

Comment on: Challenge of diagnosing ANCA-associated vasculitis during COVID-19 pandemic: a missed ‘window of opportunity’ by Giollo *et al.*

Sir,

Coronavirus disease 2019 (COVID-19) has become a major concern for physicians including rheumatologists worldwide. We read with great interest the experience of Giollo *et al.* who encountered a cluster of nine life-threatening new onset or relapsing anti-neutrophil cytoplasm antibodies (ANCA)-associated vasculitis (AAV) during the COVID-19 pandemic (1). A recent similar experience at our centre highlights several important issues.

A 68-year-old Caucasian woman presented to the emergency department with one-week history of non-productive cough, mild fever, dyspnea, wheeze and acute kidney injury. Her condition rapidly deteriorated with sudden respiratory failure requiring admission to the intensive care unit and endotracheal intubation. Ferritin was 8470ng/ml, C-reactive protein (CRP) was 609mg/L, LDH was 626U/L and creatinine was 168 (baseline of 80µmol/L). White blood cell analysis demonstrated leukocytosis and neutrophilia while liver function tests showed moderate transaminitis. Urinalysis demonstrated 3+ protein and trace blood. Chest computed tomography (CT) was performed revealing bilateral lung consolidation and moderate bilateral pleural effusion (Fig. 1a, 1b). Her condition remained critical despite receiving early intravenous broad-spectrum antimicrobials and fluids.

Repeated nasopharyngeal reverse transcription-polymerase chain reaction test and bronchoalveolar fluid aspiration for SARS-CoV-2 were negative. Septic screen including multiple blood cultures, sputum, endotracheal fluid, urine, line catheter tip for Gram stain and culture were negative. Based on recent evidence, and as patient remained suspicious for COVID-19 with no other possible explanation at the time, she was commenced on intravenous dexamethasone for 10 days by the admitting team (2); however, at a lower dose of 2mg daily. Patient demonstrated marked recovery after a week with subsequent extubation and off oxygen support.

It came to light that she was previously on oral methotrexate (MTX) and an inpa-

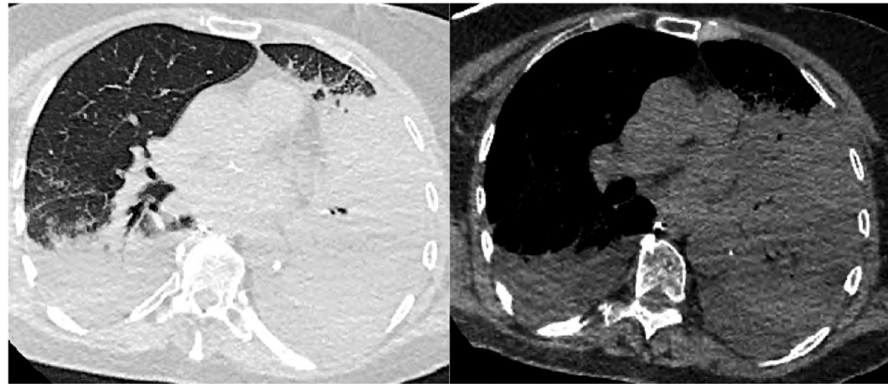


Fig. 1a and 1b. Axial nonenhanced CT images showing bilateral consolidation larger in the left lung and moderate bilateral pleural effusion.

tient rheumatology opinion was sought. It became apparent then that she was initiated on MTX for induction of remission and maintenance of AAV (after presented with early systemic course including sinus and joint involvement, bilateral pulmonary embolism, CRP elevation and positive anti-myeloperoxidase (MPO)-ANCA) (3). She responded very well to MTX at the time and remained in remission but unfortunately, discontinued MTX for more than 6 months without informing her physician or rheumatologist. She was recommenced on MTX while dexamethasone was transitioned to slow oral prednisolone taper, starting at 0.5mg/kg/day. Patient responded remarkably to the early corticosteroid treatment and remained well on MTX (and currently on concomitant low dose oral prednisolone) despite not receiving rituximab or cyclophosphamide induction. Follow-up imaging revealed complete resolution of consolidation and effusion. She continued to be closely monitored via regular virtual telemedicine with updated laboratory parameters to ensure maintenance of remission.

We agree with the authors that as COVID-19 pandemic continues to unfold,

1. physicians should be aware that AAV patients may present with clinical features, laboratory parameters and CT imaging resembling COVID-19 (4);
 2. lung involvement is one of the hallmarks of AAV and known to be associated with poorer prognosis;
 3. diagnostic delay is associated with poor and possibly irreversible outcome;
 4. The importance of ‘window of opportunity’ to reduce disease burden of AAV.
- Our case also highlights several other important aspects during this pandemic:
1. Rheumatologists play an essential role in timely disease recognition and facilitating treatment strategies tailored

upon individuals including infection risk stratification to ensure best possible outcome;

2. Attention to past medical record, patients’ compliance to therapy and close continued surveillance should not be underestimated (despite possible disruption of care including clinic visits during the pandemic);
- 3) Telemedicine is a useful tool especially for high-risk immunocompromised patients to ensure their safety, compliance to treatment and for them to remain socially connected while strictly adhering to the necessary precautions.

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