

## **GAD Antibodies and New Onset Diabetes in Middle-Aged Adults: The Atherosclerosis Risk in Communities Study**

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Results:

Most studies to date of glutamic acid decarboxylase antibody (GADA) positive diabetes have evaluated individuals at or after diabetes diagnosis. In order to examine the association of GADA positivity with the onset and early progression of diabetes in middle-aged adults, we performed a case-cohort study representing the 9-year experience of 10,275 Atherosclerosis Risk in Communities Study participants. GADA was measured by radioimmunoassay on 580 incident cases and 544 non-cases of diabetes. The overall weighted prevalence of GADA positivity ( $\geq 1$  U/ml) was 7.3%. GADA positivity did not predict incident diabetes in either unadjusted or multiply-adjusted (HR=1.04; 95% CI: 0.55, 1.96) proportional hazard analyses. However, a non-significant increased adjusted risk (HR = 1.29; 95% CI: 0.58, 2.88) was seen for those in the highest tertile ( $\geq 2.38$  U/ml) of positivity. GADA positive and negative individuals had similar risk profiles for diabetes, central obesity and elevated inflammation markers, aside from glucose, being the main predictors of incident diabetes. Among diabetes cases at the end of follow-up, being GADA positive increased risk of progression to insulin use almost 10 times (HR=9.9; 95% CI: 3.4, 28.5). In conclusion, in these middle-aged adults, GADA positivity did not increase diabetes risk, and the overall profile of risk factors for diabetes was similar for positive and negative individuals. With the possible exception of those with highest GADA levels, the presumably low-grade pancreatitis reflected by GADA appears to become clinically relevant only after diabetes onset.

Conclusions:

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Category:

General