



The effect of immunosuppressants on the prognosis of SARS-CoV-2 infection

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In a nationwide cohort study of SARS-CoV-2 infections in Denmark, pre-morbid exposure to systemic glucocorticoids was associated with an increased risk of hospital admission and death, whereas other immunosuppressants were not <https://bit.ly/3xRp7ZL>

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Abstract

Background Immunosuppression may worsen severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. We conducted a nationwide cohort study of the effect of exposure to immunosuppressants on the prognosis of SARS-CoV-2 infection in Denmark.

Methods We identified all SARS-CoV-2 test-positive patients from February 2020 to October 2020 and linked healthcare data from nationwide registers, including prescriptions for the exposure (immunosuppressant drugs). We estimated relative risks of hospital admission, intensive care unit (ICU) admission and death (each studied independently up to 30 days from testing) with a log-linear binomial regression adjusted for confounders using a propensity score-based matching weights model.

Results A composite immunosuppressant exposure was associated with a significantly increased risk of death (adjusted relative risk 1.56 (95% CI 1.10–2.22)). The increased risk of death was mainly driven by exposure to systemic glucocorticoids (adjusted relative risk 2.38 (95% CI 1.72–3.30)), which were also associated with an increased risk of hospital admission (adjusted relative risk 1.34 (95% CI 1.10–1.62)), but not of ICU admission (adjusted relative risk 1.76 (95% CI 0.93–3.35)); these risks were greater for high cumulative doses of glucocorticoids than for moderate doses. Exposure to selective immunosuppressants, tumour necrosis factor inhibitors or interleukin inhibitors was not associated with an increased risk of hospitalisation, ICU admission or death, nor was exposure to calcineurin inhibitors, other immunosuppressants, hydroxychloroquine or chloroquine.

Conclusions Exposure to glucocorticoids was associated with increased risks of hospital admission and death. Further investigation is needed to determine the optimal management of coronavirus disease 2019 (COVID-19) in patients with pre-morbid glucocorticoid usage, specifically whether these patients require altered doses of glucocorticoids.

