CLINICAL IMAGE

SARS-CoV-2 infection associated with active granulomatosis with polyangiitis

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The COVID-19 pandemic raised concerns that immunosuppressed patients, including those with antineutrophil cytoplasmic antibody (ANCA)–associated vasculitis (AAV), may be at increased risk for severe COVID-19.[1] The clinical courses of COVID-19 pneumonia and granulomatosis with polyangiitis (GPA) can be similar, which may cause diagnostic difficulties.[2]

A 21-year-old man, without other comorbidities, was diagnosed with GPA at the age of 18 years based on the involvement of the upper respiratory tract, lungs, skin, and kidneys and the presence of proteinase 3 ANCA antibodies. After treatment with steroids and cyclophosphamide (total dose of 10 g), his status improved. During 2 years of maintenance treatment with mycophenolate mofetil (MMF), the patient was in clinical and immunological remission and the therapy was discontinued in July 2020. In October 2020, he began to complain about nasal crusting, purulent and bloody nasal discharge, hoarseness, feeling of ear congestion and pain as well as impaired hearing. Computed tomography of the lungs revealed no features of renal involvement and no active lesions characteristic for GPA. Due to clinical and immunological symptoms of GPA relapse (cANCA, 1:320, n <1:40; anti-proteinase 3 antibodies, 78.91 RU/ml, n <20.00 RU/ml), he was started on prednisone 60 mg and MMF 3 g daily. Partial improvement was achieved; however, lowering the dose of prednisone below 30 mg daily resulted in exacerbation. In January 2021, the patient was hospitalized for health assessment. Shortly after admission, he developed fever, his level of C-reactive protein was 56 mg/l (reference range, <5 mg/l), and the SARS-CoV-2 polymerase chain reaction test from nasopharyngeal swab specimens was positive. Computed tomography of the chest (FIGURE 1A–1F) showed lesions typical of COVID-19 overlapping with new GPA lesions. Prednisone

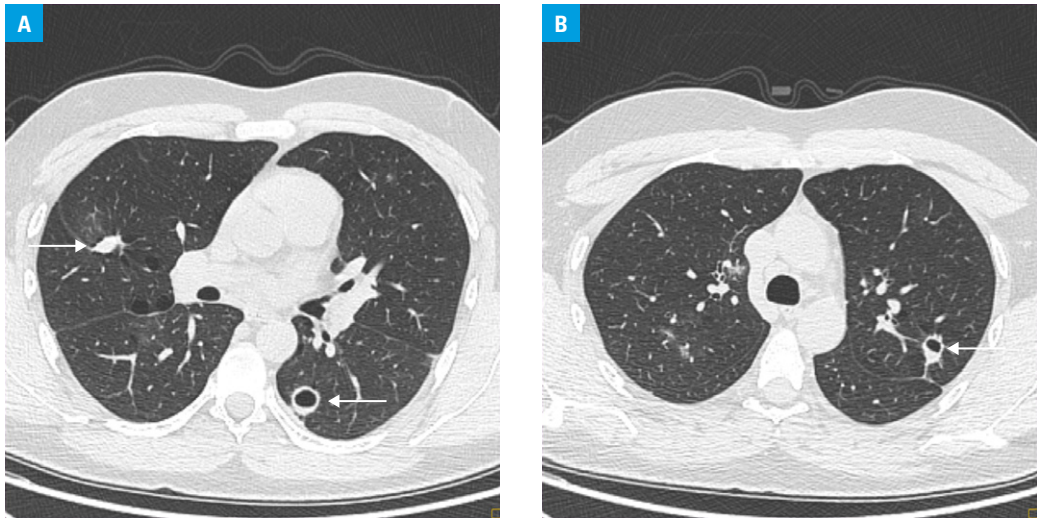

FIGURE 1 A–F Computed tomography of the chest showing multiple nodules in both lungs with cavitation typical of active granulomatosis with polyangiitis (GPA) (white arrows) and active interstitial lesions in the form of multilocular ground-glass opacities developed in the course of COVID-19 (blue arrows), independent of GPA (images C–F on the next page)

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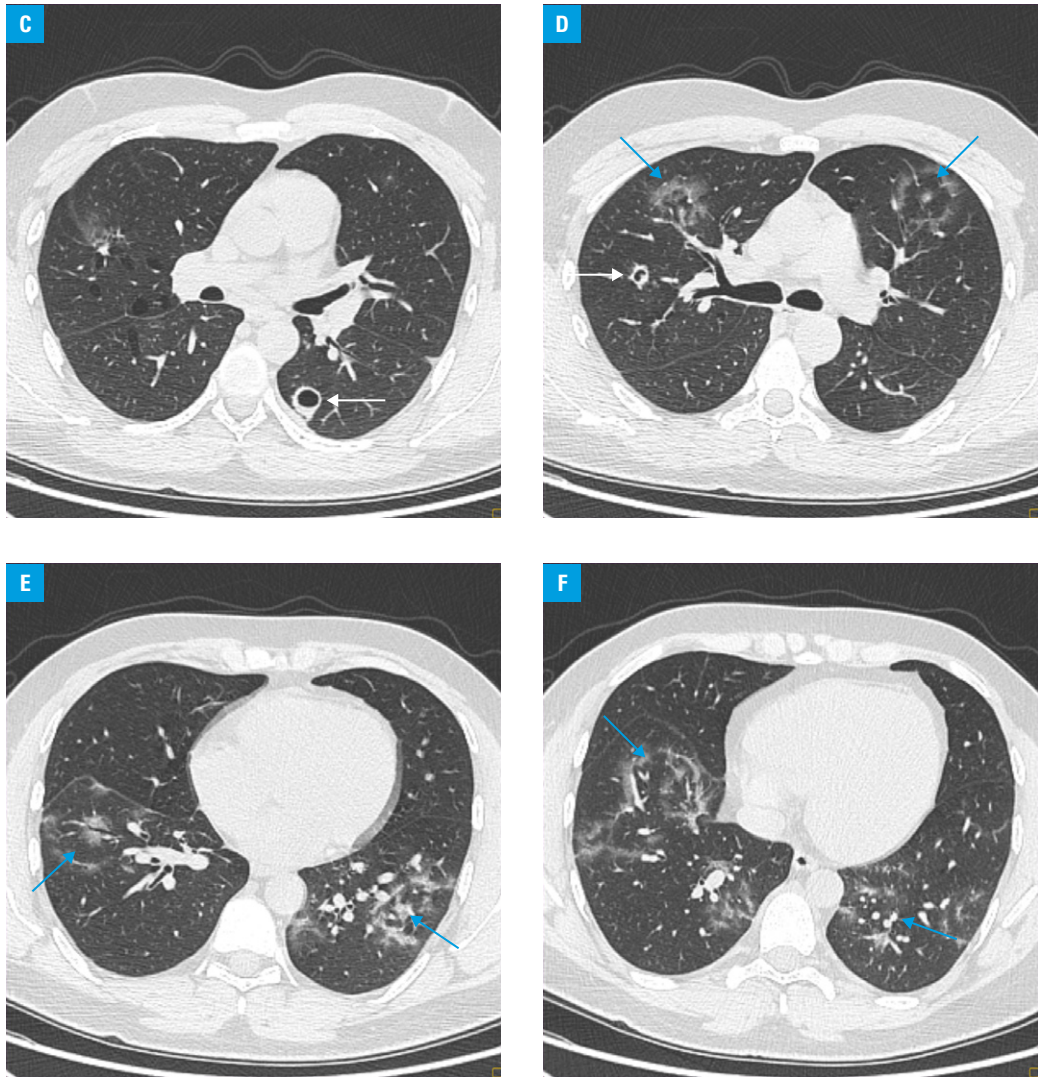

FIGURE 1 C–F Continuation from the previous page

was changed to dexamethasone (2 × 4 mg orally) and remdesivir (200 mg orally), convalescent plasma from recovered COVID-19 patients, anticoagulant prophylaxis (enoxaparin 0.4 ml subcutaneous), and antibiotic therapy (clarithromycin) were administered. The patient was feverish for the next 6 days but did not require oxygen therapy. After 10 days of treatment his antigen test for SARS-CoV-2 was negative. Due to active GPA, treatment with cyclophosphamide according to the European Vasculitis Study Group scheme was started (15 mg/kg, maximum pulse dose of 1.2 g, initially every 2 weeks for the first 3 pulses, then every 3 weeks for the next 3 to 6 pulses) without further complications.

Scientific societies are constantly updating data on the influence of the pandemic on specific patient groups.[3] Kant et al[1] analyzed the impact of COVID-19 on patients with AAV and concluded that the incidence of COVID-19 in this group of patients appears to be similar to that of the general population. There is no current evidence-based guidance on the use of immunosuppression in individuals with AAV during the pandemic, but data suggest that patients receiving prednisone at a dose exceeding 10 mg/day may be at a higher risk of hospitalization.[3] Cases reported so far indicate that treatment with pulse steroids (either rituximab or cyclophosphamide) shortly after the acute presentation of COVID-19 led to overall sustained clinical recovery, with no worsening or relapse of infection,[4] similarly to the presented patient.

ARTICLE INFORMATION

CONFLICT OF INTEREST None declared.

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