



Images in Rheumatology

Development of Pulmonary Alveolar Proteinosis in a Patient With Adult-Onset Still Disease Treated With Tocilizumab

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We report a patient with systemic adult-onset Still disease (AOSD) who developed anti-granulocyte-macrophage colony-stimulating factor (GM-CSF)-positive pulmonary alveolar proteinosis (PAP) while using tocilizumab (TCZ), diagnosed by milky white bronchoalveolar lavage fluid (BALF; Figure 1). To our knowledge, this is the first case of PAP in AOSD.

A 65-year-old woman with fever, typical eruption, liver dysfunction, lymphadenopathy, sore throat, and arthralgia was diagnosed with AOSD. She had no abnormalities on chest computed tomography (CT). Treatment with prednisolone (PSL; 30 mg/day) and methotrexate (MTX; 10 mg/week) resulted in remission. When PSL was tapered to 12.5 mg/day 6 months later, AOSD recurred. MTX was changed to intravenous TCZ, and AOSD successfully subsided.

Six months after the initiation of TCZ, she developed a mild cough and dyspnea on exertion. A crazy-paving pattern on chest CT (Figure 2), a milky appearance of BALF, and positive serum anti-GM-CSF antibody (115 U/mL) led to the diagnosis of

PAP. TCZ was discontinued, but AOSD and PAP did not worsen.

Very few cases of PAP have been reported in adult patients with other connective tissue diseases.¹⁻³ Lung lesions, most of which are PAP, have been reported more recently in young patients with systemic juvenile idiopathic arthritis (sJIA) exposed to interleukin (IL)-1 or IL-6 inhibitors.⁴ Paradoxical reactions have been reported in 0.6% of patients with rheumatoid arthritis receiving TCZ in a French registry⁵; thus, we infer that anti-GM-CSF antibody might have developed in this adult patient with AOSD, the adult form of sJIA. Clinicians should be aware of the possible development of PAP while administering TCZ in patients with AOSD.

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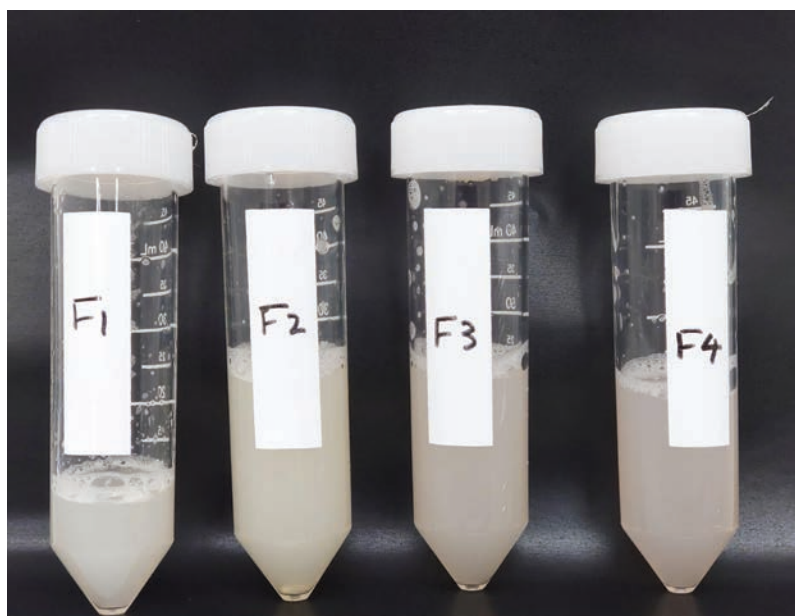


Figure 1. Bronchoalveolar lavage findings: the recovered liquid gradually became white and turbid. F: fraction.

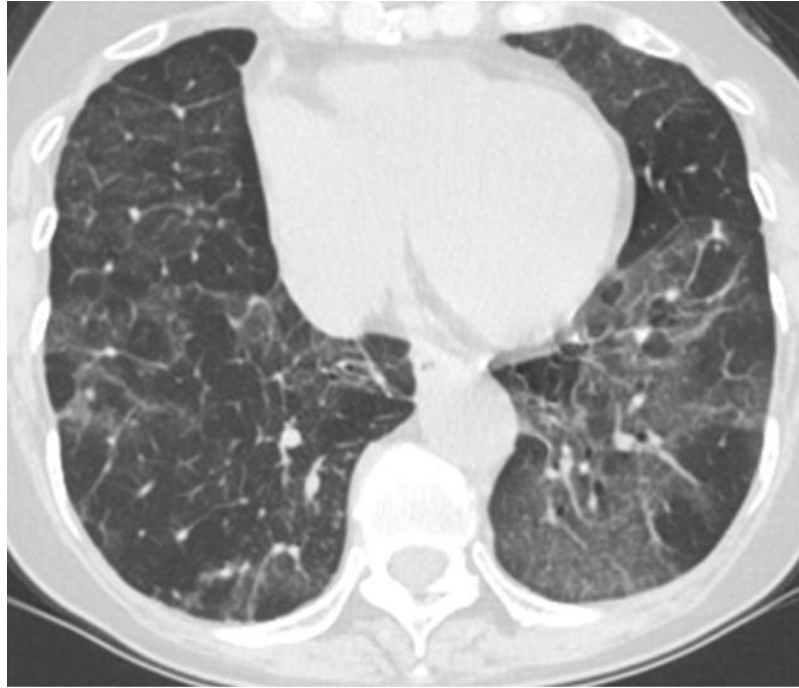


Figure 2. Chest computed tomography showing diffuse ground-glass opacities along with thickened interlobular septa, consistent with crazy-paving appearance.

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