Atypical antipsychotics are associated with incident diabetes in older adults without schizophrenia or bipolar disorder

Question: Is atypical antipsychotic use associated with incident diabetes or hyperlipidaemia in older people without schizophrenia or bipolar disorder?

People: Medicare advantage or commercial managed healthcare plan enrollees aged 65 and above, with no history of schizophrenia, bipolar disorder, diabetes (for the hyperlipidaemia study) or hyperlipidaemia (for the diabetes study) in the previous year. In the diabetes study, cases were 13,075 people who initiated diabetes treatment between 2004 and 2008 (identification period), and controls were 65,375 people who had not received diabetes treatment during this time. In the hyperlipidaemia study, cases were 65,829 people newly started on hyperlipidaemia medication, and controls were 65,829 people who had not received hyperlipidaemia medication. Controls were matched to cases based on age, sex, health plan type and index date. The index date for cases was the date of first diabetes or hyperlipidaemia medication prescription fill. For controls, the index date was a randomly selected date in the identification period.

Setting: USA; from 2003 to 2008.

Risk factors: Atypical antipsychotic exposure in the year prior to diabetes or hyperlipidaemia treatment initiation (preindex period), identified using pharmacy claims data. Medications considered as atypical antipsychotics were aripiprazole, clozapine, olanzapine, paliperidone, quetiapine, risperidone and ziprasidone. Participants taking atypical antipsychotics were stratified according to the drug prescribed, dose and the number of days of exposure during the year before the index date. Analyses were adjusted for the overall burden of comorbidities (assessed using the Charlson Comorbidity Index) during the preindex period, and specific comorbidities including diabetes (in the hyperlipidaemia study), hyperlipidaemia (in the diabetes study), hypertension, obesity, dementia, depression, anxiety and adjustment disorders. The hyperlipidaemia study additionally adjusted for stroke, coronary heart disease or ischaemic heart disease as indicators for cardiovascular disease.

Outcomes: Incident onset of treatment-dependent diabetes or hyperlipidaemia.

METHODS

Design: Two case control studies.
Follow-up period: One year.

MAIN RESULTS

During the preindex period, 1.3% of diabetes cases had been exposed to an atypical antipsychotic compared with 0.8% of controls (OR 1.32, 95% CI 1.10 to 1.59). A greater overall burden of comorbidity, diagnosis or treatment of hyperlipidaemia or hypertension, and diagnosis of obesity or dementia were all associated with increased odds of initiating diabetes treatment, while an anxiety diagnosis was associated with decreased odds of initiating diabetes treatment. In the hyperlipidaemia study, 0.8% of cases had been exposed to an atypical antipsychotic during the preindex period compared with 0.6% of controls (OR 0.76, 95% CI 0.67 to 0.87). Greater burden of comorbidity, diagnosis or treatment of diabetes, depression, obesity or cardiovascular disease during the preindex period was associated with increased odds of initiating hyperlipidaemia treatment. A diagnosis of dementia or adjustment disorders was associated with decreased odds of initiating hyperlipidaemia treatment.

CONCLUSIONS

In older adults, treatment with atypical antipsychotics for conditions other than schizophrenia and bipolar disorder is associated with increased odds of incident medication use for diabetes, and reduced odds of incident medication use for hyperlipidaemia.

ABSTRACTED FROM


Correspondence to: Sara C Erickson, Sr Outcomes Researcher, OptumRx, 2300 Main St, CA134-0404, Irvine, CA 92614, USA; sara.c.erickson@optum.com

SOURCES OF FUNDING Not reported.

Notes and References are published online at http://ebmh.bmj.com

The results of this study should inform clinicians of the need for close monitoring for diabetes mellitus in patients treated with these agents. Though differences between agents was not observed, the study highlights the importance of monitoring all patients treated with atypical antipsychotic agents and that an advanced age is not protective from the metabolic effects.

Neelam Thakurathi, David C Henderson
Department of Psychiatry, Massachusetts General Hospital and Harvard Medical School, Boston, Massachusetts, USA

Competing interests None.