

Theme: Inflammatory Diseases

Patients with inflammatory rheumatic diseases are at increased risk of COVID-19 related hospitalization: data from a prospective controlled cohort study

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Background: Retrospective studies have suggested that patients with rheumatic diseases may be at increased risk of severe COVID-19 related disease, and that this risk may partly be related to specific antirheumatic therapies. We investigated this in a large prospective controlled cohort study.

Methods: All adult patients with inflammatory rheumatic diseases from the Amsterdam Rheumatology & Immunology Center, Amsterdam and Amsterdam UMC were invited to participate in the study. Patients were asked to register their own healthy control subject who were of the same sex and comparable age. Data on patient and COVID-19 related characteristics were collected via digital

questionnaires. Serum samples were collected twice and analyzed for the presence of SARS-CoV-2 specific antibodies.

Results: In total, 3279 rheumatic patients and 1110 healthy controls were included in the study. Diagnosis of COVID-19 was confirmed in 307 (9%) patients and 128 (12%) controls, of whom 18 (6%) patients and 1 (1%) control subject were hospitalized (P 0.02). Patients with older age, male sex, a history of chronic pulmonary disease or diabetes, and patients who were treated with prednisone or rituximab were more frequently hospitalized. In contrast, patients treated with hydroxychloroquine or TNF-inhibitors were less frequently hospitalized.

Conclusions: Our data suggest, albeit based on a limited number of hospitalized patients and controls, that patients with rheumatic diseases are at increased risk of COVID-19 related hospitalization. In addition, treatment with rituximab or prednisone seems to increase the risk of COVID-19 related hospitalization, while treatment TNF-inhibitors and hydroxychloroquine may have protective effects.

