

Estimated Glucose Disposal Rate Is Associated With Brain Aging And Dementia Among Diabetes-free Older Adults

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Poster #505 (Virtual Only)

 **Question**
Is insulin resistance (IR), assessed by estimated glucose disposal rate (eGDR) associated with dementia and brain aging?

POPULATION

258,732 diabetes- and dementia-free adults aged ≥ 55 (mean 62.0 ± 4.1) from UK Biobank.

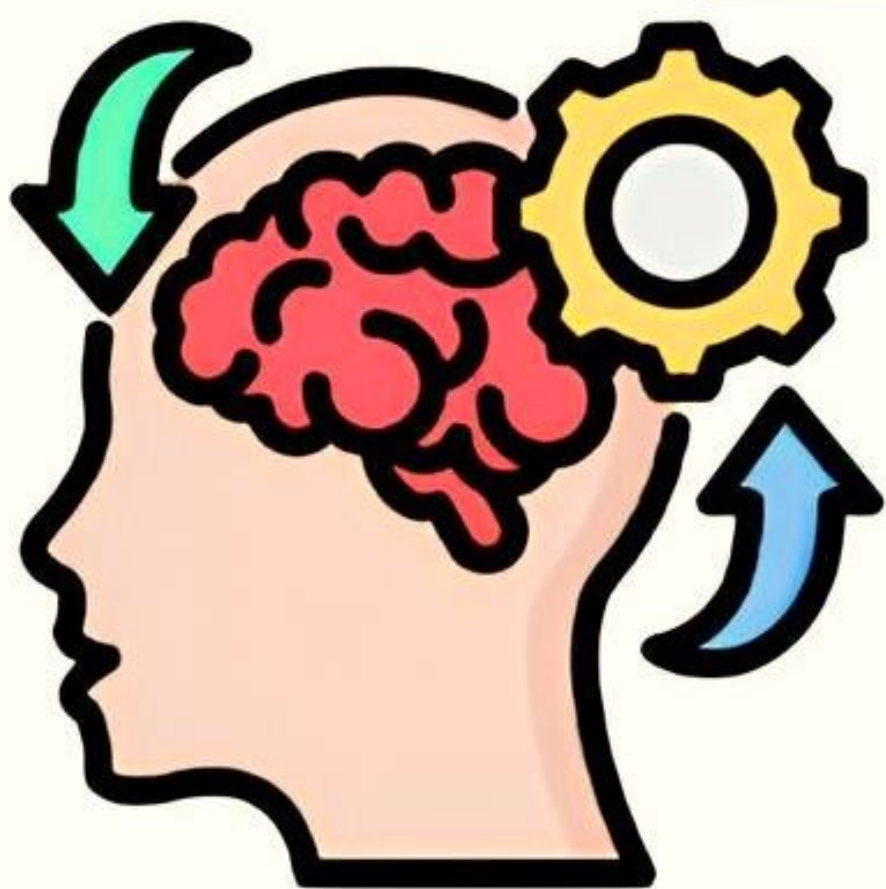


METHODS

* $eGDR = 21.158 - (0.09 \times \text{waist circumference}) - (3.407 \times \text{hypertension}) - (0.551 \times \text{HbA1c})$



- * Dementia
- * Brain aging (machine learning & MRI)



Result 2

2.09

years younger brain age than actual age in older adults with high eGDR versus those with low eGDR.

Result 1

27%



lower risk of dementia was observed in participants with a high eGDR.

Result 3

14%

decreased risk of dementia among APOE $\epsilon 4$ carriers with high eGDR.

CONCLUSION

Higher eGDR is associated with prolonged onset of dementia and delayed brain aging among diabetes-free individuals, and could buffer the genetic risk of APOE $\epsilon 4$.

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My research focuses on cognitive decline, brain aging, and its underlying mechanism.

