Case Report: PJP mimicking post COVID-19 pneumonia in a patient with Good's syndrome

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Introduction: About 5% of patients with thymoma have immunodeficiency, so called Good's syndrome, and they have recurrent infections such as pneumonia, candidiasis, and bacteremia. Here, we report a case of pneumocystis jiroveci pneumonia mimicking post coronavirus disease 2019 (COVID-19) pneumonia in a patient with Good's syndrome.

Case Report: A 48-year-old male visited Yeungnam University Hospital due to dyspnea for 2 days. He was previously treated with Remdesivir for COVID-19 infection 2 weeks ago. Chest computed tomography (CT) showed diffuse ground glass opacities in both lungs (Figure 1) and 11cm-sized mass in anterior mediastinum (Figure 2, arrow). Body temperature was 37℃, and initial CRP was 7.2mg/dL. Considering the recent history of COVID-19 infection and CT findings, we diagnosed post COVID-19 pneumonia. The patient was treated with dexamethasone for 10 days, but chest X-ray was aggravated. With the impression of atypical pneumonia, we tested for atypical pathogens. Sputum polymerase chain reaction test for pneumocystis jiroveci pneumonia was positive. The patient was treated with trimethoprim-sulfamethoxazole for 21 days, and clinical course improved. After recovery, percutaneous needle biopsy was done for anterior mediastinal mass, and thymoma was confirmed (Figure 3, 4). He showed low levels of serum immunoglobulin (Ig); IgG 231mg/dL, IgA 1mg/dL, IgM 3mg/dL, respectively. Considering the diagnosis of thymoma with immunodeficient status, the patient was regarded as Good's syndrome. We screened for immunodeficiency panel: Human-immunodeficiency-virus (HIV) and cytomegalovirus (CMV). HIV was negative and CMV real time PCR showed 2585 copies/mL. We prescribed ganciclovir for CMV treatment.

Discussion: Good's syndrome, the association of immunodeficiency and thymoma, is a rare syndrome. It is important to check for pneumonia pathogen, which is frequently identified in immunocompromised patients. Rapid identification of pathogen can improve the treatment success of pneumonia.