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Dyspnea of a woman living in an old wooden house

Keizo Tanitame*, Nobuko Tanitame

Department of Diagnostic Radiology, Hiroshima Prefectural Hospital, 1-5-54 Ujinakanda, Hiroshima 734-8530, Japan

1. Case description

A 38-year-old woman presented to the emergency department with aggravated dyspnea at rest and productive cough for one week from late July. She was born and married in Brazil. Then she immigrated to Japan, and she had lived in an old wooden house with her husband, one son and a dog for six years. She had no smoking history and no history of significant respiratory disease. Fine crackles were detected on auscultation of her lungs. Room air arterial oxygen saturation by pulse oximetry was 98%. Laboratory tests showed an increased white blood cell count of 13,600/μL, an elevated C-reactive protein level of 5.1 mg/dL (reference value, < 0.2 mg/dL) and an elevated Krebs von den Lungen-6 level of 2207 U/mL (reference value, <500 U/mL). Chest radiograph and high-resolution computed tomography (HRCT) were scanned (Fig. 1). Afterwards, bronchoscopy was performed, and the analysis of bronchoalveolar lavage (BAL) fluid showed lymphocytosis with a high $CD8^+$ *T*-lymphocyte count (66%) and a low $CD4^+/CD8^+$ ratio (0.2). What is your diagnosis for this patient?

2. Discussion section

Summer-type hypersensitivity pneumonitis (SHP) was suspected, and serum anti-Trichosporon asahii antibody was measured by enzyme-linked immunosorbent assay. Corticosteroid therapy (oral prednisolone 20 mg/day) was initiated, and ten days later, the antibody result was found to be positive with a corrected absorbance index (CAI) of 5.00 (reference value, <0.15), and she was definitively diagnosed as SHP. Her symptoms improved after hospitalization and corticosteroid therapy. Thus, corticosteroid was gradually tapered and stopped. Two-week later, her husband carefully cleaned their house and exchanged old tatami mats for new ones, and she was discharged from the hospital. However, two years later she had a recurrence of SHP, and finally she moved to a new house.

SHP is the most prevalent HP in Japan [1], and considered to be the develop of type III or IV allergies by repeated inhalation of Trichosporon asahii or mucoides growing in damp wood during hot and humid summer season. Life style, symptoms, HRCT findings [2], and BAL fluid

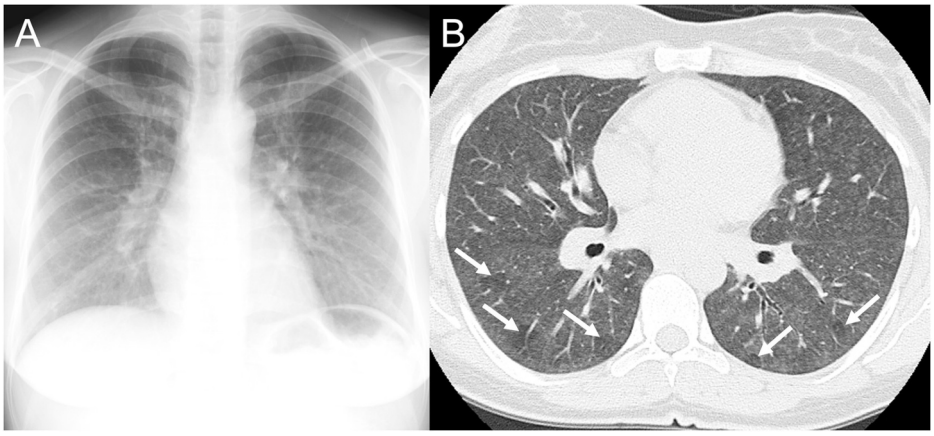

Fig. 1. Panel A: Chest radiograph revealed mild infiltrate predominantly in the middle to lower lobes of both lungs. Panel B: HRCT scan revealed ground-glass opacities with numerous poorly defined centrilobular nodules and some lobular areas of decreased attenuation (arrows) throughout both lungs.

* Corresponding author.
E-mail address: tntrad@gmail.com (K. Tanitame).

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data can provide clues to suspect SHP, and a highly increased serum anti-Trichosporon asahii antibody confirmed the diagnosis of SHP. The primary treatment for SHP as well as other types of HP is complete avoidance of further exposure to the antigen, and the only currently accepted medical treatment is corticosteroids [3].

Declaration of Competing Interest

The authors declare we have no conflict of interest regarding the case “Dyspnea of a woman living in an old wooden house".

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