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Project Title

The effects of anti-diabetic drugs on cognition

Project Summary

Drugs currently approved for dementia improve the symptoms, but do not prevent brain cell death, necessitating urgent development of effective preventative strategies. Our recently published study has suggested that metformin was associated with better memory over time among cognitively normal people with type 2 diabetes. We further identified DPP4 inhibitor use was associated with better memory over time among cognitively normal people carrying apolipoprotein E (APOE) genotype. However, a limitation of previous work was that important confounders, including diabetes duration, HbA1c (measures of glycemic control), liver function, and kidney disease, were not available. Using a comprehensive large database, the proposed study will (1) test the associations between use of an anti-diabetic drug class and performance across different cognitive domains, (2) study whether APOE genotype modifies these relationships, and (3) explore whether inflammation mediates the effects.

Keywords

Diabetes, Medications, Memory, Cognition