To Prevent Long COVID could a Common Diabetes Drug Help

Prescription of metformin within six days of documented severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection is associated with a 53% lower risk of developing long COVID or death over six months.



Study

The study analyzed electronic health record data from a nationwide database containing over 21 million individuals with documented SARS-CoV-2 infection from every state in the United States to identify new metformin users who were prescribed the drug within six days of documented SARS-CoV-2 infection.

New metformin users were compared with those prescribed comparator medications, including fluvoxamine, fluticasone, ivermectin, or montelukast, for the risk of long COVID or death within 180 days of the metformin or comparator medication prescription.

The researchers excluded patients with documented indications for chronic metformin use, including diabetes and prediabetes, as well as those prescribed metformin or comparator medications in the preceding 12 months. Eligible patients were also required to have attended outpatient visits during both the 0–6-month and 6–12-month periods before infection.

Findings

The study included 248 patients in the metformin group and a comparator group with a weighted size equivalent to approximately 248 patients. In most cases, medications were prescribed within two days of SARS-CoV-2 infection, suggesting successful identification of patients who were seeking metformin or control medications for their infection. The analysis of primary outcomes showed that, after weighting, about 4% of patients in the metformin group and 8.5% of patients in the control group had long COVID or died, representing an absolute difference of approximately 4.5 percentage points.

The adjusted risk ratio analysis indicated that patients who received a metformin prescription within a week of documented SARS-CoV-2 infection had a 53% lower risk of long COVID or death over a 6-month period, compared with those who received a prescription for comparator medications.

Further analysis suggested that having a metformin prescription within one day of infection was associated with a 61% lower risk of long COVID or death, whereas having the same prescription within 14 days of infection was associated with a 25% lower risk.

Conclusion

The study provides further evidence of an association between newly prescribed metformin during acute SARS-CoV-2 infection and a lower risk of long COVID or death over a period of six months. The association appeared stronger in patients who received metformin earlier in infection. These findings are consistent with previous studies demonstrating that early initiation of antiviral treatment against SARS-CoV-2 infection is more effective in reducing viral replication than late-stage treatment.

Previous in vitro studies have also indicated that metformin reduces SARS-CoV-2 RNA while increasing cell viability. Similarly, previous randomized clinical trials have shown reduced viral load in patients using metformin.

In the subgroup excluding those with a nirmatrelvir–ritonavir prescription, the study found a slightly higher risk ratio. This finding raises the hypothesis that patients receiving a nirmatrelvir–ritonavir prescription in addition to a new metformin prescription may have a lower risk ratio than the entire study population. Because of the observational design, the study analyses may be limited by missing data and misclassification of exposures, outcomes, and confounders. Since nirmatrelvir–ritonavir could be obtained directly from pharmacies without a physician visit, there remains a possibility that the use of these medications may not be fully captured in electronic health records.

Another potential limitation is missing vaccination data. Patients with or without COVID-19 vaccination may experience differential outcomes following SARS-CoV-2 infection, independent of metformin use. Furthermore, the analyzed electronic health records may not include the exact number and date of SARS-CoV-2 infections because of home testing, and the elevated levels of glycated hemoglobin in the metformin group suggest that this group may have included patients with undiagnosed diabetes or prediabetes.

There may be several other factors that might have influenced the observed outcomes, such as vague symptoms, access to healthcare, and pre-existing health conditions. However, these are challenges inherent in identifying and diagnosing long COVID. Future clinical trials and further research are needed to clarify the potential benefits of metformin for preventing long COVID and help inform treatment guidelines.

Source:

https://www.news-medical.net/news/20261110/Could-a-common-diabetes-drug-help-prevent-long-COVID.aspx