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### DPD4 inhibitors for Alzheimer's disease: The effects of Sitagliptin, a DPD-4 inhibitor on cognitive functions in elderly diabetic patients with or without AD

**Aims:** The present study aimed to evaluate effect of sitagliptin, a dipeptidyl peptidase-4 inhibitor (DPP-4I), on cognitive functions in elderly diabetic patients with and without cognitive impairment.

**Methods:** 253 elderly patients with type 2 DM, were enrolled in this prospective and observational study. After comprehensive geriatric assessment, the patients were divided into either sitagliptin or non-sitagliptin group.

**Results:** A total of 205 patients who completed the study (52 with Alzheimer's Disease (AD)) were re-evaluated 6 months later. Sixth-month evaluation revealed no difference between sitagliptin and non-sitagliptin groups in terms of weight, body mass index, and HbA1c ( $p > 0.05$ ). However, the number of patients that required reduced insulin dose was significantly higher in the sitagliptin group ( $p = 0.01$ ). Sitagliptin therapy was associated with an increase in the Mini-Mental State Examination (MMSE) scores ( $p = 0.034$ ); patients without AD receiving only sitagliptin or insulin showed higher MMSE scores as compared to the patients receiving metformin alone ( $p = 0.024$ ). Likewise, the change in MMSE scores in AD patients receiving sitagliptin was significant and indicated improvement as compared to the patients receiving metformin ( $p = 0.047$ ).

**Conclusion:** Besides its effects similar to those of insulin and metformin in glycemic control and in reducing need for insulin, 6-month sitagliptin therapy may also associated with improvement of cognitive function in elderly diabetic patients with and without AD. Further randomized controlled trials are needed to support these results.

### Biography

Ahmet Turan ISIK finished his graduation from Gulhane Military Medical Academy in 1995. He received specialist training in internal medicine in 2002 and became a specialist in internal medicine. In 2007, He completed geriatric side branch education and became a geriatrician. He had completed postgraduate studies both in the country and abroad on cognitive disorders and dementia (dementia) syndromes, especially Alzheimer's disease in the ages. He received associate professor position on December 2006 and Professor Title on March 2012. He is currently serving as the Head of the Department of Geriatrics at Dokuz Eylul University Medical Faculty. He is also a part-time faculty member at the Faculty of Health Sciences of Eastern Mediterranean University. His research interests reflect in his wide range of publications in various national and international journals. He is also author of many international books.

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