Among hospitalized, newer antipsychotics associated with reduced risk of COVID-19

A retrospective cohort study examining psychiatric inpatients in New York state has found that use of second-generation antipsychotics was associated with reduced risk of COVID-19 infection. Conversely, use of valproic acid was associated with increased risk of COVID-19. Study results were published online May 6, 2022, in JAMA Network Open.

Patients with serious mental illness are highly vulnerable to COVID-19, and those in inpatient care settings have an even higher risk of exposure to the virus. Antipsychotic medication is not believed to exacerbate risk in these patients, but it is possible that individual medications might differ in their associations with infection, with some evidence that drugs such as haloperidol and chlorpromazine could even serve as therapies for COVID-19.

Study of bipolar disorder treatments finds lithium linked to better outcomes

Lithium was associated with lower rates of suicide, self-harm, and psychiatric hospital readmission among individuals with bipolar disorder, according to a cohort study that compared the effects of mood stabilizers and other treatments using both between- and within-individual analyses. For all studied drugs, periods in treatment were associated with reduced psychiatric hospital admission compared with non-treatment periods. Results were published online April 22, 2022, in the British Journal of Psychiatry.

Prior analyses have suggested that lithium is more effective than other mood stabilizers in preventing suicidal behavior and psychiatric

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Researchers led by Katlyn Nemani, M.D., research assistant professor in the Department of Psychiatry at the NYU Grossman School of Medicine, examined the risk of COVID-19 infection associated with psychotropic medication use in adult inpatients with serious mental illness and assessed the risk of mortality in infected patients.

Study methods

The researchers utilized data from the electronic health record and centralized COVID-19 registry used in the psychiatric hospitals operated by the New York State Office of Mental Health. The study cohort comprised adult inpatients with serious mental illness who had received COVID-19 testing and were continuously hospitalized between March 8, 2020, and July 1, 2020 or the time of medical discharge for COVID-19.

The researchers examined a primary outcome of COVID-19 infection and a secondary outcome of death related to COVID-19 among those with laboratory-confirmed infection. They monitored deaths occurring through December 1, 2020.

Patients were considered exposed to psychotropic medication if a psychotropic drug had been prescribed before their index test date, had been used for at least 7 days, and had been received under a scheduled administration. First- and second-generation antipsychotics, antidepressants, mood stabilizers, and benzodiazepines were analyzed. The researchers controlled for a number of covariates, including age, sex, race, comorbid medical conditions, and psychiatric diagnoses.

Results

The cohort comprised 1,958 patients with a mean age of 51.4 years; 73.6% of the patients were male. A total of 49.5% of the patients had a laboratory-confirmed COVID-19 infection, and 3.9% of those were determined to have had a COVID-19-related death.

Patients who had received second-generation antipsychotics were less likely to test positive for COVID-19 than those not prescribed the medications, whereas those who were prescribed mood stabilizers were more likely to test positive. In analyses adjusted for age and sex, clozapine, chlorpromazine, paliperidone, risperidone, and olanzapine were associated with decreased odds of COVID-19 infection, while valproic acid was associated with increased odds of infection.

In fully adjusted analyses accounting for sociodemographic variables, medical risk factors, and exposure to other medications, paliperidone was significantly associated with decreased infection, and valproic acid remained significantly associated with increased infection.

The analysis of mortality risk found that clozapine was associated with decreased odds of mortality in an unadjusted model, but the association did not remain significant after adjustment for age, sex, and medical risk factors.

Implications

Nemani told the Update that the finding of increased COVID-19 infection risk with valproic acid was surprising, given that it had been hypothesized that the drug actually might reduce risk of infection, but the association did not remain significant after adjustment for age and sex. Similarly, prior analyses of electronic health record data had suggested an increased incidence of COVID-19 infection in patients prescribed clozapine (in contrast to the findings of this study).

Strengths of the study included its homogeneous sample of inpatients with chronic mental health conditions. Limitations included a lack of examination of medication dose, duration of use, and adherence.

“Future studies, including those with prospective cohort designs, are needed to confirm our findings,” Nemani said. She added, “We are currently assessing immune response to vaccination among patients with [serious mental illness] to determine whether there are differences related to underlying psychiatric diagnosis or exposure to psychotropic medications.”

Study co-author Jean-Pierre Lindenmayer, M.D., reported receiving research support from pharmaceutical companies. Nemani K, Williams SZ, Olfson M, et al. Association between the use of psychotropic medications and the risk of COVID-19 infection among long-term inpatients with serious mental illness in a New York state-wide psychiatric hospital system. JAMA Network Open 2022; published online May 6; doi: 10.1001/jamanetworkopen.2022.10743. Email: donald.goff@nyumc.org.