

Older class of type 2 diabetes drugs (glitazones) linked to 22% reduced dementia risk

May be worth prioritising these drugs for future repurposing research, say researchers

Use of an older class of type 2 diabetes drugs called glitazones, also known as thiazolidinediones or TZDs for short, is linked to a 22% reduced risk of dementia, reveals a long term study published in the open access journal ***BMJ Open Diabetes Research & Care***.

These drugs may effectively prevent dementia in patients at high risk with mild or moderate type 2 diabetes, and may now be worth prioritising in future clinical studies to see if they can be repurposed, suggest the researchers.

Because type 2 diabetes and dementia share some of the same physiological patterns, researchers have started to look at whether diabetes drugs might also help stave off or treat dementia. But to date, the findings have been inconsistent.

To shed further light on this, the researchers compared dementia risk in older people with type 2 diabetes and treated with either a sulfonylurea or a thiazolidinedione (TZD) with those treated with metformin alone.

They drew on the electronic health records of 559,106 people diagnosed with type 2 diabetes from the national Veteran Affairs (VA) Health System, spanning the period from January 2000 to December 2019.

Only older patients (aged at least 60) and given a first prescription of metformin, or a sulfonylurea (tolbutamide, glimepiride, glipizide, or glyburide), or a TZD (rosiglitazone or pioglitazone) between January 2001 and December 2017 were included (559,106) in the study. Their health was tracked for an average of nearly 8 years.

After at least 1 year of drug treatment, use of a TZD alone was associated with a 22% lower risk of dementia from any cause, compared with the use of metformin alone.

Specifically, it was associated with an 11% lower risk of Alzheimer's disease and a 57% lower risk of vascular dementia. Given that vascular diseases increase the risk of Alzheimer's disease, TZDs may also help to reduce dementia and Alzheimer's disease in part through their favourable effects on the vascular system, say the researchers.

While the risk of dementia from any cause was 11% lower for the use of metformin and TZD combined, it was 12% higher for the use of a sulfonylurea drug alone, prompting the researchers to suggest that supplementing a sulfonylurea with either metformin or a TZD may partially offset these effects.

Further in-depth analysis indicated that those younger than 75 benefited more from a TZD than older patients, highlighting the importance of early prevention for dementia,

note the researchers. And these drugs also seemed to be more protective in overweight or obese patients.

This is an observational study, so definitive conclusions can't be drawn about cause and effect. And the researchers acknowledge that certain potentially influential information wasn't available, including kidney function and genetic factors, and that study participants were predominantly male and White.

But they suggest that future studies for repurposing diabetes drugs for dementia prevention might want to consider prioritising TZDs, based on their findings.

And they conclude: "These findings may help inform medication selection for [older] patients with [type 2 diabetes] at high risk of dementia."