

---

## Medicine Matters Diabetes

---

06-09-2020 | COVID-19 | News

# Diabetes may present greatest risk to COVID-19 patients when newly diagnosed

Author: Eleanor McDermid

*medwireNews:* Diabetes may present a higher risk to patients with COVID-19 if it is newly diagnosed at hospital admission rather than well established, indicates research from China.

In fact, the researchers found an increased mortality risk associated with any form of previously undiagnosed elevated blood glucose at the time of admission among 453 patients hospitalized with laboratory-confirmed SARS-CoV-2 infection.

The study cohort comprised 132 patients with normal glucose levels at admission, 129 with hyperglycemia (fasting glucose 5.6–6.9 mmol/L and/or glycated hemoglobin [HbA1c] 5.7–6.4%), 94 with newly diagnosed diabetes ( $\geq 7.0$  mmol/L and/or HbA1c  $\geq 6.5\%$ ), and 98 with established diabetes.

Thirty-nine patients died during a mean follow-up of 29.5 days, and the mortality risk relative to those with normal blood glucose was highest in those with newly diagnosed diabetes, at a 9.42-fold risk increase after accounting for age, sex, smoking, systolic blood pressure, and total cholesterol levels.

This size of risk increase was linked specifically to raised fasting glucose; there was a 10.4-fold risk increase in the subgroup of patients with fasting glucose of 7.0 mmol/L or higher but HbA1c below 6.5%.

People with hyperglycemia below the diabetes threshold and those with established diabetes also had a significantly increased mortality risk, but to a lesser degree, at 3.29-

and 4.63-fold, respectively.

However, the risk associated with established diabetes increased further after accounting for use of antihypertensive and lipid-lowering drugs, admission to intensive care, and use of invasive mechanical ventilation. And it became higher than the risk associated with newly diagnosed diabetes after additional adjustment for baseline use of glucose-lowering medications and use of corticosteroids.

“[It] can be speculated that COVID-19 patients with known diabetes using glucose-lowering drugs to control blood sugar might have a protective effect on the death risk,” say Juan Zheng (Huazhong University of Science and Technology, Wuhan) and co-researchers.

Of note, the team had incomplete data for patients’ BMIs, so could not adjust for this despite its link with poor COVID-19 outcomes.

Patients with diabetes (pre-existing or newly diagnosed) were older than those without, more likely to be male, had a higher BMI, and more often had hypertension and a history of stroke. Patients with diabetes, particularly when newly diagnosed, had higher average levels of C-reactive protein, white blood cells, erythrocyte sedimentation rate, fibrinogen, lactate dehydrogenase, and blood urea nitrogen than those with normal glucose levels.

The same was true for markers of COVID-19 severity such as intensive care unit admission, acute respiratory distress syndrome, and acute kidney injury.

“Thus COVID-19 patients need to be under surveillance for blood glucose screening,” and COVID-19 patients with newly diagnosed diabetes should be considered for intensive therapy to reduce the risk for complications, conclude Zheng et al in *Diabetes, Obesity and Metabolism*.

*medwireNews* is an independent medical news service provided by Springer Healthcare. © 2020 Springer Healthcare part of the Springer Nature Group

*Diabetes Obes Metab* 2020; doi:10.1111/dom.14099

