1. CHAPTER NEUROLOGY

COVID-19 AND PULMONARY EMBOLISM IN AN MS PATIENT USING TERIFLUNOMIDE

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BACKGROUND

Coronavirus family is a member of the respiratory tract pathogens. After November 2019, atypical pneumonia cases were appeared in Wuhan city of China, and in a short time of period it has become a viral pandemic worldwide. The virus can form an acute respiratory distress situation in affected people which can be fatal (1). World Health Organisation (WHO) declared the situation as the COVID-19 pandemic on February 11th, 2020. Initial observations showed us that disease has tended to start with fever, dry cough, fatigue, headache, loss of smell and taste, and diarrhea. Worse prognostic indicators are high levels of D-Dimer, Hs-cTpI, ferritin, lactate dehydrogenase, and IL-6. In-hospital death was higher in diabetic or coronary heart disease patients (1). Elder people and people who have comorbidities can have severe and/or fatal disease course (2). It has been shown that intravascular coagulation and cytokine storm plays a major role in prognosis (3,4). Also, there are some reports about pulmonary embolism in COVID-19 patients (5). Low-molecular weighted heparin (LMWH) treatment is correlated with lower mortality rates (6). In the past coronavirus pandemics, despite the data of that using immunosuppressive agents has no positive impact on the clinical course, there were contradictory results which had revealed benefit to

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It is suggested that teriflunomide used in our patient may limit the augmentation of the immune response into ARDS. Despite the protectivity against ARDS, recurrence or reinfection risk may be increased due to B cell inhibition and low COVID-19 specific IgG secretion.

TAKE HOME MESSAGE(S):

1. COVID-19 disease can present with pulmonary embolism clinic due to tendency of thrombosis.
2. MS patients who were under the treatment of interferon, glatiramer acetate, teriflunomide, and dimethyl fumarate may carry similar COVID-19 infection risk as the normal population compared to individuals using potent immunosuppressants.
3. ARDS symptoms can be milder in teriflunomide treated patients due to its regulatory effects on T and B lymphocytes.
4. In teriflunomide treated patients, there may be an increased risk of COVID-19 recurrence in a shorter time than the normal population due to B cell inhibition and lower levels of COVID-19 specific IgG antibody secretion.

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