1041–1047
2. Maiorino MI, Bellastella G, Petrizzo M, et al. Treatment satisfaction and glycemic control in young type 1 diabetic patients in transition from pediatric health care: CSII versus MDI. Endocrine 2014;46:256–262

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