

Publication

Antipsychotic drug use and the risk of seizures: follow-up study with a nested case-control analysis

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To investigate the association between antipsychotic drug use and the development of first-time seizures in patients with schizophrenia, affective disorders, or dementia.; We used data from the UK-based Clinical Practice Research Datalink database to conduct a follow-up study with a nested case-control analysis between 1998 and 2013. We identified patients with schizophrenia, affective disorders, or dementia, and estimated incidence rates of seizures among users of four antipsychotic drug subclasses, defined according to existing hypotheses on their seizure-inducing potential (1, olanzapine or quetiapine; 2, amisulpride, aripiprazole, risperidone, or sulpiride; 3, low-to-medium potency first-generation antipsychotic drugs [chlorpromazine, zuclopenthixol, flupenthixol, pericyazine, promazine, thioridazine]; 4, medium-to-high potency first-generation antipsychotic drugs [haloperidol, prochlorperazine, trifluoperazine]), and among those who did not use antipsychotic drugs. To adjust for confounding, we estimated odds ratios for seizures separately among patients with affective disorders or dementia, stratified by antipsychotic drug use and timing of use.; In the total cohort of 60,121 patients (who had schizophrenia, affective disorders, or dementia), the incidence rate of seizures per 10,000 person-years was 32.6 (95% confidence interval [CI] 22.6-42.6) in users of olanzapine or quetiapine, 24.1 (95% CI 13.2-34.9) in users of amisulpride, aripiprazole, risperidone, or sulpiride, 49.4 (95% CI 27.7-71.0) in users of low-to-medium potency antipsychotic drugs, 59.1 (95% CI 40.1-78.2) in users of medium-to-high potency antipsychotic drugs, and 11.7 (95% CI 10.0-13.4) in non-users of antipsychotic drugs. Patients with dementia had significantly higher incidence rates of first-time seizures compared with patients with affective disorders, irrespective of antipsychotic drug use. In patients with affective disorders, current use of medium-to-high potency first-generation antipsychotic drugs was associated with an increased risk of seizures (adjusted odds ratio 2.51 [95% CI 1.51-4.18]) compared with non-use, while use of other antipsychotic drugs was not associated with seizures. In patients with dementia, current use of olanzapine or quetiapine (adjusted odds ratio 2.37 [95% CI 1.35-4.15]), low-to-medium potency first-generation antipsychotic drugs (adjusted odds ratio 3.08 [95% CI 1.34-7.08]), and medium-to-high potency first-generation antipsychotic drugs (adjusted odds ratio 2.24 [95% CI 1.05-4.81]) was associated with an increased risk of seizures compared with non-use, but current use of amisulpride, aripiprazole, risperidone, or sulpiride (adjusted odds ratio 0.92 [95% CI 0.48-1.75]) was not. Use of antipsychotic drugs in patients with schizophrenia could not be investigated because of small numbers.; Current use of medium-to-high potency first-generation antipsychotic drugs was associated with a 2.5-fold increased risk of seizures compared with non-use of antipsychotic drugs in patients with affective disorders. In these patients, current use of all other antipsychotic drug subclasses was not associated with seizures. In patients with dementia, current and past use of all antipsychotic drug subclasses, except amisulpride,

aripiprazole, risperidone, or sulpiride, was associated with an increased risk of seizures.

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